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# Township, Village, and Private Industry in China's Economic Reform

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The rapid growth of rural nonstate industry — a sector of community-based firms — has been the most striking recent economic phenomenon in China, next to the decollectivization of agriculture. For the further development of the sector, defining property rights and gradually opening capital and labor markets are priority tasks.

This paper — a product of the Socialist Economies Division, Country Economics Department — is part of a larger effort in PRE to study the reform processes at work in socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Kang Chen, room N6-039, extension 38966 (40 pages with tables).

Next to the decollectivization of agriculture, the most striking economic transformation in China since 1978 has been the rapid growth of rural nonstate industry.

Firms in this sector (referred to here as TVPs) are owned by a hierarchy of local government units below the county level: towns (or townships), villages, and production teams (or, to a lesser extent, private individuals and groups). TVPs owned by township or village governments (that is, not privately owned) are termed TVCEs.

Important both to industry and the rural economy, TVPs have been at the forefront of economic reform. They are market-oriented in terms of output and input and, because of their tiny home markets, outward-oriented.

There appears to be a close relationship between individual incomes and firm/community economic performance. Most individuals expect to stay in their firms for relatively long periods. In some ways, TVPs seem to resemble the so-called Z firms, rather than private or state enterprises.

Community incentives for promoting TVPs are strong. But their community orientation leads to certain problems, resulting from the fragmentation of markets for capital and labor and the multiple, sometimes conflicting, roles of community governments.

Even if resources are used efficiently within rural communities, the immobility of factors of production can lead to increasingly serious misallocations and inequalities between communities.

A gradual opening of capital and labor markets is a priority task in the next stage of reform. Weakening the involvement of community governments in management of rural industrialization is likely to be gradual and take a long time. A stronger legal framework in which TVCEs and private firms can operate will be needed.

National government policy should be to minimize discrimination by government, legal, and regulatory apparatus against TVPs and, within the TVP sector, against private enterprise. The long-term goal should be elimination of differential treatment.

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## TOWNSHIP, VILLAGE AND PRIVATE INDUSTRY IN CHINA'S ECONOMIC REFORM

### I. Introduction.

Next to the decollectivization of agriculture, the most striking economic transformation in China since 1978 has been the rapid growth of rural nonstate industry. Firms in this sector are owned by a hierarchy of local government units below the county level--towns (or townships, as they are sometimes called), villages, and in some areas production teams--and to a lesser extent by private individuals and groups. Rural communities in China exist at three levels: the township (formerly the commune) typically has 15,000-30,000 people, the village (formally the brigade) typically has 1,000-2,000, and the production team about 100-200. There are substantial variations in size and economic power among communities in different parts of the country. Reflecting their mix of ownership, these firms will be referred to here as TVPs while that part of the TVP sector that is owned by township and village community governments (that is, not privately owned) will be referred to as township and village community enterprises (TVCEs).

China had attained a certain degree of rural industrialization by the late 1970s, but this occurred within the confines of an administrative straitjacket. This earlier industrialization has been dwarfed by the burst of activity that followed the easing of ideological and political prohibitions against rural nonagricultural activities after 1978. Private industrial and other nonagricultural ("sideline") activities came to be permitted, even encouraged. In 1987 limits on the size of private firms, which had been only sporadically enforced, were lifted. Following several years of spectacular growth, by 1987

TVPs accounted for some 23 percent of total industrial output value of Chinese industry. Some rural areas that only a few years back had relied almost entirely on agriculture have become overwhelmingly industrial communities, with agriculture continuing as a marginal activity subsidized out of industrial income.

Growth of the TVP sector has been an important component of China's reform, and has fitted into the strategy of developing an economy which is partly market-driven and partly plan-driven. Some commodities have come to be largely traded at market prices while others have seen a larger or smaller marketed component supplement trade at controlled prices. Continued state ownership of major industry (with, at the same time, some reforms in enterprise management) has been complemented by ownership reforms in agriculture and growth of a nonstate industrial sector.

What, then, does the growth of the TVP sector mean for China's overall reform? To what extent does it represent a broadening of the market mechanism outside agriculture and a potential source of competition for state industry? How compatible with a market economy are the patterns of incentives for TVP owners, managers and workers? Is the TVP sector a proxy for a private industrial sector? Or is it just an extension of traditional state ownership to rural industry? What are the regional and distributional implications of TVP development? This paper considers these questions, drawing on the results of a recent collaborative research project between the World Bank and the Institute of Economics of the Chinese Academy of Social Sciences.<sup>1</sup>

The extent and characteristics of rural industrial development differ greatly among China's many counties. The project therefore involved in-depth fieldwork in four counties selected for their diversity in stage of development

and organizational features.<sup>2</sup> As suggested by the data in Table 1, two of the counties, Wuxi and Nanhai, are relatively industrialized. Wuxi, in Jiangsu Province near Shanghai, had been the most industrialized rural county in China for some time and offers a good example of a "traditional" system of tightly integrated local government-owned firms. Neither labor nor land markets have developed in Wuxi, although there are elements of a capital market. Nanhai County, situated in the booming coastal province of Guangdong with its more freewheeling economy, has also industrialized rapidly and has benefited from expanding links with foreign business, especially through Hong Kong. Labor markets are relatively open, and a laissez-faire attitude prevails on whether firms should be owned privately or by local governments. Jieshou County in Anhui Province represents a more-or-less average level of TVP development for China, but its policies toward the sector are unusual in that private enterprises have been encouraged and even sponsored by local governments. An active land market has developed, as have "specialized villages," a new mode of rural industrial development.<sup>3</sup> Shangrao County in Jiangxi province represents a level of TVP development below the national average, with "traditional," yet unsuccessful, management of the sector.

The following section briefly reviews the rise of the TVP sector, its relationship with agricultural reform, and the patterns of labor absorption in the sample counties. The next section considers the market environment for TVPs--the extent to which these firms compete on an equal basis in free product and factor markets -- and summarizes what is known of the efficiency of different ownership types. A look at the incentives for owners of TVPs follows this discussion. As the owners are mainly various levels of local governments, an important question in judging the significance of the TVP sector is the

extent to which such firms will behave differently from those owned by the state.<sup>4</sup> The research indicates some important differences between state ownership and ownership by "small" units of government, which suggests that looking at the TVP sector as simply another form of state enterprise is quite misleading. The incentives for labor and patterns of labor payments in the TVP sector are considered next. The paper ends with a summary of the major findings.

