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**Paper No. 53**

**“Local Governments as Industrial  
Corporations: An Organizational  
Analysis of China's Transitional  
Economy”**

**Andrew G. Walder**



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Local Governments as Industrial Corporations:  
An Organizational Analysis of China's Transitional Economy

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\*Direct all correspondence to Andrew G. Walder, Department of Sociology, William James Hall 480, Harvard University, Cambridge, MA. 02138. I began work on these ideas at the Center for Advanced Study in the Behavioral Sciences in 1990 and 1991, where I received fellowship support under NSF Grant BNS-8700864. Research in China was supported by grants in 1986 and 1988 from the Committee on Scholarly Communication with China, National Academy of Sciences. Valuable comments on earlier versions were provided by Ed Campos, Donald Clarke, Janos Kornai, Louis Putterman, Yingyi Qian, Thomas Rawski, Andrei Schleifer...and by audiences at several universities: California-Berkeley, California-Davis, London, and Northwestern.

Local Governments as Industrial Corporations:  
An Organizational Analysis of China's Transitional Economy

ABSTRACT

Privatization is widely seen as the only viable solution to industrial stagnation in statist economies. Yet China's transitional economy has achieved dynamic industrial growth in its still-dominant public enterprise not by privatizing government assets, but by reallocating selected property rights downward within bureaucratic hierarchies, and by strengthening the rights of local governments to income flows from assets they administer. The institutional argument for privatization, based largely on the Hungarian reform experience, failed to predict such an outcome because organizational incentives and constraints it treats as given in fact vary with the size of a government jurisdiction's industrial base; and in a political economy the size of China's such variation is enormous. Organizational variables explain differences in the growth and efficiency of publicly owned and operated industry in two ways: by affecting the extent to which competitive pressures bear on the decisions of local governments as owners, and by affecting the capacity of local governments to monitor and control their industrial assets. Variations in monitoring capacities and the prevalence of bilateral monopoly within local industrial bureaucracies, not the spread of market allocation alone or the stripping of property rights from governments, is central to this explanation.

The prevailing orthodoxy among economists and international agencies is that privatization and a rapid shift to markets are the only sure path for the transition away from central planning. Yet paradoxically China, one nation in the midst of this transition that has nonetheless become one of the most rapidly growing economies in the world, appears to have succeeded precisely by ignoring this orthodoxy. China's transition to the market has been gradual and partial, with extensive government intervention in and domination of key product markets, and privatization programs of the kind urged upon and underway in various east European countries (Stark 1990, 1992) have been notable for their absence.

Nonetheless, China has enjoyed annual industrial growth rates of 13 percent for more than a decade, with the most rapid growth, well in excess of 20 percent, in a dynamic new sector of public enterprises owned by county, township, and village governments (Jefferson and Rawski 1994, Jefferson, Rawski and Zheng 1992).

There have been three intellectual responses to this seeming paradox, which has recently become the subject of intense interest among economists (Jefferson and Rawski forthcoming, McKinnon 1992, Qian and Xu 1993, Rawski 1994a, 1994b, Sachs and Woo 1993), political scientists (Cui 1994, Oi 1992, forthcoming), and sociologists (Nee 1992, Peng 1992, Walder 1994a). The first is that this dynamic rural public sector is not really under the same kind of public ownership as the large urban firms, but it is in fact substantially private or "semi-private" (Peng 1992), that it is a mixed or hybrid property form somewhere between state and private ownership (Nee 1992), and that what appears formally on the surface as public ownership sometimes hides considerable informal, or hidden privatization (Nee and Su 1993). Therefore the paradox is resolved by the fact that the dynamic public sector that dominates the rural Chinese economy is a property form midway along an evolutionary

continuum from state to private ownership.

The second response emphasizes the spread of market mechanisms that bear upon incentives for firms. One version of this view is that gradual reform (as opposed to rapid, "big bang" approaches) has worked in China because of the steady increase in the exposure of firms to market competition. Work in this genre documents the emergence of competitive product markets, the rise of competition between older urban state firms and newer rural public firms, and gradually increasing competition for inputs and capital (Byrd 1991, Naughton 1992b, 1994, Jefferson and Rawski 1994). It emphasizes that despite orthodox economic arguments to the contrary, a partially reformed economy can steadily shift incentives for managers in state enterprises just as they do for private enterprises. Privatization, and by implication property rights, may therefore not be as important as the conventional wisdom asserts (Rawski 1994a, 1994b, Jefferson and Rawski 1994). A second variety of this response is that the most dynamic industrial growth occurs in areas in which the transition to a market economy has gone the furthest. The rural industrial sector is therefore more dynamic than the urban sector because its firms are exposed more fully to market institutions and market competition (Nee 1992, Peng 1992). Both varieties of this second response emphasize the development of market competition facing firms.

A third intellectual response is to emphasize the changing incentives that bear upon the behavior of local government officials. Research in this vein focuses upon the incentives provided local officials by China's reformed tax system, which makes governments residual claimants in the flow of tax revenues upward in the government hierarchy. The intensity of local interests in revenue generation is said to explain the entrepreneurial behavior observed among rural officials so often in the 1980s (Byrd and Gelb 1990, Oi 1992, forthcoming, Wong

1988, 1992).

I will argue that the first response--that the dynamic rural sector is in fact a mixed property form that is substantially "private"--is a less convincing explanation of public industrial dynamism than it at first appears. To the extent partial privatization arguments rest on the idea that rural public enterprises are becoming freer of government control, they make claims that are demonstrably inaccurate: public industrial enterprises in rural China are under far more direct control by top government officials than their larger counterparts in the cities. To the extent that partial privatization arguments rest upon the observation that the income from public enterprise is diverted into personal income by officials, they are more plausible, yet evidence documenting the extent of such practices are not available, and clear reasoning linking such corruption with enterprise efficiency has yet to be offered.

I shall argue that the second and third responses, while providing valid analyses of changes in the incentives and constraints facing enterprises and governments, respectively, do not provide an alternative to the institutional analysis that underlies the orthodox position, because they do not analyze variation and change in the government-enterprise relationship. Kornai's (1980, 1990a, 1991) influential institutional analysis finds the failure of market reform not in the lack of financial incentives for either firms or governments, but in the relationships among them, specifically in the situation of bilateral monopoly seen to lead to a regime of bargaining that inevitably softens budget constraints and weakens financial performance. This paper will modify and extend Kornai's institutional theory into one that explains China's rapid public sector growth, especially variations between the urban state and rural collective sectors.



## THE INSTITUTIONAL ARGUMENT FOR PRIVATIZATION

Kornai's cogent analysis of redistributive economies and his critique of the failure of partial reform in Hungary has deeply informed sociological work on transitional economies (Burawoy and Krotov 1992, Burawoy and Lukacs 1992, Stark and Nee 1989, Walder 1986a, 1989, 1992a), but it needs to be rethought in the light of the Chinese experience (Walder 1994). According to this analysis, as owners of enterprises, governments have other objectives beside profitability (Kornai 1991): the supply of scarce inputs for other enterprises (something made especially important by the material shortages characteristic of planned economies), maintenance of full employment, funding of pensions, medical insurance, and provision of housing and social services. These nonfinancial preferences of planning officials conflict with the government's interest in strong financial performance of firms, and financial interests are further weakened by the ability of government flexibly to redistribute funds from profitable enterprises to subsidize the unprofitable. Should redistribution among enterprises not suffice, the government has further recourse to financial resources by curtailing wage increases, raising the prices of consumer goods, inviting foreign investment, or borrowing abroad. Behind the analysis of soft budget constraints facing firms is an equally important assumption: that the budget constraint upon government is also soft, and its financial interests in enterprise efficiency weakened by competing nonfinancial interests.

