



PARIS

**CENTRE FOR CO-OPERATION WITH NON-MEMBERS  
COMMITTEE FOR AGRICULTURE**

Or. Eng.

For Official Use  
CCNM/CHINA/CA(2000)32

**Programme of Dialogue and Co-operation with China**

**TRADE INTEGRATION AND THE PROSPECTS FOR RURAL  
ENTERPRISE DEVELOPMENT IN CHINA**

**Workshop on China's Integration into the International Trading System:  
Issues for, and Impacts on, Agriculture  
Paris, 16-17 November 2000**

*This paper, submitted by Professor Albert Park, Harvard University, is presented for discussion under Session No. 4 of the Draft Agenda [CCNM/CHINA/CA/A(2000)17]. Please note that the title of the paper has been slightly modified.*

Contact: Mr. Andrzej Kwiecinski, Principal Administrator, Agricultural Policies in Non-Member Economies - Tel: (33-1) 45 24 95 08; Fax: (33-1) 45 24 96 72;  
E-mail: Andrzej.Kwiecinski.oecd.org

97531

Document complet disponible sur OLIS dans son format d'origine  
Complete document available on OLIS in its original format

Or. Eng.

## TRADE INTEGRATION AND THE PROSPECTS FOR RURAL ENTERPRISE DEVELOPMENT IN CHINA

*Albert Park*<sup>1</sup>

### 1. Rural Enterprises and China's Structural Transformation

1. The rapid growth of China's rural industrial sector has been a main engine for growth during China's economic reform. From 1985 to 1998, TVE output value increased by more than six times in real terms (Table 1). Productivity growth of China's collectively owned firms has consistently outpaced that of state-owned firms (Jefferson and Singh, 1999), and collective firms sustained moderate productivity growth even through the mid-1990s when productivity growth in the state sector turned negative (Jefferson, Rawski, Wang, and Zheng, 1999). The share of gross industrial output accounted for by non-state firms increased from 22 to 72 percent from 1978 to 1998, with the size of the non-state sector (measured by output) surpassing the state-owned sector in 1994. TVEs, here defined to include all rural enterprises, including private firms, created 107 million new jobs from 1978 to 1996, the year in which employment peaked at 135 million in 1996, equal to 28 percent of rural labour and 20 percent of the national labour force (Tables 1 and 2). This rapid growth of rural industry, in addition to its direct effects on growth, also contributed to China's overall economic performance by putting competitive pressure on SOEs (Naughton, 1995), financing the provision of local public goods (Che and Qian, 1998; Whiting, 2000), and facilitating the rapid transfer of "surplus" agricultural labour to non-agricultural activities with higher levels of productivity.<sup>2</sup>

2. The rapid growth of TVEs has supported and reflected a rapid structural transformation occurring in China in which labour is shifting from the agricultural to the non-agricultural sector. According to official data, the percentage of labour engaged primarily in agriculture has fallen from 71 percent in 1978 to just 53 percent in 1998. Rawski and Mead (1998) argue that even this estimate may overstate agricultural employment considerably. Since 1990, the share of rural household income from agriculture has fallen from 77 percent to just 61 percent (in 1998, Table 2). Estimates of the numbers of rural migrants in urban areas by the mid-1990s tend to range from 50-80 million (Solinger, 1998), and one estimate of the amount of rural labour working off farm for all or part of the year (including commuters) was 154 million in 1995 (Rozelle et al., 1999). Agriculture, which accounted for 30 percent of GDP in 1980, accounted for only 18 percent of GDP in 1998. This structural transformation, a common feature of the development process, has occurred despite institutional barriers to labour mobility, and will continue for years to come.

---

1. Professor, Fairbank Center for East Asian Research, Harvard University, Department of Economics and William Davidson Institute, University of Michigan. The author thanks Lei Ye for her capable research assistance.

2. The rapid growth of China's TVEs was all the more remarkable because it was so unexpected. Deng Xiaoping noted that it was the one aspect of reform that took Chinese leaders completely by surprise. Western economists were puzzled that rural enterprises could perform so efficiently without private ownership. Explaining the puzzle has attracted considerable attention (reviewed in Jin and Qian, 1998).