## II. The Rise of the TVP Sector.

The development of China's TVP sector during the past thirty years can be divided into several phases. The Great Leap Forward of the late 1950s led to the creation, by local governments, of numerous rural small-scale industrial firms but these for the most part turned out to be unsustainable for a variety of reasons including low level of technology and inadequate scale. As a result, the TVP sector shrank drastically in the early 1960s. A new wave of TVP development began in 1970, based on the government's desire to promote production of key inputs for the mechanization of agriculture (agricultural tools and implements, tractors, other agricultural machinery, chemical fertilizer, and the like). But this development spread beyond the limits set by government, and a few parts of the country, like southern Jiangsu Province, achieved rural industrialization on a self-sustaining basis. The third phase of TVP development has been an integral part of rural and agricultural reforms since 1978.

### A. The Production Responsibility System

Agricultural reforms have had a major impact on the TVP sector. Prices of farm products were raised substantially, improving agriculture's terms of

trade. Mandatory quotas for areas planted, output, and compulsory procurement were either eliminated or reduced. Most important, in the early 1980s the commune system gave way to the production responsibility system, under which most communal land was divided equally on per capita or per worker terms.<sup>5</sup> The obligations of households were limited to tax payments, procurement quotas at set prices and contributions to social funds. As noted by Balassa (1987), quotas were often set in absolute terms, providing a strong incentive for increasing production.

The response to these reforms is well-documented. Although acreage shifted away from grain production, per capita grain output rose and overall per capita gross agricultural output grew by two-thirds. About half the increased output between 1978 and 1984 could be attributed to increased inputs and half to growth of total factor productivity (Johnson 1986 as presented in Balassa 1987). Lin (1986) found that growth of output was correlated with the extent to which the production responsibility system was introduced.

China's rural communities were profoundly affected by the production responsibility system. A major consequence was to make apparent the extent of surplus rural labor and so to generate pressures to address the employment problem. With continuing controls on mobility (which forestalled a major population shift to urban areas), job creation in rural areas was needed not only for social stability but to enable the potential productivity gains of the production responsibility system to be fully realized. At the same time, increased rural incomes boosted the demand for consumer goods and housing, creating markets for products suitable for production by smaller firms, while rural savings, deposited in the local banking system, offered a growing source



of capital to finance industrial investment. Demand and supply factors thus combined to impel rural industrialization.

Incentives for labor and potential owners of industrial firms also changed markedly after 1978. Many TVPs had previously paid wages directly to worker production teams and the workers had then participated in year-end collective income distributions. This greatly diluted incentives. Even in enterprises that paid workers directly, fixed-time wages were usual. With the production responsibility system, which led to the abolition of the system of community workpoints, firms could shift to direct, performance-related pay in a variety of forms, although, as described below, the income of a community still has an important influence in setting the terms of these payments. For local governments, the benefits of owning successful industrial firms were boosted by progressive decentralization of the fiscal system. In areas like Wuxi County, the response to this confluence of forces was to further promote existing local-government-owned industry; other localities like Nanhai sought a mix of government and private initiative; and still other places turned to primarily private enterprise-based rural industrialization.

#### B. Output Growth in the TVP Sector

Between 1978 and 1987 the value of rural gross industrial output is estimated to have increased at an annual rate of about 26 percent (table 2). For comparison, during this time the price level, as measured by the consumer price index, increased by 5 percent a year. Gross fixed assets of TVCEs rose at over 20 percent a year and bank loans to TVCEs at the remarkable rate of 44 percent. Fieldwork suggests that early profit opportunities, which were clearly very high from estimates of profits/sales, were progressively whittled away by

increased competition within the TVP sector (see the discussion of markets below). This is confirmed by aggregate data, which show profits rising more slowly than output, assets, and wage payments.

Employment in rural nonagricultural activities rose sharply in this period, from 22 million in 1978 to 77 million by 1986 (including seasonal and part-time workers). Much of this increase was due to service activities, however, and the industrial TVP sector posted more modest absolute increases. In the more advanced localities, in particular, rural industrialization has accompanied declines in the agricultural labor force. For example, in Wuxi County during 1978-85 the industrial labor force grew by 19 percent a year while the agricultural force declined by 13 percent a year. Average wages paid by TVPs, which were initially well below state-firm levels, rose rapidly but then moderated to slightly below the rate of increase in the state sector. In 1978-87, the average real TVP wage rose by almost 8 percent a year.

As a result of rapid TVP growth, the ownership structure of China's industry as a whole has changed markedly (see table 3). The share of the TVP sector has increased sharply, from only 3 percent in 1971 to over 23 percent by 1987, while the share of state enterprises has declined considerably. All types of TVPs have seen an increase in their share, but growth has been most marked for firms owned by private individuals and private groups of individuals. There has been a corresponding shift in the composition of rural gross output. Whereas in 1978 crop cultivation represented 53 percent and industry only 19 percent of output, by 1987 the share of crop cultivation had fallen to 30 percent while that of industry had risen to 35 percent. Smaller gains were posted by other farming activities and by construction, transport, and commerce.

The share of TVPs in the output of specific industries or product groups varies greatly, although they were active in virtually all broad industrial lines by 1985. Considering only TVCEs (there are no corresponding data for all TVPs) shows that in 1985 they accounted for 26 percent of the gross value of industrial production in machine building, 19 percent in construction materials, and 13 percent in textiles. They produced some 80 percent of all bricks, almost 20 percent of cement, and nearly 25 percent of paper and cardboard made in China.

### III. Markets and Administrative Structure.

#### A. The Market Environment of the TVPs

Does the rise of the TVP sector represent a strengthening of market forces? Or do TVPs, like their state counterparts, operate largely according to mandatory or "guidance" plans? Insofar as they are market based, are their markets fragmented by "local protectionism" policies implemented by local governments, or are their markets regional or national?

The answers to these questions differ for product and factor markets. Surveys provide ample evidence that planned output as a share of total output is minimal for most TVPs. Furthermore, they are "outward oriented" with respect to their home communities, as might be expected given the very small size of their "home markets." For example, in Wuxi only 4 percent of sales of industrial TVCEs occurred within the home township in 1985. Large majorities of sampled firms in all four counties sold at least 40 percent of their output outside the home province. In any case, communal governments have little scope for protecting their enterprises from outside competition. The surveyed TVPs

also rely heavily on the market mechanism for intermediate inputs, with the partial exception of electric power.

On the factor side, however, the TVP sector is heavily community oriented. All firms (including private enterprises) must obtain land and financial capital (usually in the form of bank loans) through the good offices of their local governments.<sup>8</sup> Although a labor market is emerging in some areas, notably Guangdong Province, labor allocation through local governments still takes place in many localities. In particular, technically skilled labor tends to be allocated by governments, rather than bid for by potential employers. Except for labor in some areas, TVPs in different localities therefore do not generally compete for factors on the basis of price.