The government's nonfinancial interests in firms, and the firms' dependence upon government for potential bailouts and subsidies, gives rise to a mutual dependence between government and enterprise (a situation of bilateral monopoly or extreme asset specificity). There inevitably arises a suboptimal "regime of bargaining" in which budget constraints are softened and the firm's incentives to hoard and overinvest strong. The government's

dependence upon firms for physical output and the provision of employment and social welfare constrains its ability to discipline firms with the threat of closure, and even in many cases to close chronic money-losers. Enterprise managers are aware of these constraints, and engage in continuous concealment of resources in its constant bargaining with government officials over more resources and more favorable financial terms. A government faced with a hopelessly large number of firms to monitor therefore suffers from severe information problems. Even if its financial interests in firm profitability were very strong, a government so constrained by nonfinancial considerations and information problems would be unable to enforce financial discipline over firms.

Under these institutional conditions, which are assumed to be relatively invariant under communist party rule (Brus 1989, Kornai 1991), any partial moves to market coordination will be counterproductive unless ownership is wrested from the state. The affinity of public ownership with bureaucratic redistribution is so close that only a decisive shift to private ownership is compatible with the effective working of a market mechanism (Kornai 1990a, pp. 58-59; 1990b). Only by cutting the mutual ties between government and firm that are cemented by public ownership can the suboptimal regime of bargaining be eliminated and budget constraints hardened.

It is here that Kornai's institutional analysis dovetails with a perspective on reform that has guided advice given to the post-communist governments of eastern Europe and the former USSR. According to this view, "the solution lies in abandoning the search for halfway houses, in abandoning the dream of a regulated market economy" (Peck and Richardson 1992, p. 20). Reform must be decisive and comprehensive, and publicly owned firms must be privatized if there is to be any hope for economic revival: "It is futile to expect that the state

unit will behave as if it were privately owned and will spontaneously act as if it were a market-oriented agent. It is time to let go of this vain hope once and for all...state ownership permanently recreates bureaucracy" (Kornai 1990a, p. 58). The only way to reform a socialist economy is therefore through a painful but necessary package of coordinated changes: privatization of public firms, credit restriction, firm closings, reductions of employment, and freeing of prices (see also Blanchard et. al. 1991, and Blanchard et. al. 1993, Sachs 1992). The successful transition to a market economy, in other words, requires a series of decisive and coordinated moves that may involve considerable hardship in the short run (Blanchard et. al. 1993).

#### ASSUMPTIONS INTO VARIABLES: REWORKING THE INSTITUTIONAL ANALYSIS

China's rapid industrial growth has been spearheaded by managers of public firms, and to some extent even by local government officials acting as "market-oriented agents" who compete fiercely on regional, national and even international product markets. In the public sector, firms classified as "state" grew at a rate of 7.8 percent from 1980 to 1992; those classified as "collective" 18.4 percent (Jefferson and Rawski 1994). While private industry grew at a much higher rate of 64.9 percent, it still comprised only 6.8 percent of output in 1992 and was not therefore a major force in industrial expansion during the preceding period (Jefferson and Rawski 1994).

More important in gauging change in economic performance are changes in factor productivity. Before its reforms, China, like all Soviet style economies, suffered from stagnating factor productivity and could maintain growth rates only through higher investment levels at the expense of consumption (Chen et. al. 1988). Industrial productivity

responded to reform efforts and has grown steadily since 1980 (Chen et. al. 1988, Jefferson and Xu 1991). By 1988-1992, total factor productivity was improving at an annual rate of 2.5 percent in the state sector, 4.9 percent in the urban collective sector, and 6.9 percent in the township and village (ie. rural collective) sector. During the same period, corresponding annual rates of increase for labor productivity were 4.7, 13.8, and 17.7 percent (Jefferson and Rawski 1994).

Clearly these outcomes contradict the predictions to be derived from the institutional argument for privatization. First, the interests of government and the incentives that bear upon its behavior have changed in ways not predicted. Second, if the incentives provided by markets are taking effect, then the condition of dual dependence that once characterized relations between government and enterprise must be changing, and budget constraints upon firms progressively hardening.

What went wrong in the application of Kornai's cogent analysis of the problems of redistributive economies to the problems of transitional economies? Two things, both very simple, yet fundamental. The first is that the entire analysis proceeds as if the only governmental actor is "the state", and therefore as if there is only one owner in the economy, where in fact there potentially are as many owners of public enterprise as there are government jurisdictions. The second follows directly from the first: the organizational characteristics responsible for weakening government financial interests in firms, and for creating dual dependence and information problems, are assumed to be invariant where in fact they vary widely according to the organizational characteristics of government jurisdictions and their industrial bases.

These two observations suggest an analysis of industrial organization in which the

relations between governments and enterprises are viewed as analogous to relations within a corporation. Government, the "owner" is analogous to the principal in a corporate structure, and enterprise managers are analogous to division chiefs or plant heads within a corporation. The analogy resonates strongly with the ways that government authorities manage industry in cities, towns, and villages in China, and the literature on reform in China is replete with descriptions that compare village, township, county, and even municipal governments to business corporations (Oi 1986, 1988, 1990, Wong 1987, Nee 1992, Rozelle 1991, Byrd and Lin 1990, Walder 1992a). Corporate hierarchies, often on a very large scale, are of course pervasive in any market economy, and the presumption is that such hierarchies exist because they have advantages over market coordination of the same activities (eg. Coase 1992, Williamson 1985). No one would suggest that such corporate (need we add bureaucratic and redistributive?) hierarchies are always inefficient, or that the only way to improve lagging performance is to break them up. Many view innovations in corporate organization, not the completeness of markets, as the driving force of economic expansion (Aoki 1988, Chandler 1977, Lazonick 1991, Stinchcombe 1990). The analogous question for us is under what circumstances can the problems associated with bilateral monopoly be remedied by altering, rather than breaking apart, the corporate structures that link government to enterprises?

The organizational analysis developed in this paper links variation in industrial productivity and growth to variations in the organizational characteristics of local government as industrial corporations. The same financial incentives have been offered to all sub-central government jurisdictions by fiscal reform (Oi 1992, Wong 1992), and even large scale urban industries have been heavily exposed to market competition (Naughton 1992b).<sup>1</sup> Yet the large scale corporate hierarchies represented by higher level government jurisdictions have

responded more slowly to these same incentives than the smaller corporations represented by county, township, and village government. The intensity with which financial incentives and budget constraints are felt by these corporations, however, varies systematically with their size and internal diversification, as do the government's nonfinancial interests in industry, the political constraints that prevent the closure of firms, and the government's ability to monitor enterprise performance and enforce financial discipline. Only at the highest levels of the hierarchy of government are the organizational features assumed in Kornai's analysis approximated, and there the response to the new incentives has been relatively muted. The small government jurisdictions at the lower levels of the hierarchy, however, exhibit few of these assumed characteristics, and this is where the public sector response has been the strongest.