The efficiency of the TVP sector therefore depends both on the efficiency of factor allocation within individual localities and on the degree to which locking productive factors into small administrative units induces misallocation of resources between localities. The first issue is closely related to the incentives faced by TVP owners, managers, and employees.<sup>9</sup> Extensive treatment of the second issue is beyond the scope of this brief coverage of TVPs but it could be noted that decisions on location and scale of TVPs appear to be seriously, and sometimes adversely, affected by the dispersion of ownership across communities and by the limited scope of joint ventures between communities. Small communities also face increased risk from concentrating their resources in one or two large firms.<sup>10</sup>

Overall, there is considerable anecdotal and statistical evidence that the TVP sector's market environment and orientation lead to efficient performance by Chinese standards. In many industries, TVPs outcompete state enterprises or at least hold their own. Production function estimates (both

Cobb-Douglas and translog) for sample enterprises suggest that TVPs have experienced rapid technical progress (or improvement in X-efficiency) over time and that they operate under increasing returns to scale. Interestingly, productive efficiency does not seem to vary systematically with type of ownership (Svejnar 1990). This suggests that their general market orientation and the community ties common to nearly all TVPs dominate any impact of different forms of ownership.

#### B. Local Government and Enterprise Hierarchies

With property rights still undeveloped in China, some degree of association between the bureaucratic status of the owners of an enterprise and the status of the firm is not surprising. By and large, there is little discrimination against local TVCEs by county governments, as they have a strong interest in promoting local industrialization, but at higher levels of government unfavorable policies such as abrupt curtailment of credit have sometimes been imposed.<sup>11</sup> Within the hierarchy of local governments, there is often some degree of favoritism for enterprises owned by the corresponding government unit, because of the strength of fiscal and other ties. Considerable rivalry may exist between local governments at similar levels.

Lowest on the bureaucratic totem pole are, of course, the private enterprises. Competition for technically and administratively skilled personnel is normally the most severe source of conflict between private firms and local TVCEs, especially where, as in Wuxi, local governments seek to closely regulate firms and their pay scales. As noted below, technically skilled labor tends to be allocated by governments within the TVCE sector, and this creates tension with the emerging labor market. The formation of private firms and their entry

into specified lines of activity can be restricted in many ways, for example, through regulations on energy use, zoning, and sanctions on skilled workers wanting to leave TVCEs for private firms. The extent to which private firms are encouraged or discouraged varies widely among localities, reflecting differences in the extent to which traditional community-owned firms are protected from private sector competition. But even in areas supportive of private enterprise, such as Jieshou, the weakness of property rights can lead to numerous problems. These may include "collectivization" of private firms under pressure from workers and local authorities. There may also be more voluntary changes of ownership where the original proprietors exchange ownership rights for management contracts and improved administrative status which carries privileges such as food allowances for them and their descendents. These exchanges would, of course, be less attractive with a system of secure property rights.

#### IV. Incentives for TVP Owners.

##### A. The Implications for Spatial Inequality

Most of China's rural population is rooted in fairly small communities with little prospect for permanent migration, although seasonal or temporary labor flows are somewhat more common. Financial resources raised from within a community are seen as a local resource, and intercommunity flows are limited by a "gap" system of credit allocation and the determination of leaders to use local funds for local investments.<sup>12</sup> Under these conditions, substantial inequalities in factor rewards, especially personal incomes, might be expected between communities.

Evidence on the dispersion of personal incomes in China (Wuxi and Jieshou being at very different levels of development) and the United States is presented in table 4. While urban incomes in China are distributed relatively evenly, the dispersion of rural incomes among provinces is markedly larger than the dispersion of average incomes across U.S. states. A similar pattern is evident for dispersion of average incomes among counties within individual provinces or among states.

The level of TVP development is probably the primary determinant of rural per capita incomes in China; in 1985, the correlation between the value of rural industrial output per head and average income per head across China's provinces was 0.91.

Income inequality within Chinese counties, however, is usually much lower than inequalities among counties. For example, in Nanhai County the coefficient of variation of income per head among districts was only 7 percent in 1985.<sup>13</sup> And within districts and smaller administrative units, a range of measures, including compensating payments made to agriculture out of industrial profits, acts to keep income inequality within a fairly narrow range (as is shown also by the wage equations discussed below). China may thus be characterized as a "locally equal" society with substantial regional differences.

Among the four sample counties, the degree of spatial inequality is striking (see table 5). Average per capita income in Nanhai county is 3.6 times that in Jieshou. The per capita wage bill of TVCEs in Wuxi is 28 times that in Jieshou. TVCE profits are even more unevenly distributed. These patterns point to the uneven pace of rural industrial development across China (Wuxi and Jieshou being at different levels of development) and the effect of low labor mobility.

An interesting question is the extent to which greater capital mobility could compensate for labor immobility. There are some examples of TVP firms relocating to poorer regions in response to lower labor costs. Balance sheet analysis confirms that rents in the TVP sector have indeed fallen with greater competition in product markets, and this process will progressively moderate the gains of the initial entrants. However, such processes are likely to be slow, partly because of the importance of personal connections in establishing and operating businesses. In the meantime, the large rural inequalities, which appear to have widened with industrialization, are likely to continue.

The degree of inequality may seem especially surprising given China's strong ideological commitment to equality and the powerful redistributive instruments available to the state. But whereas government can exert a strong influence over urban wages and incomes, it has no comparable instrument for equalizing rural incomes although, as noted below, some redistribution does take place through the fiscal system.

#### B. Incentives for Owners of TVPs

Without the deep involvement of community government leaders, China's TVP sector could not have grown nearly as rapidly as it has. The incentives for government leaders to establish and promote local industries are therefore crucial for an understanding of the characteristics of the sector. Following the approach of public choice theory, local governments and individual public decisionmakers are considered here as self-interested entities whose actions are geared toward maximizing their own benefits.<sup>14</sup> This involves analyzing the role of TVPs in their communities and the incentives for developing TVPs and for using them to support other goals.



**Fiscal Linkages and Discretionary Powers.** China's prereform highly centralized public finance system dated back to 1950. While even under this system certain extrabudgetary funds were mobilized and used by local governments, extrabudgetary funds in China as a whole in 1953 were equivalent to only 4 percent of the state budget. This proportion rose to over 35 percent by 1977, but it was not until 1980 that China began to decentralize actively and to offer more financial autonomy to local governments and state enterprises. By 1985 extrabudgetary funds were equivalent to 85 percent of the state budget.

In many rural communities, especially the more advanced ones, TVP industry has become the primary source of extrabudgetary funds, which are in the form of profit remittances and management fees paid by the firms to the local government. In Nanhai and Wuxi counties, industry provided 100 percent of these resources in the mid-1980s; even in Jieshou it provided 73 percent and in Shangrao 51 percent despite their low levels of industrial development.