#### GOVERNMENTS AS OWNERS: PROPERTY RIGHTS CONSIDERATIONS

Because there is some confusion about the ownership of public enterprises labelled "collective", especially those in China's rural jurisdictions, we need to be very clear about what is meant by government ownership. Some economists (eg. Sachs and Woo 1993) suggest that privatization is well advanced in China because more than half of industrial output (52 percent in 1992; State Statistical Bureau 1993, pp. 107-8) is produced in the "non-state" sector--but 70 percent of the "non-state" sector are in fact publicly owned firms labelled "collective." Sociologists sometimes refer to this growing rural sector of township and village government industries as "semi-private" or a "hybrid property form" that is neither private nor public (Peng 1992, Nee 1992). These claims suggest an invalid solution to the paradox noted at the outset of this paper, because they imply that rural governments have

been partly or wholly stripped of ownership rights over enterprises. Because the analysis offered below rests on the observation that governments at these levels are able to exercise more effective control over their assets than are government officials at higher levels, we need to be very clear about what is meant when we say that a government jurisdiction owns an enterprise.

If we conceive of ownership as a bundle of rights (Demsetz 1983), this means that the government holds all rights to control, income flows, and sale or liquidation except for those rights it chooses to transfer to agents who are either hired to manage the assets or who obtain these rights in lease contracts. Less abstractly, with regard to control, this means that the government hires and replaces managers or allocates contracts to lease assets, and makes the ultimate decision to open or close the enterprise or shift its activity. With regard to income flows, this means that the government has the right to all income flows from the asset except those allocated to the managers or leaseholders in contracts. In terms of transfer, this means that the government has the right to sell off an asset and that it bears responsibility for the gains or losses from that sale. Historically, a government jurisdiction obtained these rights either by nationalizing private enterprises and appropriating preexisting public enterprises in the 1950s, or by providing the capital to establish and operate new firms thereafter.

In China, public enterprises are divided into two legal types: state and collective. In terms of the definition of property rights given above, there is no fundamental distinction to be made between state and collective enterprises, whether the collective enterprises are in cities or the countryside.<sup>2</sup> Field studies have shown repeatedly through the 1980s that township and village industrial enterprises are owned and operated by local government,

whose officials are deeply involved in virtually all major decisions regarding the hiring and compensation of managers, the establishment or closing of firms, the mobilization of investment capital, changes in production line, and marketing strategies; they also participate extensively in carrying out these decisions, especially when this involves dealing outside the jurisdiction (see Byrd 1990, Byrd and Lin 1990, Huang 1990, Lin and Chen 1994, Lin and Hao 1992, Ody 1992, Oi 1986, 1990, 1992, forthcoming, Wong 1988, 1992). In surveys of enterprises, managers in urban and rural collectives report levels of decision-making autonomy that are no different from those of the large-scale state enterprises in cities (Jefferson, Rawski and Zheng 1992). Evidence that the boundary between public and private enterprise in villages and townships is sometimes vague--public enterprises listed falsely as collectives (Liu 1992, Odgaard 1990), public assets leased out to private individuals (Nee and Su 1993), and private enterprises partially owned by officials (Wank 1995, Solinger 1992)--does little more than qualify this unequivocal portrayal of the rural collective sector as government owned and operated in the same sense as the urban state sector.

The most important way in which government ownership rights in state and collective sectors do differ is in the extent to which they are regulated by higher levels of government, especially the central government. This does have property rights implications, in the sense that such regulations "attenuate" property rights in ways familiar to students of government regulation in market economies (Eggertsson 1990, pp. 38-39), however it is the property rights of regional and local governments that are attenuated. State firms are required to provide health insurance, disability insurance, death benefits, and pensions according to national standards and that the enterprises write these costs directly into costs of production. Only some collective enterprises are required to provide similar benefits, and not at the same



level. "Large collectives", largely under city and county governments, are required to provide similar though less comprehensive insurance and retirement benefits (Walder 1986b, Ch. 2). Smaller collective enterprises, especially those established by the lower ranking government jurisdictions in the 1980s, are subject to almost no such regulation, and usually provide few if any benefits of this sort. The impact of such regulation is illustrated by the finding that some 40 percent of the difference in profitability between state and collective enterprises is due to social overhead costs of this kind (Xiao 1991). Note that the attenuation of local government property rights is in this sense less, not more, regarding collective firms.

#### THE HIERARCHY OF GOVERNMENT INDUSTRIAL BUREAUCRACIES

The stylized notions of "state ownership" and "central control" that one often finds in analyses of redistributive economies are no more realistic than the assumption of perfect competition in market economies. State-owned industrial enterprises are not all owned and administered by the central government, and in China no more than a minority ever were (Granick 1990, Wong 1985, 1986b). Enterprises are clearly lodged under the ownership of a given government jurisdiction, and there are more than 800 thousand in China, ranging from ministries of the central government down to rural townships and villages (See Table 1).<sup>3</sup> All of these levels of government administration (except for the poorer townships and perhaps around half of villages) own and operate a total of 1.2 million public industrial enterprises, which accounted for 84 percent of all industrial output and 58 percent of all industrial employment in 1992 (Table 2).

What varies in this hierarchy is not the nature of government property rights but the composition and scale of industry, the degree to which government rights in enterprises are

attenuated by central regulations, and the institutional setting in which government property rights are exercised. "State" ownership is in fact a designation reserved for the larger public firms that were formerly central to the input-output planning of years past. State enterprises on average produce more than five times the output and employ more than three times as many people as the collective enterprises in cities (Table 2). As one moves down the hierarchy of government, the scale of enterprise continues to decrease, to village-run enterprises that employed an average of 30 and produced an average annual output of 600 thousand yuan (75 thousand U.S. dollars) in 1992 (Table 2).

As one moves downward in this hierarchy, the proportion of public enterprises classified as state versus collective shifts from 100 percent to 0, and the scale of enterprises drops sharply. At the apex (in 1985, the year of the last industrial census) are 3,835 manufacturing enterprises directly under the central government, all "state" owned, which employed an average of over 2,200 people and produced an annual average output valued at 43 million yuan (Table 3). At the next two levels of the hierarchy (the census publications combine the provincial and municipal categories), state firms employing an average of 745 produce an average of 12 million yuan in annual output, some 81 percent of total output at that level; much smaller collective enterprises produce the rest. At the county level, both state and collective firms are smaller still, and the proportion of output by state firms is smaller (65 percent)(Table 3). At the bottom of the hierarchy--townships and villages--all of these small firms are under "collective" ownership (Tables 2 and 3).

As one moves down in this hierarchy, not only the scale of enterprises but the scale and diversity of the government's industrial base changes dramatically. The central government's many ministries and bureaus must manage a comprehensive industrial economy

of almost 4,000 large enterprises. The average for cities and provinces, by contrast, is only 236 (Table 3). This number varies widely from large provincial-level industrial cities like Tianjin, with more than 3,200 enterprises directly under bureaus of the municipal government, and 1,692 under its industrial bureaus alone (Table 4), to a medium-sized city like Suzhou, with a total of 433 enterprises under municipal administration (Table 5). The average county, by contrast, administers an industrial base of just 37 enterprises (in 1985, see Table 3), and townships and villages an average (by 1992, see Table 2) of just over two and less than one, respectively. In areas where rural industry is highly developed, such as Tianjin (Table 4) and Suzhou (Table 5), the average township has from 10 to 23 enterprises; the average village from 2 to 3.

The central claim of this paper is that only at the apex of this hierarchy--at the center and the larger industrial jurisdictions represented by Tianjin--are the organizational assumptions of Kornai's analysis valid. At the level of smaller cities such as Suzhou, the organizational assumptions are less valid, and at the county, township, and village levels, these assumptions are violated almost completely. It is precisely at these lower levels that growth in output and productivity of public firms has been so striking. Working with these basic data on size and scope of corporate hierarchies, and drawing on 61 interviews conducted in government bureaus and enterprises in 7 large Chinese cities in the mid-1980s, and a study of the industrial system of one county in Shandong from 1988-1992, I will offer an organizational explanation of the theoretically anomalous performance of public enterprise in China, and why it has performed better at lower level government jurisdictions.

## FINANCIAL INCENTIVES FOR GOVERNMENT JURISDICTIONS

The institutional argument for privatization portrays government as having weak interests in the financial performance of firms. Planners focus on output rather than financial performance, creating a resource constrained economy in which shortages of material inputs are the factor that constrains production, rather than the demand constrained economy driven by markets in which market demand is the key constraint and money, not material supplies, are the medium of exchange (Kornai 1991). While it may be true that government has weak financial interests under central planning and in Hungary's limited attempt at enterprise reform, these interests have been strengthened in China by a fiscal reform that has provided new financial incentives for governments; incentives that increase in intensity as one moves down the hierarchy of government.

Before China's reform, each level of government below the center received an annual budget from the level above. Budgetary surpluses, if there were any, were appropriated by the next higher level of government by adjusting the next year's budget. Funds for investment were part of the budget, and were doled out to enterprise in the form of grants. As in any bureaucracy, what motivated the heads of each jurisdiction was budgetary slack, the difference between the true cost of the operations of the jurisdiction and the funds budgeted for these purposes (Migue and Balanger 1974, Niskanen 1975). Mirroring the relationship between government planning bureaus and enterprises, bargaining between levels of government was not over some specified residual, but over the budgetary slack, with the subordinate level seeking to conceal resources wherever possible.

China's fiscal reform of the mid-1980s changed the relationship between levels of government. First, instead of governments appropriating all profits from enterprises under

their jurisdiction automatically, enterprises were to be taxed according to fixed rates (the residual left to the enterprise was the centerpiece of a new incentive package for managers of state enterprises).<sup>4</sup> Second, of the tax revenues collected from enterprises under their jurisdiction, each level of government turned over a contractually specified amount to the next higher level of government, and could keep the residual (or was responsible for covering shortfalls) (Oi 1992, Sicular 1992, Wong 1992). These fiscal contracts have taken a number of forms, one of the most favorable being that given Guangdong Province in the early 1980s, in which the central government pre-committed itself to a fixed level of the province's revenue payments for several years (Vogel 1989). Other jurisdictions sign a variety of contracts, which usually include a fixed sum plus some formula for sharing revenues collected above that targeted level. Villages are strictly speaking outside the fiscal contracting system, but in many ways they have the strongest incentive of any level of government. Villages must pay the township government the obligatory taxes on the enterprises they own, but all of the residual goes to the village government. In other words, village governments are treated by the township government exactly as a private enterprise under the township would be (Oi, forthcoming). As Oi (1992) has emphasized, this fiscal contracting system has provided an economic foundation for rapid, local government-led economic growth, especially at the county, township, and village level, by giving officials both the incentive and the investment funds to become effective promoters of local industry. The better the financial performance of enterprises, and the faster the economic growth of the area, the greater the annual increase in the revenues available to the government jurisdiction.

These financial incentives, note, refer to budgetary revenues. Even stronger incentives are provided by extra-budgetary revenues, which are not shared at all with higher

levels of government. There has always been in Chinese fiscal practice a category "extrabudgetary funds" that was not part of the budget renegotiated annually for each jurisdiction. Before the 1980s, this was primarily composed of depreciation funds, a fixed residual that remained with the locality and provided a pool of funds that could be recirculated to enterprises in the form of grants for the renovation of capital equipment. The fiscal reforms of the 1980s created new sources of extrabudgetary funds that were not to be counted as part of the revenue base to which fiscal contracts would apply and which therefore accrued wholly to the local jurisdiction. These included a new set of local taxes, a series of new non-tax levies upon local enterprises, and taxes upon newly established private enterprises (Oi forthcoming, Sicular 1992, Wong 1992).

The additional incentive these extrabudgetary funds provided for sub-national government jurisdictions can be gauged from their explosive growth after the early 1980s. Only 20 percent of the size of the national budget in the early 1980s, extrabudgetary funds grew to equal the national budget by the end of the decade (Wang 1995, also Sicular 1992). As the great majority of these funds accrued to sub-national government jurisdictions, their growth indicated a shift toward local fiscal power at the expense of the center, as the center's proportion of total government revenue fell from an average of 50 percent in the decade before reforms to 28 percent in the next decade (Wang 1995, see also Naughton 1992b).

#### Variation in the Intensity of Financial Incentives

While enhanced financial incentives are provided for all government jurisdictions, the intensity of financial incentives varies according to the level of industrialization of a locality. True to its Soviet origins, China's fiscal system has depended almost entirely upon the

appropriation of profits from industrial production. Even into the late 1980s, taxes on industry comprised some 80 percent of government revenue, while agriculture comprised less than 10 percent (Naughton 1992, Sicular 1992). Therefore the higher the ratio of agriculture to industry, the more intense the financial incentives provided by fiscal reform (Oi 1992). Largely rural counties, townships, and villages have much smaller revenue bases relative to the populations they serve and therefore the growth and financial performance of public enterprise has a larger and more direct incremental impact upon government revenue.

#### NONFINANCIAL INTERESTS OF GOVERNMENT

The institutional argument for privatization stresses the many non-financial interests that governments have in the operation of their enterprises. These interests compete with, and to a considerable degree conflict with, their interest in strong financial performance: reliable supply of inputs for other firms in the jurisdiction, full employment, and the funding of social insurance and housing, to name only a few. These interests are seen to constrain governments' ability to enforce financial discipline over enterprises by making governments dependent upon these nonfinancial outputs. These nonfinancial interests are real, but they diminish to the point of nonexistence at the lower levels of the hierarchy of governments.

#### Outputs as Inputs: Materials Balances

One important non-financial interest is that enterprise products provide reliable sources of supply for other enterprises in the jurisdiction. In the economy of shortage that characterized a Soviet style planning system, government agencies were usually more interested in ensuring a steady supply of inputs than in the marginal cost of producing them.