For local governments, access to extrabudgetary funds is important. These funds represent their only substantial source of fiscal autonomy, since budgetary funds are mostly earmarked for specified expenses, notably salaries and administrative costs. In some respects, local governments in China resemble ministates because of their stable population bases. Yet they face important limitations on their powers. Deficit financing by any level of local government is not permitted, and they do not have the right to establish any new tax instruments or set tax rates. Community governments therefore face a relatively "hard" budget constraint.

Township governments now can typically retain for their own discretionary use a portion of above-quota tax revenues collected in their

communities, which allows them to tap into part of the budgetary revenue generated by TVP development. Townships can retain 8-12 percent of above-quota tax collections in Wuxi, 20 percent in Nanhai, and 50-100 percent in Shangrao. The quotas themselves are increasingly set according to a fixed percentage increase from some baseline level.

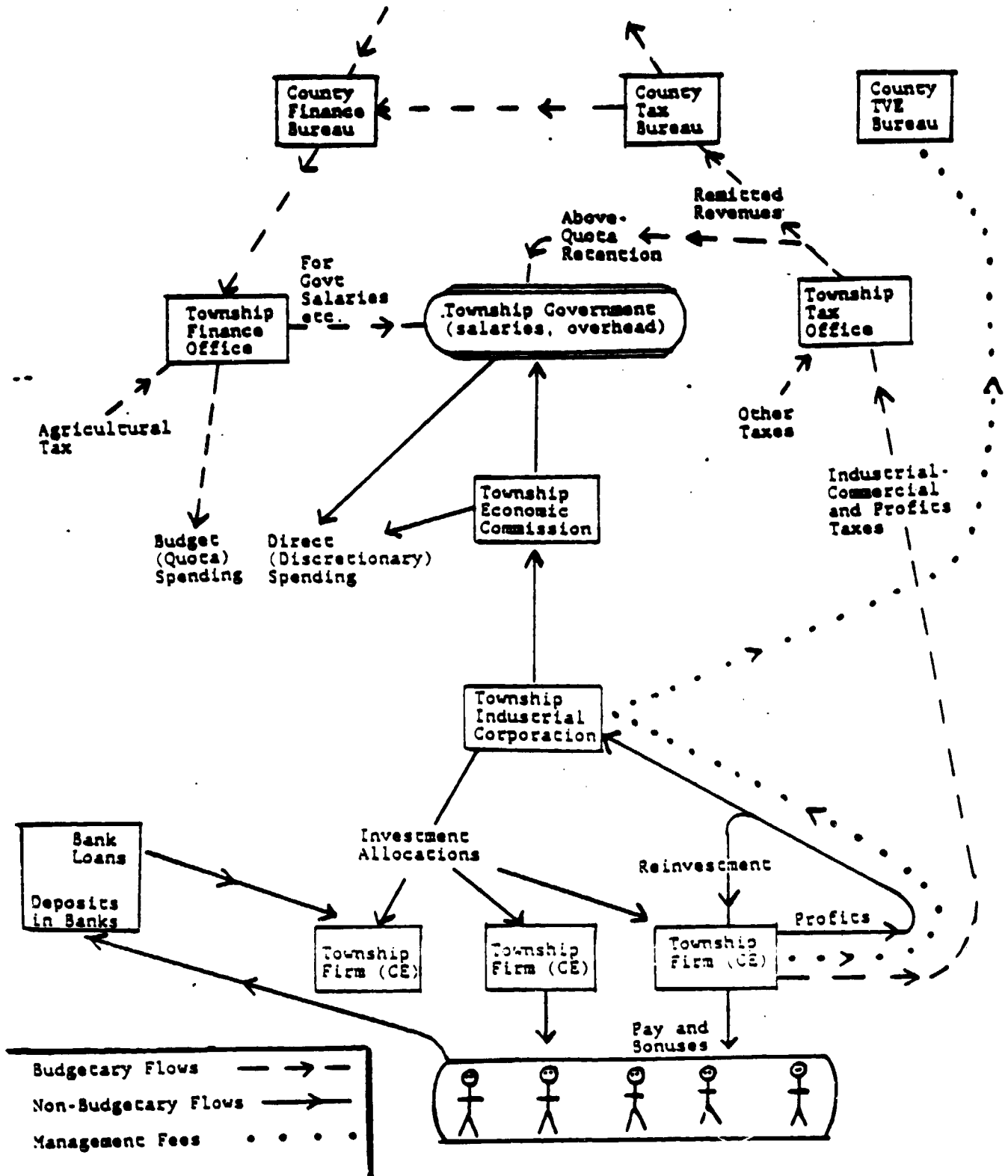
Typical financial flows among township firms and township and county institutions are shown in figure 1. Township firms pay direct and indirect taxes to the township. They pay management fees (actually a tax) to their supervisory agency, the township industrial corporation, which is best thought of as a community holding company under the direction of a township economic commission. Part of their after-tax profits is reinvested and part is turned over to the township industrial corporation. The township industrial corporation constitutes an important source of funding for government salaries and overhead, discretionary spending, and reinvestment in other township firms. It allocates these reinvested funds between firms (in our sample, investment by township governments accounted for more than 30 percent of start-up funds for township enterprises). The township investment corporation also assumes the debts of failing township firms and reallocates them to healthy firms to ensure their continued service.<sup>15</sup>

**A Tale of Two Townships.** To illustrate the disparity in the degree of development among China's rural communities, comparative statistics for two townships are presented in table 6. Township A is the most industrialized in Wuxi. Township B, in Shangrao Province, is one of the poorest townships visited during fieldwork; it has an average per capita income one-seventh that of Township A. Most of this disparity is due to differences in industrial output

per head. The most astonishing differences are in local revenues and expenditures per head, which in Township A exceed those in Township B by a vast margin.

A breakdown of resource generation and use between the two townships is shown in table 7. In Township A, the vast bulk of tax revenues is remitted to the county, whereas very little is in poorer Township B, which receives a supplemental allocation from the county budget. Nevertheless, remittances from enterprises in Township A dwarf all budgetary allocations.<sup>16</sup> The major differences between townships in government spending are also shown in table 7. In Township A, almost 70 percent of expenditures are plowed back into industrial investment, whereas in Township B, 86 percent are used for services and administrative expenditures. Nevertheless, the amount spent on services and administration is greater in Township A, and the autonomy of its government is far greater since almost all its resources are extrabudgetary. This ability to increase the autonomy of local government appears to be one important motive for such governments to promote TVPs.

Figure 1

TOWNSHIP REVENUE FLOWS AND COMMUNITY-OWNED FIRMS

**Rewards to Community Government Officials.** The personal rewards and career prospects of community officials also depend greatly on income, employment, and revenue mobilization in their communities. These personal benefits can be divided into two types: pay, bonuses, and informal earnings, and prospects for promotion.