The trend toward provincial and local autarky underlined these interests. China's reforms have tended to reduce this interest, as the proportion of industrial output allocated by planners has dropped at the expense of output produced and marketed directly by enterprises (Byrd 1991). However, sub-national governments still seek to ensure that the enterprises under their jurisdictions will not face supply constraints--and there are still certain inputs that are in scarce supply (Walder 1992a).

A government jurisdiction's interest in the physical output of enterprises varies directly with the size and diversity of its industrial base. At the national and provincial level and to some extent in the larger cities the government will own and operate a large and diversified industrial base. To the extent that a jurisdiction is large enough to strive for a certain degree of self-sufficiency, such interests will be relatively high. However, jurisdictions below this level will have much weaker interests in this regard. Counties, townships, and villages have industrial bases that are small and specialized, concentrated in light industry and consumer goods, producing almost exclusively for external markets, and purchasing almost all supplies elsewhere. In these settings, the interests of a government jurisdiction in physical output for its own sake is almost nonexistent.

### Employment Creation

Socialist governments have had a historically strong commitment to full employment, and indeed maintained full employment at the cost of the efficiency of their firms (Granick 1987, Kornai 1991). China's state enterprises are widely thought to maintain labor forces well in excess of their needs, and full employment is still one of the most important non-financial interests that government has in its enterprises. This interest comprises one of the most



difficult remaining political barriers to the further reform of state industry, as reformers who threaten heretofore sacrosanct guaranteed employment make themselves vulnerable to the mobilization of worker and trade union support by officials opposed to rapid reform (see, eg. Szelenyi 1989, for a description of this phenomenon in Hungary in the 1970s).

This interest is not fixed across jurisdictions, however. In urban areas the interest is in preventing unemployment; in rural areas, however, the interest is primarily in creating better paying jobs for a labor force that is underemployed and poorly compensated in agricultural pursuits. This may seem a subtle difference, but as we shall see below when we consider constraints upon government, it is an important one.

#### Provision of Social Welfare and Housing

Government jurisdictions in Soviet-style economies have enormous interests in industrial enterprises as providers of social welfare and housing. I have already mentioned the way that costs for pensions, medical and disability insurance are by law written into the costs of production of state and the larger urban collective enterprises. The same enterprises that tend to provide these benefits also provide a very large range of other benefits and services for employees, the most important and costly of which is housing which is provided at an average of less than 3 percent of the individual monthly wage (Walder 1992b). In addition to housing, state enterprises commonly provide meal services, transportation, day care centers, kindergartens, medical clinics, readings rooms, entertainment centers, subsidized group vacations, bathing facilities, and other subsidized or free social services that are rarely provided by neighborhoods (Walder 1986b, 1992b, Whyte and Parish 1994). While these latter benefits, including housing, are not mandated by law, the expectation of government

officials as well as employees is that an enterprise will supply such non-wage compensation to the best of its ability, and for a number of reasons state enterprise managers continue to feel pressures from their subordinates to supply them (Walder 1989). Many observers recognize that the integral role of state industry in the provision of social welfare and benefits is perhaps the single most important non-financial interest that government jurisdictions have in their enterprises. China's reformers have tread in this area lightly, understanding full well that the revocation of these customary rights for urban workers is the kind of action most likely to touch off labor unrest (Walder 1989, 1991).

This interest, however, also varies across government jurisdictions, because only the larger state enterprises of the kind concentrated at the center and in large urban jurisdictions like Tianjin will provide these services. Large urban collective enterprises provide fewer benefits, those in rural counties fewer still, and those in townships and villages almost none. The situation in villages and townships differs fundamentally in this regard, as citizens who are registered as agricultural rather than urban households are not eligible for national labor insurance, health insurance or pensions, and they will in almost all cases build and own their own homes.

#### BUDGET CONSTRAINTS ON GOVERNMENT JURISDICTIONS

The institutional argument for privatization assumes the budget constraint upon government itself to be soft. This is a reasonable assumption for the unreformed command economy. Budget deficits for subnational governments would be made up if they could be rationalized as legitimate costs, and the central government could manipulate the money supply, cut wage increases, or raise prices of consumer goods to keep deficits from ballooning. Another key

assumption is that of a vast process of redistribution, in which surpluses produced by profitable firms would be used to make up losses incurred by the unprofitable. This, in turn, was the primary cause of soft budget constraints for enterprises.

There are two ways in which the assumption of a soft budget constraint upon government requires modification for China. The first is in the way that the fiscal contracting system and the retention of extrabudgetary funds changes the calculations of government officials with regard to their budgets. In the earlier hierarchical budgeting system, a revenue shortfall might cut into the budgetary slack that motivated officials, but that revenue shortfall could also provide a legitimate basis for obtaining a larger budgetary allocation for the subsequent year (and therefore regain the slack lost). Under fiscal contracting, any revenue shortfall comes directly out of the residual share of the jurisdiction. Some localities may be able to reduce their contractual payments if they meet with unexpected shortfalls due to circumstances beyond their control (eg. natural disasters or drastic changes in foreign trade policy). But such a request will stimulate a close examination of both budgetary and extra-budgetary funds, and any adjustment made will usually just allow the locality to meet its most pressing obligations. While there is no plausible threat to "close" a government jurisdiction that loses money, the residual upon which the locality depends for discretionary spending would be lost entirely. The new system of revenue sharing therefore creates much larger opportunity costs than the earlier budgetary arrangement--and the intensity with which these costs are felt varies along with the level of industrialization of the locality.

These budget constraints, further, vary according to the scale of a jurisdiction's industrial base. Earlier institutional analyses stressed the government's ability to engage in a

massive balancing operation, redistributing funds from profitable enterprises to subsidize the loss-making ones. This clearly assumes a large and diversified industrial base, one moreover in which the prices and markets are fixed and expected profits highly predictable. This assumption is violated in China because increasingly the prices and markets of industrial output fluctuate and in fact the profits of all public firms have tended to shrink and converge under the impact of market competition (Naughton 1992b). The assumption is further violated in a different way as one moves down the hierarchy of government, and as the industrial base becomes smaller and less diversified. Balancing operations assumed in the theory simply cannot be sustained at these lower levels, where local government budgets are exposed directly to market competition with public enterprises of other government jurisdictions.

#### THE REGIME OF BARGAINING: VARIATIONS IN BILATERAL MONOPOLY

Another central assumption of past institutional arguments is that a "dual dependence" between government and enterprise leads to a suboptimal regime of bargaining that inevitably ends up softening budget constraints and providing insufficient incentives to managers of public enterprise (Kornai 1991, also Naughton 1992a). This leads to the argument that efforts to provide market incentives for either managers or government officials will fail unless the underlying situation of dual dependence is changed. It is further reasoned, based on the earlier Hungarian experience, that only a separation of government and industry through privatization can end this situation of dual dependence.