Pay, bonuses, and earnings of community leaders and factory directors in TVCEs vary significantly across communities with the average level of incomes and TVP development in their communities. This variation tends to be greater for villages and production teams than for townships. In contrast, socially acceptable limits to pay differentials appear to exist within communities, although these may be fuzzy and change over time.

In Wuxi, the pay of a factory director is generally limited to twice the average pay of the factory employees. Pay and supplements for village leaders are also about twice average pay levels in village factories. Workers' wages are linked to enterprise profits (as described below), so there is a relationship between enterprise profitability and the income of community leaders.

In Nanhai, leaders' pay is typically two to three times average income per worker at the town and village levels in their community. In one township, government leaders earned about Yuan (Y) 2,500 per year, whereas incomes for village leaders ranged from Y2,000 to Y6,000 per year and appear to be linked directly to the profits of "their" enterprises. In some cases, such as in Xiqiao town, detailed incentive pay schemes have been promulgated for leaders of subordinate villages. With an annual base pay for a village leader of only Y660,<sup>17</sup> the possibility of earning up to Y1,100 for meeting various economic targets and Y10,000 or even more on the basis of enterprise profits created

strong incentives for village leaders in Xiqiao to develop community enterprises and operate them profitably. The top pay of village leaders in Nanhai appeared to be about Y15,000 (some thirty times the typical wage in Shangrao), in a village where workers received about Y5,000 per year.

In Jieshou, owners of private firms (who are also managers) appear to be able to earn high salaries only by paying their workers much higher wages than warranted by local labor market conditions. In Shangrao there is also some linkage between local income levels and leaders' pay, but the incentive effects seem to be weaker because of the low general level of incomes and the consequently greater influence of state wage scales for officials down to the township level. Given the poor record of profitability of TVPs in Shangrao, there appears to be very little relationship between the performance of firms and rewards to their directors.

It is impossible to gauge the magnitude of informal incomes with any precision, but rewards of this type are typically an important part of total compensation. More common than outright bribery is consumption of community government or enterprise resources, from cigarettes to banquets to housing construction. Since more funds, especially more discretionary funds, are available in richer areas, leaders undoubtedly have an additional incentive for stimulating TVP development.

The interaction of national pay scales with sharp differences in local income levels causes promotion and career incentives to operate quite differently in different parts of China. In rich areas such as Wuxi and Nanhai, successful community leaders are generally unwilling to be promoted to higher levels because of the greater importance of the national wage scale at those levels and prohibitions against township-level officials being involved in

business on their own account. In the poor, backward areas, promotion incentives are far more potent. Not only is there little loss of income for promoted leaders, but the change in household residency status for those promoted to township or county level is of inestimable value.<sup>18</sup> In Jieshou and Shangrao, lower-level leaders actively strive for promotion. The criteria for promotion are undoubtedly subjective, but it is clear that at least since 1980 the economic performance of the community for which the leader is responsible has carried great weight.

Immediate financial incentives and career incentives therefore appear to complement each other, with financial incentives being more powerful in rich areas and career incentives more powerful in poor areas. Fieldwork indicates that, despite these differences in the mix of incentives, under almost any circumstances local leaders have had strong personal as well as bureaucratic incentives to develop a successful TVP sector of some kind. This is broadly true, even where TVP development has lagged or failed. Thus the main factors that determine the success of development must be sought in the patterns of constraints facing local leaders and the interaction of these constraints with the incentive structure.

#### C. The Dual Roles of Community Governments

Local governments play a dual role in industrial development, being both owners of firms and administrators of the local community. This can lead to tensions and inefficiencies in the operation of the TVCE sector, as well as bias against private enterprises. In certain cases, it can cause the set of linkages between enterprises and governments, described above as having favorable incentive effects, to operate perversely. In this situation, which is more

likely in poorer areas, local governments can become an impediment to successful industrialization rather than a powerful force in its favor. We term this condition, wherein government excessively exploits local firms, "fiscal predation."

The household responsibility system radically altered the composition of property under the control of local governments. Agriculture, and the community population as a whole, became much less exposed to fiscal predation, leaving industry as the only major source of financing for nonbudgetary spending. Especially in the more advanced areas, governments underwent a successful transition from landlords to industrialists. But where enterprise development has not reached a self-sustaining stage, community governments have been tempted --in some cases even impelled by the inelasticity of basic services expected from local government--to extract funds from and through their enterprises to support their own consumption expenditures. Funds are levied from TVCEs regardless of their financial performance. Loss-making firms meet these requirements by transferring their depreciation funds (in effect "eating" their capital stock) or by additional borrowing, which means that local governments are indirectly using the banking system to finance their deficits. Such was the case in Shangrao, where payments from the enterprises to local government (see table 7) took place despite very poor financial performance by firms.

Instances of "political" interference in the operation of community enterprises seem to be fairly widespread in rich areas. In Wuxi, for example, many enterprise directors admitted that their enterprises were overstaffed, occasionally by margins as high as 50 percent, and firms are often required to pay various expenses, including entertainment of guests, on behalf of the local government.<sup>19</sup> Nevertheless, the conflict between the two roles of community



government is far more severe in poor areas, and this poses the issue of how rapidly the benefits of rural industrial development can be expected to diffuse under a policy of local self-reliance.

The independence of the banking system from local pressures in China and clear property rights (including accountability for losses) will be important in maintaining a tight budget constraint for local communities and holding the TVP sector to market-based behavior.<sup>20</sup> Although the problem of predation is most severe for poor areas that seek to use their enterprises to borrow from the banking system to fund current expenses, it could spread to more prosperous areas should China experience a major economic downturn.

#### V. Labor Markets and Incentives.

##### A. Labor Markets for Rural Industry

Labor markets are still fragmented in China, with significant obstacles to both rural-urban and rural-rural migration. The extent to which development of the TVP sector is contributing to a loosening of the labor market and the extent to which rural firms face a reasonably competitive labor market are important issues in assessing the incentives for participants in the sector and the sector's place in economic reform.

Some indication of the mobility of labor in the four sample counties is provided by data on the original homes of employees in sampled enterprises (table 8). The most striking contrast is between the two advanced areas, Wuxi and Nanhai. In Wuxi, very few employees come from outside the towns or villages of their current employment; in Nanhai, almost half came from outside the community and 15 percent came from other counties or provinces. This is especially striking since Wuxi County is considered to have a scarcity of labor,

to the point of being reflected in an increasing capital intensity of production. The situation in the two less developed counties, Jieshou and Shangrao, lies somewhere between these two extremes.

This indication that Wuxi and Nanhai represent opposite points in the spectrum of rural labor markets is reinforced by other survey information. TVP industry in Wuxi relies almost entirely on workers who describe themselves as "permanent" whereas this category represents only 40 percent of employees in Nanhai, 76 percent in Jieshou and 79 percent in Shangrao. Further, great shifts have taken place in the relative shares of permanent and "casual" workers in Nanhai, indicating major changes in the operation of the labor market. Permanent workers represented 92 percent of the total in 1980, 76 percent in 1983, and only 40 percent in 1985. Nanhai workers are more mobile than workers in Wuxi: 27 percent plan to leave their firm within three years and, probably because of this, there is far stronger pressure to distribute profits to the work force as opposed to reinvesting them. Indeed, as noted below, pay is higher in Nanhai TVP industry relative to Wuxi, essentially because the presence of a substantial private sector forces government industries to compete for labor.

Are workers allocated to their firms, or are they hired in a voluntary manner? Given the limits on choice due to population immobility, this distinction can be difficult to make very rigorously, but a breakdown was made of recruitment according to various modes that correspond reasonably well to these concepts (table 9). Voluntary hiring is most prevalent in Nanhai and Jieshou and lowest in Wuxi. Older employees are more likely to have been allocated to their firms, and so, interestingly, are the higher-paid workers.

Labor mobility and earnings distribution within local industry both appear to be heavily influenced by the presence of private enterprises.

Few workers are allocated to private firms, and in booming, labor-short areas such as Nanhai private enterprises provide a source of competition for government-owned TVCEs that is absent in the more tightly regulated Wuxi model. Thus, in 1985 average income in sample firms was higher in Nanhai than in Wuxi and the dispersion of income was significantly greater. In a poor, labor-surplus county like Jieshou, however, the existence of an active labor market has much less effect in boosting workers' incomes.

With respect to labor dismissals, the survey found that most TVP employees have a fairly long time-horizon for employment with their firms: 75 percent plan to stay with their firms for at least five years and, possibly because the bulk of them are first-generation industrial workers, most appear to be basically content in their firms. As described below, TVP firms, whether public or private, appear to have some "communal" characteristics that distinguish them from most firms in advanced market economies. Nevertheless, enterprises whose directors claimed to have the power to dismiss employees accounted for 97 percent of all directors surveyed in Jieshou, 82 percent in Wuxi, 73 percent in Nanhai, and 68 percent in Shangrao. The actual number of employees dismissed from their positions for any reason was extremely small in all four counties, however, and it was clear, especially in Wuxi and Shangrao, that the power to dismiss employees was severely curtailed by local community governments. In labor-surplus Shangrao, such intervention in labor markets is more understandable than in labor-scarce Wuxi.

### B. Incentives and Pay in TVPs

Pay systems differ considerably among TVPs, and those in the more advanced counties tend to be more complex. Surveys show that time rates are not the main method of payment for most workers. Piece rates are common, and bonuses are important for all but 19 percent of the sample. Whatever the specific form of payment, however, employees across all counties and types of firm perceive a clear relationship between their incomes and the profitability of their firms; only 10 percent see no such relationship while 71 percent consider it to be a strong one. There was also evidence of considerable willingness of employees to buy stock in their firms, should this become possible.

Despite the wide distribution of income levels reported by the sample, only 2 percent of respondents described their incomes as high relative to levels in their community and only 9 percent saw them as low. Furthermore, there was no systematic relationship between incomes and perceptions of relative level. This suggests that pay in TVPs tends to be set largely with reference to the general income levels in their respective communities. TVPs thus have some of the characteristics of cooperative firms, although survey results indicate clearly that they are far from worker-managed.<sup>21</sup> There is surprisingly little difference between public and private firms in terms of reported pay differences, pay differentials, labor relations, and similar variables, except that private firms tend to be smaller and simpler and to have fewer technical or highly skilled workers.

The variables that determine pay may be considered in several classes. County dummy variables can be used to represent the stage of development of the area, while ownership dummy variables can represent ownership of the firm. If the firm itself is seen as closely identified with a community, firm dummy

variables can be used instead. Other firm characteristics are size (number of employees) and profitability (measured as a ratio of profits to sales). Individual variables include age (or experience), gender, number of workdays, occupation, and education.

A variety of statistical models was fitted to the data to explain log (pay) using the sample of 1,172 workers. County dummy variables alone account for 30 percent of pay variance, and introduction of a simple public-private ownership dummy adds little to this. Profitability of the firm enters significantly, and with the expected positive sign. Using firm dummy variables alone results in an  $R^2$  adjusted for degrees of freedom of 0.57. Much of the observed dispersion of pay can therefore be accounted for by differences between firms. Moreover, nonparametric statistical tests suggest that average pay levels in firms rank positively with labor force growth, output growth, and growth of output value per worker. They thus arise from the "pull" effect of labor productivity gains in the more dynamic firms in the presence of slowly responding labor markets.

Adding firm size, profitability, and individual variables to the model with firm dummy variables boosts the adjusted  $R^2$  to 0.70. Women receive 14 percent lower pay than men, and apprentices receive 26 percent less than ordinary workers; group leaders and technical staff receive between 10 and 40 percent more. The effect of adding in an education variable is surprising, in that it indicates that employees with some college education receive lower pay than would be expected on the basis of other variables. In this connection, it is interesting to note that highly skilled employees are more likely to have been allocated to their firms and that the few college graduates in the sample are by far the most likely to want to leave their firms. This suggests that the

market for human skills has not yet opened up for TVPs. Indeed, this is true of China as a whole, and examples encountered during fieldwork showed many ingenious ways in which firms sought to get around the problem of the missing markets for technological, management, and marketing knowhow.

## VI. Conclusions.

Combining elements of public and private enterprise, China's dynamic TVP sector has become an important part of the country's rural economy as well as a major actor in industry. TVPs have been at the forefront of economic reforms. They are essentially market oriented on the output and material input sides; moreover, they are outward oriented because of the tiny size of their home markets. TVPs represent an increasingly important source of competition for the state sector, while the potential for economically beneficial interactions between the two (for example subcontracting) is also great.

This paper has highlighted some of the distinctive characteristics of TVPs, which are related primarily to their close ties to China's largely fixed-membership rural communities and to the local governments' relatively hard budget constraints. Almost irrespective of form of ownership, there appears to be a close relationship between individual incomes and firm and community economic performance, and most individuals expect to stay in their firms for relatively long periods of time. In some ways, TVPs are akin to the so-called "Z-firms," which follow Japanese models of labor relations and operate successfully in other market economies.<sup>22</sup>

The incentives for community governments to promote TVP development are extremely strong. Where the opportunities and resources have been present, the result has been an extraordinary burst of rural industrialization. In the more

backward areas local government may have been an obstacle to rural development. Since the legitimization of private enterprise in the mid-1980s, some of the poorer areas have resorted to this option and achieved much more dynamic TVP growth than earlier.