The notion of "dual dependence" is a familiar one in institutional economics and (in sociology) power-dependence theory. When two parties have goods needed by the other for

which there are no plausible alternatives, there exists a situation of bilateral monopoly (Blau 1964, pp.171-77), or extreme "asset specificity" (Williamson 1985). Under these conditions, it is difficult to establish a stable contract that provides a basis for mutual provision of services, because each side seeks continually to enhance their position at the expense of the other, and their efforts to do so are unconstrained because of the lack of alternatives for either party. Bilateral monopoly therefore leads to continual bargaining over the terms of cooperation, hiding of slack resources, concealment of information, and underprovision of effort. This is an apt characterization of central planning.

The changes described above have begun to reduce the prevalence of bilateral monopoly and to change the parameters of bargaining between government and enterprise managers. Note first that to the extent that fiscal reform places harder budget constraints on government jurisdictions and strengthens the interests of government in the financial performance of firms, the ability and willingness of government to tolerate poor financial performance is reduced. Such financial pressures remain weakest at the top of the government hierarchy, especially at the center and in large and heavily industrialized provinces and cities, but they have become strong at lower levels of government, especially in rural areas, which quickly are faced with the decision to either close or reorganize a firm that has become a serious financial liability.

Even if the budget constraints on many levels of government are becoming harder, do not the important nonfinancial interests of government in their enterprises heighten their dependence on the firms and weaken their ability to bring financial pressures to bear upon their performance? To the extent that these interests are still important, they provide important constraints upon government discretion and serve to perpetuate a situation of

bilateral monopoly. But we have already seen that these constraints are changing, and that they are variable across levels of government. The fact that governments allocate smaller proportions of industrial output within plans, and have increased the extent to which the sales and supply of enterprises works through market mechanisms, the dependence of even the larger government jurisdictions on firms for their outputs will be proportionately reduced. Such dependence will vary with the market structure for a given industry, and the degree of monopoly or oligopoly among producers, and as markets spread has therefore become a variable. Moreover, as we have already noted, such interests in the output of enterprises is reduced as one moves down the hierarchy of government and into smaller and less diversified industrial systems. At the bottom of the hierarchy, in rural counties, townships, and villages, the governments' interests in the physical output of enterprises has given way almost entirely to financial interests.

Similarly, the constraints on a government's bargaining position placed by its interests in the provision of full employment, social insurance and housing are reduced sharply as one moves down the hierarchy. These interests remain high in the large urban areas with heavy concentrations of large state firms, but they approach zero as one moves into rural counties, townships and villages. As we have already seen, rural areas are interested more in the provision of higher paying jobs than in the prevention of unemployment. Workers laid off by a plant closing will in most cases return to family farms,<sup>5</sup> or will migrate to cities to search for temporary work. The collective enterprises that dominate industry in these rural areas, moreover, supply few if any of the benefits that urban state enterprises supply to their employees at great cost. Therefore these constraints upon government in its bargaining with public enterprise approach zero in the rural jurisdictions.

## OWNERSHIP AS CONTROL: VARIATIONS IN MONITORING CAPACITY

A final crucial assumption of past institutional analyses has been that bargaining between government and enterprise took place in the context of poor information and a weak government capacity to monitor the financial performance of firms. There were two main justifications for this assumption.

First was the notion that the physical output indicators used to judge firm performance in the past did not provide necessary information on the efficiency of firms, and that even financial indicators would not provide a useful substitute unless prices reflected market scarcities. Second was the idea that a socialist bureaucracy contained multiple "principals" with whom a socialist firm has to bargain: bureaus of taxation, finance, labor, prices, as well as industrial bureaus. Each of these bureaucracies makes slightly different demands upon enterprises, many of which run counter to the demand for strong financial performance, and they comprise a layer or two of bureaucracy between the top leaders of the government and the enterprises. Many of these bureaus (especially industrial bureaus), themselves collude with enterprises in concealing slack resources, and work at cross-purposes with those bureaus designed to monitor financial performance. Bureaucracy complicates monitoring by creating a number of separate, often competing principals, and by further impeding or distorting the flow of information back to the top decisionmakers.

These assumptions are less tenable after a decade of reform in China. First, the financial scrutiny placed upon enterprises is now much more intense than anything experienced in the past. Physical indicator planning has largely ended, and loan and investment decisions in even the highest levels of government now involve a long a protracted process of financial risk analysis and feasibility planning to ensure that a firm will

be able to repay its investment loan--something never undertaken in past years when investment capital was simply allocated to enterprises as a grant (Walder 1992a). While it is true that bargaining continues to characterize the relationship between government and enterprise, such bargaining takes place now over entirely different matters--no longer supplies, prices, budgets for investment projects, but sales forecasts, financial performance, capacity to repay a loan (Walder 1989, 1992a, Naughton 1992a). In this process of bargaining enterprises are pitted against one another as competitors for investment loans (Walder 1992a). This in itself indicates that bargaining today takes place in the context of much greater information about firm performance than in the past. Moreover, the impact that such close financial scrutiny and internal competition for investment has upon the strategy and behavior of enterprise managers has to be considered as an important potential constraint that operates alongside the incentives provided in the form of profit retention. Whereas past work has tended to interpret evidence of such bargaining as evidence of a soft budget constraint (Walder 1986a, 1992a, Wong 1986a), bargaining activity itself is less relevant to the question of whether enterprise budget constraints are hardening than the changing parameters within which bargaining takes place. These parameters have gone largely unanalyzed.

The monitoring problems created by several layers of government bureaucracy and the related creation of multiple bureaucratic principals with divergent interests is also a variable, not a constant. To be sure, it continues to be a problem at the highest levels of government, where top decisionmakers are still separated from their firms by several layers of bureaucracy. In a large urban jurisdiction like Tianjin there are 10 industrial bureaus that oversee almost 1700 enterprises, with another 1600 clustered under bureaus for agriculture,



construction, commerce, and transportation. The industrial bureaus themselves subdivide their enterprises into a large number of "companies" (gongsi) which are in effect sub-bureaus.

Economic theorists have been prone to argue that such subdivisions reduce monitoring costs by reducing the number of entities to supervise (Qian and Xu 1993), but such an assumption neglects some of the more commonplace insights of organizational sociology. Increases in the number of levels of bureaucracy itself creates barriers to the upward flow of information, especially because the lowest level monitors have interests closer to those of enterprises than those of local government officials. Interviews in these local bureaucracies have shown that industrial bureaus and companies have interests similar to those of enterprises (in capturing larger investments and reducing government fiscal extractions), and in fact they bargain with local government supervisory organs on behalf of enterprises. The industrial bureaus are also responsible for preparing the statistical and financial reports that inform planners of enterprise performance. The city government itself monitors the industrial bureaus and companies through a large number of "specialized" supervisory bureaus, the most important of which are responsible for taxation, finance, prices, and labor and wages, whose work is coordinated by a planning or an economic commission. A plan for a capital investment project typically takes a series of meetings among representatives of all of these agencies over the period of one year (Walder 1992a).