The community orientation of TVPs also leads to certain problems, resulting from the fragmentation of markets for capital and labor and the multiple, sometimes conflicting roles of community governments. Even if resources are utilized relatively efficiently within rural communities, immobility of factors of production can lead to increasingly serious misallocations and inequalities between communities. A gradual opening up of capital and labor markets will be a priority task in the next stage of reform. Weakening of the involvement of community governments in directly managing rural industrialization is likely to be a gradual, long-term process. A strengthened legal framework within which TVCEs and private firms can securely operate will be needed.

National government policy toward the TVP sector has played an important, but essentially passive, role in stimulating TVP development. In the future, an important need will be to avoid government policies and practices that do major harm to TVPs--even more important than any positive measures (including allocation of public resources) to support the TVP sector. Discrimination against TVPs and, within the TVP sector against private enterprise, by government, legal and regulatory apparatus should be minimized, with the elimination of differential treatment as a long-term goal.

Notes

1. The results of the project are detailed in Byrd and Lin (1990).
2. In the course of the project, five qualitative and quantitative surveys and numerous interviews were carried out. Data were collected and analyzed on a sample of 122 rural industrial firms, 1,174 employees, and 67 rural townships to complement aggregate statistics at county, provincial, and national levels.
3. A specialized village typically contains a number of firms, some of which may be very small, involved in common activities, for example, the making of bamboo combs, ropemaking or tire repair. There may be some institution for common marketing.
4. Despite rapid growth of private firms, by 1987 they still produced only one-seventh of the total industrial output of the TVP sector. Moreover, in most cases, the extent to which private firms could be established and could grow was still very much determined by the attitude of local government and its willingness to permit their use of land and other factors and to guarantee bank loans.
5. Strictly speaking, the right to use land rather than its ownership was assigned on an individual or household basis.
6. With interest rates held below market-clearing levels, China tends to experience excess demand for funds. Rural bank deposits are considered local resources, and communal governments exert a large influence on their use. Nevertheless, more industrialized areas such as Wuxi have, for some years, been net borrowers from other areas.
7. Dollar (1989) provides an interesting analysis of the impact of changes in incentives on the performance of Chinese state-owned enterprises after 1978.
8. In some cases the distinction between a community and a firm may be minor. For example, a ceramics factory in one sampled village employed virtually the entire labor force as well as some outsiders. Such a "company town" is clearly highly vulnerable to market shifts.
9. TVPs have also benefited, relative to state enterprises, from more favorable tax treatment, although this advantage is being eliminated. The effect of mid-1989 policy changes, which apparently discriminate against TVPs in favor of state firms, remains to be seen.
10. The gap system of credit allocation ties local bank credit limits to local deposit mobilization. This inhibits the transfer of final resources between communities.
11. Regional income inequality in the United States has fallen greatly over the last 50 years as a result of increased interregional mobility. For discussion of this topic, see Barro and Sala I Martin (1989). In rural China, by contrast, it has remained high due to limited mobility.



12. For reviews of public choice theory see Buchanan (1975) and Mueller (1976). This approach diverges from the more traditional view that government benevolently designs policies for society.
13. Local governments are slow to close loss-making firms partly because the debts of these firms represent a fixed cost.
14. Remittances in Township A are mostly out of enterprise profits. Enterprises in Township B actually made a loss but were still compelled to remit funds to the township government. This is characteristic of the "fiscal predation" practiced in some poor areas.
15. Village leadership positions are considered to be part-time jobs, which explains this low base pay.
16. Urban registration opens up access to cities for the official and his family and descendants and also carries with it a package of benefits.
17. A peculiar factor contributing to overstaffing is the practice of compensating farmers whose land is lost due to industrial development and those who have worked on construction without pay with lifetime jobs in the new firms. This was a particular problem in the hydro plants of Shangrao, where employees exceeded those necessary to operate the installations by large margins.
18. This is in sharp contrast, for example, to the self-managed enterprises in Yugoslavia, which have some similarities with the TVPs (especially TVCEs). The most important difference is in the nature of the local budget constraint. The self-managed enterprises are larger and tend to control banks; social ownership of capital further weakens local accountability in Yugoslavia relative to China and contributes to the softening of local budget constraints. This has resulted in poor enterprise performance, deteriorated portfolios and a large deficit in the captive banking system.
19. Workers do elect their directors in some Shangrao firms; this innovation was introduced in an attempt to lessen the degree of political interference in management.
20. The term Z-firm was introduced by Ouchi (1982) to describe firms following Japanese patterns of labor relations sometimes referred to as "lifetime employment." In contrast, "Taylorist" firms follow a "hire-and fire" labor policy.

**Table 1. TVP Ownership Structure in Four Counties of China, 1985**  
**(percentage of total gross industrial output value of TVPs)**

Type of TVP	Wuxi	Nanhai a	Jieshou	Shangrao	China
Township firms	48	43	36	43	45
Village firms	47	31	13	22	38
Team firms	2	16	-	-	9
Private firms	3	10	51	35	8
Total (millions of yuan)	3,705	1,421	127	31	175,008

a. Shares in gross revenues of industrial TVPs.

Source: Fieldwork of World Bank/Institute of Economics of the Chinese Academy of Social Sciences research project.

Table 2. Selected Indicators of Growth of the TVP Sector in China  
1978-83 and 1983-87  
(percentages)

Indicator	<u>Average Annual Change</u>		
	1978-83	1983-87	1978-87
Rural industrial output	19.7	41.5	26.4
Rural industrial labor force	3.1	15.9	7.4
Fixed assets*	15.7	26.7	20.5
Bank loans*	34.7	55.4	43.8
Profits before tax*	7.4	14.1	10.3
Employment	2.7	9.8	5.8
Wage bill	15.2	24.9	19.4
Average wage	12.1	13.7	12.9
Memorandum items			
Average wage, state firms	6.1	15.6	10.2
Inflation (CPI)	3.1	7.6	5.1

\* TVCEs only.

Sources: State Statistical Bureau of China (various years); China Rural Statistical Yearbook (various years).

**Table 3. Ownership Structure of Chinese Industry, Selected Years**  
(percentage of total industrial output value)

Category	1971	1978	1983	1987
State	85.9	77.6	72.6	59.7
Urban collective	10.9	13.7	14.4	14.6
Urban individual a	-	-	0.1	0.6
Urban other	-	-	0.8	2.0
Rural nonstate (TVP)	3.2	8.7	12.1	23.1
Township	1.6	4.8	6.3	9.3
Village	}	}	}	8.4
Below village	} 1.6	} 3.9	} 5.8	
Individual firms	}	}	}	5.4
				3.3

a. Includes partnerships.