By contrast, the number of enterprises under a county government is close to the total number of bureaus and companies in a large city. One county near the national mean in terms of industrial output (See Table 6) had a total of only 47 enterprises in 1992, most of which were directly administered by a single economic commission that had a staff of less than 10, with the remaining enterprises held by the grain and commerce bureaus. Only this

one layer of administration stands between the county magistrate and party secretary and the enterprises themselves, and the economic commission and two bureaus are clearly the agents of the government. Major financial decisions are made relatively quickly at meetings attended by a handful of people, and local officials attend these meetings and are fully aware in detail of the operations and financial performance of their enterprises (Walder 1994b).

To be sure, monitoring problems at the higher levels are nowhere near as severe as the raw numbers of enterprises suggest. It appears that in most jurisdictions less than 20 percent of the enterprises yield around 75 percent of financial returns (Table 7), making the task of effective financial control less daunting. This reduces the effective task of the government of Tianjin to that of monitoring 482 relatively large enterprises--still too large to exercise effective corporate control. But the contrast with lower jurisdictions still holds: a highly industrialized county like Changshou must monitor 30 larger enterprises, Zouping County only 4. These numbers are closer to the size of smaller corporations and larger manufacturing firms in market economies. The numbers, of course, are smaller still in townships and villages, where the numbers of enterprises are so small that in most jurisdictions there are only a few clerical personnel and the township and village head is in effect the head of a small to medium sized company in which enterprise managers carry out delegated tasks (Oi 1990, 1992). It is ironic that it is precisely in those sectors where government control over public enterprise is at its most direct and intimate that some of the best economic performance has been observed.

In an unexpected fashion, therefore, public enterprise owned by the lower levels of government in China has solved the monitoring problems and weak assertion of ownership claims that privatization is usually designed to overcome. It is recognized by many that

privatization alone will not resolve such monitoring problems, especially if it takes the form of widely dispersed shareholding as in the Czech Republic and Poland (McKinnon 1992). Such diffuse ownership claims are seen by some as the cause of softened budget constraints and weaker performance in American corporations compared to their Japanese and German counterparts (e.g. Jensen 1989). One of the purposes of the sale of shares in public enterprises in Poland is precisely to encourage government, which will retain majority ownership during the transition, to assert its ownership rights more vigorously and harden budget constraints on firms (Lipton and Sachs 1990). This is what has occurred, without shareholding or any other form of privatization, in China's smaller industrial bureaucracies.

## CONCLUSIONS

Institutional arguments for privatization failed to predict the dynamism of China's public industry because they neglected the potentially large number of government jurisdictions in an economy the size of China's and the wide variations in the characteristics of local industrial bureaucracies. As a result, the organizational characteristics assumed in the theory in fact are approximated only at the top of the government hierarchy. At this level the response of public industry to reform measures was weaker. However, at the lower levels of the government hierarchy, where the organizational assumptions no longer hold, public sector enterprises, and indeed government officials themselves, responded in ways that proponents of privatization dismissed as a "vain hope"--as market oriented agents who behaved as if the assets were privately owned.

This organizational analysis differs from previous efforts to account for China's seemingly anomalous public-sector dynamism in that it does not posit partial or hidden

privatization at lower levels of government, and it does not focus solely upon incentives that market competition or fiscal reforms create for either enterprise managers or public officials. It takes the existence of increased market competition and fiscal incentives as important givens, and seeks to explain instead variations in the extent to which market competition and fiscal reform have induced changes in industrial performance. The explanation centers on local variations, correlated with the scale and diversity of the industrial base, in the prevalence of bilateral monopoly and in the severity of monitoring and information problems that can undermine government financial control over enterprises.

Despite this paper's insistence on the "public" nature of enterprise owned and operated by village and township governments, we cannot rule out the possibility that many village-run, and perhaps even township enterprises are in effect operated as family businesses, in which there is no clear distinction between officials' income and village revenue. It is therefore conceivable that this variety of the "hidden privatization" argument could partially account for the industrial performance we have sought to explain at lower levels of government. To the extent that cadres' personal incomes depend on the performance of public industry, they could be said to have the equivalent of an equity share. The prevalence of such "hidden privatization" is still far from established, and it remains an empirical issue that should be addressed in future research.

However, there are two limitations to the potential explanatory importance of such hidden privatization. First, to the extent that this is prevalent in public industry (as opposed to its more likely location in the sizeable village cooperative and private sectors), it would be limited largely to villages and perhaps the smaller townships. The industrial bases of larger township and county governments, where industry has also done extremely well, are too large

to be treated in whole or part as personal property.

The second observation is more conceptual: "hidden privatization" in the form of family business masquerading as public enterprise is in effect an argument about corruption as an incentive for officials. While I have treated officials' incentives as deriving primarily from their interest in public revenue, we could also posit personal income in the form of corruption--far from absent in China--as a key incentive. But this is still only an argument about officials' incentives, and it is therefore subject to the same organizational analysis offered in this paper. Let us assume that officials are motivated by opportunities to turn public funds into personal income--this incentive does not in itself resolve the problems of bilateral monopoly and monitoring. Why should official corruption lead to industrial efficiency? Only under the organizational conditions at the bottom of the government hierarchy. At higher level government jurisdictions where problems of bilateral monopoly and monitoring remain serious, the incentive provided by corruption is more likely to lead simply to unproductive plunder of public funds.

The main point of this paper is not that property rights do not matter, it is in fact the opposite. However, there is an important distinction to be made between privatization and property rights reform (Walder 1994a). China's industrial reforms have served to clarify the rights of local governments over assets they administer, in effect reallocating property rights downward within government hierarchies. This reallocation of property rights has achieved many of the effects that many have felt could only be achieved by stripping governments of ownership and control of industrial assets.

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## Notes

1. Two surveys (cited in Jefferson and Rawski 1994) of state owned enterprises have shown that between 1980 and 1989, the share of material inputs purchased on markets rose from 32 to 59 or from 12 to 66 percent, and that sales of output on markets grew from 49 to 60 percent or 13 to 66 percent, while enterprise funds and bank loans replaced budgetary grants as the main source of investment funds.
2. There are two exceptions to this categorical statement: "new collectives" established in the 1980s which in effect are cooperatively owned private enterprises, still relatively small in scale and in numbers. A second are the "fake" collectives, discussed below.
3. The former Soviet and east European regimes probably also harbored large numbers of distinct government-owners, but the degree of decentralization of industrial ownership in China has far exceeded that elsewhere, thanks to decentralization directives from the 1950s through the 1970s, as ownership and control of state firms was gradually shifted away from the center to provincial and municipal governments, leading to a comparatively high degree of regional autarky in planning and material supply (Schurmann 1968, Riskin 1987, Granick 1990, Wong 1985). The trend was deepened in the 1970s when communes were pushed to develop their own rural small scale industries (Wong 1986b, Riskin 1971, Perkins et al, 1977). China thus began the reform era as a nested hierarchy of hundreds of thousands of government jurisdictions, each with its own set of enterprises whose activities they directed and planned and whose earnings contributed to local revenue.
4. While the profit tax rates were fixed at 55 percent in the late 1980s, local governments were free in practice to exempt almost any percentage of income they saw fit from centrally-mandated taxes on a temporary annual basis (See Walder 1992a, Oi 1992, forthcoming). Recognition of this common practice led eventually to an annually negotiated tax and profit contract, specifying base targets and formulae for sharing residuals. The limit upon local governments in providing tax breaks is the fiscal solvency of the government jurisdiction and their own ability to turn over their contracted revenues to the next higher level (See Sicular 1992, Walder 1992a, Oi 1992, Wong 1992).
5. This point was brought home forcefully to me during a round of interviews in the state and collective enterprises of one rural county in 1988: most firms I visited were shut down for the June wheat harvest, in deference to their workers' interest in returning to help in their households' field labor.

Table 1. Number of Sub-Central Government Jurisdictions in China, by Level, 1992

Jurisdiction	Number
Province	30
Provincial Districts and Equivalent	339
Municipalities	517
Counties and Equivalent	2,171
Townships and Towns	48,250
Villages	806,032
<b>TOTAL</b>	<b>857,339</b>

Source: State Statistical Bureau 1993, pp. 3, 329.

Table 2. Number and Scale of Industrial Enterprises in China, by Form of Legal Ownership, 1992

Jurisdiction	No. Enterprises (thousands)	Gross Value of Output (millions yuan)	Output per Enterprise (millions yuan)	Total No. Employees (millions)	Employees per Enterprise
<b>PUBLIC</b>					
State	103.3	1,782,415	17.3	45.2	438
Urban Collective	155.0	427,430	2.8	18.6	120
Township Run	207.5	467,690	2.3	16.4	78
Village Run	709.7	453,983	.6	21.4	30
<b>NON-PUBLIC</b>					
Cooperative	546.4	86,982	.16	52.9	10
Urban	39.6	10,188	.26	6.0	15
Village	506.8	76,794	.15	46.9	9
Individual (Private)	6,854.0	250,680	.04	20.5	3
Urban	507.0	19,538	.39	1.4	3
Village	6,347.0	231,142	.04	19.1	3
Other	14.2	263,358	18.5	2.4	168
<b>TOTAL</b>	<b>8,612.1</b>	<b>3,706,571</b>	<b>.4</b>	<b>175.0</b>	<b>20</b>

Source: State Statistical Bureau 1993, pp. 107-8, 110-11, 409, 441-3.

Note: "Other" is composed of joint ventures between Chinese government units and foreign partners, and wholly-owned foreign firms.

Table 3. Characteristics of Public Industry, by Level of Government, 1985.

Jurisdiction	Number of Jurisdictions	Number of Enterprises	Enterprises/Jurisdiction	No. Employees (millions)	Employees/Enterprise	Gross Output (millions yuan)	Output/Enterprise (millions yuan)
Central Government	1	3,835	3,825	8.68	2,269	165,056	43.2
Province & City	354	83,394	236	32.6	391	463,480	5.6
State		31,254	88	23.3	745	375,892	12.0
Collective		52,140	147	9.3	178	87,588	1.7
County	2046	68,811	34	10.6	154	116,114	1.7
State		35,263	17	6.6	187	75,760	2.2
Collective		33,548	16	4.0	119	40,353	1.2
Urban Street	n.a.	30,518	n.a.	2.3	74	17,600	.58
Township-Run	91,138	170,364	1.9	11.4	67	69,384	.41
Village-Run	940,617	632,601	.7	14.4	23	66,272	.10

Notes: Tables excludes joint ventures and joint state-collective enterprises.

Sources: State Council 1987, Vol. 3, pp. 6-7; State Statistical Bureau 1986, p. 23.

Table 4. Public Enterprises and Output by Government Jurisdiction, Tianjin Municipality, 1990

Jurisdiction	Number	No. of Enterprises	No. Enterprises Per Jurisdiction	Total Output (millions)	Output Per Jurisdiction (millions yuan)	Output Per Enterprise (millions yuan)
Central	--	126	--	7,117	--	56.5
Municipal	1	3,251	3,251	42,411	42,411	13.0
Industrial Bureaus		1,692		37,920		22.4
Other Bureaus		1,559		4,491		2.9
County/District	18	627	89	1,869	104	3.0
Urban Street	128	743	6	428	3.3	.6
Township (Town)	221	1,951	10	5,806	31	3.0
Village	3,872	8,050	2	12,695	3.3	1.6
<b>TOTAL</b>	<b>4,240</b>	<b>14,740</b>	<b>4</b>	<b>70,326</b>	<b>16.6</b>	<b>4.8</b>

Notes: "Industrial Bureaus" means under the direct management of the 10 specialized industrial bureaus of the municipal government. Enterprises established by various offices under the agriculture, construction, transportation, and commercial bureaus are included in "other bureaus".

Source: Tianjin Municipal Statistical Bureau 1991, pp. 129, 192, 286, 340, 342, 421.

Table 5. Public Enterprises and Output by Government Jurisdiction, Suzhou Municipality, 1990

Jurisdiction	Number	No. of Enterprises	No. Enterprises Per Jurisdiction	Total Output (millions)	Output Per Jurisdiction	Output Per Enterprise
Municipal	1	433	433	9,810	9,810	22.7
Rural Counties/ Districts	7	1,203	172	10,223	1,460	8.5
Townships/Towns	166	3,804	23	19,920	120	5.2
Villages	3,371	10,477	3	14,093	4	1.3
<b>TOTAL</b>	<b>3,545</b>	<b>15,917</b>	<b>4</b>	<b>54,046</b>	<b>15</b>	<b>3.4</b>

Source: Suzhou Municipal Statistical Bureau 1991, pp. 13, 54-55, 63. Note: 244 enterprises under urban district and street jurisdictions are excluded from the totals for "municipal".



Table 6. Public Enterprises and Output by Government Jurisdiction, Zouping County, Shandong, 1992.

Jurisdiction	Number of Jurisdictions	Gross Output (millions yuan)	Number of Enterprises	Enterprises/Jurisdiction	Output/Enterprise (millions yuan)
County	1	615.3	47	47	13.1
State		353.2	23		15.4
Collective		146.4	22		10.9
Township	17	218.2	129	7.6	1.7
Village	857	390.7	390	.5	1.0

Source: Zouping County Statistical Bureau 1993, p. 121.

Table 7. Scale and Concentration of Industry, Various Government Jurisdictions.

Jurisdiction	(1) No. of Enterprises	(2) No. Large and Medium Enterprises	(3) Percent Share (2) of Gross Value of Output	(4) Percent Share (2) of Profits and Taxes
Tianjin City	3,251	482	63%	73%
Guangzhou City	1,112	208	68%	n.a.
Suzhou City	433	115	81%	76%
Changshou County	187	30	59%	77%
Zouping County	47	4	91%	73%

Notes: Column (1) includes only those enterprises under the direct jurisdiction of the named jurisdiction; enterprises located within the boundaries of the jurisdiction but under the jurisdiction of lower or higher levels of government are excluded from these figures.

Sources: Tianjin Municipal Statistical Bureau 1991, pp. 340, 342, 428; Guangzhou Municipal Statistical Bureau 1991, pp. 1, 29, 45-46, 50-53, 101-111, 123; Suzhou Municipal Statistical Bureau 1991, pp. 68-69, 75, 84-101; Zouping County Statistical Bureau 1993, pp. 121, 128, 158-59.