Source: State Statistical Bureau of China (various years); China Rural Statistical Yearbook, Statistical Materials on China's Industrial Materials (various years).

Table 4. Dispersion of Personal Income: Spatial Income Inequality in China and the United States, Selected Years

	Year	Percentage of mean		Coefficient of variation (%) <sup>a</sup>
		Highest	Lowest	
<b>Provinces and states</b>				
China urban <sup>b</sup>	1983	137	75	13
China rural <sup>c</sup>	1980	194	70	28
China rural <sup>c</sup>	1985	195	62	31
United States <sup>d</sup>	1981	134	72	14
United States <sup>d</sup>	1986	140	70	17
<b>Chinese counties</b>				
Anhui urban <sup>e</sup>	1984	128	87	8
Jiangsu urban <sup>e</sup>	1985	127	85	10
Anhui rural <sup>f</sup>	1984	163	49	23
Jiangsu rural <sup>g</sup>	1985	164	62	23
<b>U.S. states</b>				
Michigan	1981	164	60	17
Mississippi	1981	163	65	16
Oregon	1981	137	81	12
South Dakota	1981	183	39	21

a. Standard deviation divided by mean.

b. Average per capita income of urban residents in the capital cities of each of the twenty-nine provinces, based on household surveys.

c. Average per capita income of rural residents in each province from household surveys.

d. Average per capita income by state.

e. Average wage per member of the urban work force.

f. Average per capita income for the rural population.

g. Average gross value of agricultural output (GVAO) per member of the rural population.

Source: State Statistical Bureau of China (1985, p. 62); (1986, p. 202); (1987, p. 204); U.S. Government (1983); Washington Post, August 21, 1987, p. C2. Anhui Jingji Nianjian 1985; Jiangsu Jingji Nianjian 1986.

**Table 5. Selected Economic Indicators in Four Counties, 1985**  
(yuan per capita of agricultural population)

Indicator	Wuxi	Nanhai	Jieshou	Shangrao	China
Average per capita income of rural population	754	1,029	285	322	398
Rural gross value of industrial output	4,656	2,313	244	49	207
Gross value of agricultural output	604	610	210	266	429
TVCE gross profits	512	208	9	4	24
TVCE wage bill	364	276	13	23	36

Note: For China as a whole, the figures are per member of the rural population. The agricultural population is an administratively defined category used at local levels, which includes people engaged in nonagricultural activities but not receiving grain rations or other subsidies.

Sources: Information from fieldwork of World Bank/Institute of Economics of the Chinese Academy of Social Sciences research project. State Statistical Bureau of China (1986).

Table 6. Selected Economic Indicators for Two Townships In Wuxi and Shangrao Provinces, China (in yuan)

Indicator	Township A (Wuxi, 1985)	Township B (Shangrao, 1986)	Ratio A/B
Population (number)	18,779	23,396	0.8
Average per capita income of rural population	907	131	6.9
Gross value of agricultural output per capita	399	197	2.0
Gross value of industrial output per capita	11,268	17	662.8
Sales income of township enterprises per capita	5,846 <sup>a</sup>	14	418.0
Local revenue per capita <sup>b</sup>	1,268	9	417.6
Expenditure per capita	522	18	29.0

a Industrial enterprises only.

b. Includes both budgetary and nonbudgetary revenues but not additional budgetary funds provided by the county for quota budget expenditures.

Source: Fieldwork of World Bank/Institute of Economics of the Chinese Academy of Social Sciences research project.

**Table 7. Government Income and Expenditure in Two Townships in Wuxi and Shangrao Provinces, China**

Income/ Expenditures	Township A (Wuxi, 1985)		Township B (Shangrao, 1986)	
	Yuan (thousands)	Percent of total	Yuan (thousands)	Percent of total
<b>Income</b>				
Tax revenues	13,428	56.4	193.5	46.4
Less remitted to county	12,978	54.5	1.7	0.4
Retained	450	1.9	191.8	46.1
Refund from county	--	--	209.8	50.4
<b>Remittances by township enterprises</b>	10,390	43.6	13.2 <sup>a</sup>	3.2
Less remitted to county	1,035	4.4	--	--
<b>Total resources</b>	<u>9,805</u>	100.0	<u>414.8</u>	100.0
<b>Expenditures</b>				
Investment in township enterprises	6,720	68.5	19.3 <sup>b</sup>	4.6
Support to agriculture	900	9.2	26.0	6.3
Public and social services	1,050	10.7	285.7	68.9
Administrative expenditures	138	1.4	70.8	17.1
Unidentified (residual) <sup>c</sup>	1,097	11.2	13.0	3.1
<b>Total expenditures<sup>c</sup></b>	9,805	100.0	414.8	100.0

-- not available.

a. Township B's enterprises had net losses totaling Y13,759 in 1986. These remittances were financed by additional bank borrowing and by drawing from depreciation allowances.

b. It is assumed that all budgetary expenditure "in support of production" other than items clearly specified as agricultural was for investment in township enterprises.

c. Total expenditures are assumed to be exactly equal to total township revenue resources, with the unidentified portion of expenditures derived as a residual.

Source: Fieldwork of World Bank/Institute of Economics of the Chinese Academy of Social Sciences research project.



Table 8. Original Homes of Employees in Sample TVP Enterprises in China, by County  
(percentage of total)

County	Same township/ village	Other township/ village in county	Other county	Other
Wuxi	94.0	3.0	1.6	1.4
Jieshou	79.7	12.7	4.8	2.8
Nanhai	50.9	33.8	14.2	1.1
Shangrao	80.9	14.8	2.1	2.2

Source: Meng Xin (1990).

Table 9. Recruitment of Workers in Sample Rural Enterprises in China by Selected Categories (number of workers)

Category	Allocation	Voluntary	Total
By county			
Wuxi	270	191	461
Jieshou	84	209	293
Nanhai	99	154	253
Shangrao	78	66	144
Total	531	620	1,151
By age			
Under 20	40	114	153
20-29	233	320	554
30-39	168	117	285
40-49	71	57	128
50+	19	12	31
Total	531	620	1,151
By ownership			
Public	398	380	778
Private	33	111	144
Total	431	491	922
By pay (yuan per year)			
Less than 625	82	180	262
625-1,249	180	263	443
1,250-2,499	173	142	315
2,500-4,999	44	31	75
Total	531	620	1,151

Notes: Chi square = 73.4 for counties, 54.9 for age, 38.9 for ownership, and 51.5 for pay. In all cases, these are significant at 0.1 percent.

Source: Fieldwork of World Bank/Institute of Economics of the Chinese Academy of Social Sciences research project.

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