Table 1. Rural Enterprise Performance, 1990-98

	TVE Number			TVE Employment		
	All (million)	Collective (million)	Collective Share	All (million)	Collective (million)	Collective Share
1990	18.50	1.45	0.08	93	46	0.50
1991	19.08	1.44	0.08	96	48	0.50
1992	20.79	1.53	0.07	106	52	0.49
1993	24.53	1.68	0.07	123	58	0.47
1994	24.95	1.64	0.07	120	59	0.49
1995	22.03	1.62	0.07	129	61	0.47
1996	23.36	1.55	0.07	135	60	0.44
1997	20.15	1.29	0.06	131	53	0.41
1998	20.04	1.07	0.05	125	48	0.39

	TVE Profits (1998 billion yuan)	TVE Value Added (1998 billion yuan)	TVE Revenue (1998 billion yuan)	TVE Share of All Rural Lending	Loans/ Revenue
1990	111	507	1475	22.0	21.7
1991	128	582	1768	22.2	21.5
1992	178	826	2473	23.8	18.5
1993	284	1285	3922	31.9	15.1
1994	295	1413	4813	33.2	12.8
1995	359	1612	6328	33.1	12.1
1996	396	1801	6969	28.3	11.8
1997	432	2057	8117	22.9	10.9
1998	464	2219	8935		

Source: SSB, Township and Village Enterprise Statistical Yearbook, various years.

Table 2. Nonagricultural Employment and Income and Rural Living Standards, 1990-98

	TVE Share of Rural Employment	TVE Share of National Employment	Share of Productive Income from Agriculture	Rural Net Income Per Capita (current yuan)	Rural Net Income Per Capita (1998 yuan)	Rural Living Expenditures Per Capita (current yuan)	Rural Living Expenditures Per Capita (1998 yuan)
1990	0.20	0.14	0.78	585	1184	686	1390
1991	0.20	0.15	0.77	620	1214	709	1388
1992	0.22	0.16	0.73	660	1215	784	1443
1993	0.25	0.19	0.68	770	1235	922	1479
1994	0.25	0.18	0.68	1017	1315	1221	1579
1995	0.26	0.19	0.67	1310	1447	1578	1742
1996	0.28	0.20	0.66	1572	1603	1926	1964
1997	0.26	0.19	0.64	1617	1604	2090	2073
1998	0.25	0.18	0.61	1590	1590	2162	2162

Source: SSB, China Statistical Yearbook, various years.

3. In this paper, following Chinese statistical conventions I define “TVEs” to include collective firms, private firms, and the self-employed—essentially all organised non-agricultural economic activity in rural areas other than household sideline production.<sup>3</sup> For the questions at hand, I believe this to be the most useful definition. Collectively-owned rural enterprises (a frequent definition of TVEs in the literature), will be explicitly described as *collective*.

### ***Rural Labour and Trade Integration: Beyond Agriculture***

4. China’s entry into the WTO is likely to accelerate the speed of structural change in China. A main argument of this paper is that an appropriate assessment of the effect of trade integration on China’s rural sector must take into account the rapid shift of labour to the nonagricultural sector. Such a perspective may lead to different conclusions than one which focuses only on agriculture, and may point to opportunities to make trade integration work positively for Chinese rural labourers.

5. As just described, historically, TVEs have played a key facilitating role in the process of structural transformation, with millions of farmers benefiting from new employment opportunities in the non-agricultural sector. Because they are export-oriented and adaptable to changing institutional and economic environments, the TVEs sector potentially could benefit from China’s WTO accession, and thus provide more and better income-earning opportunities for rural labourers. However, even during the periods of heady expansion, market imperfections for output, capital, and labour have led to uneven patterns of TVE development. More recently, TVE performance has stagnated throughout rural China. As a result, there is great concern about whether TVEs can deliver benefits to broad sections of China’s rural labourers in the future, especially those located in remote, inland regions—who many feel are most likely to be adversely affected by the impact of WTO on agriculture.

6. To assess the effects of WTO on TVE development thus requires several different pieces of analysis. First, I assess the reasons for the recent poor performance of TVEs, as well as other institutional changes (especially ownership) occurring in the sector. In particular, I examine the economic environment for TVEs with respect to several key markets—output, credit, and labour. Second, I examine the international linkages of the TVE sector. Third, I analyse regional aspects of TVE performance and links to the international economy. Fourth, I discuss the likely effects of trade integration. Finally, I conclude with policy priorities for maximising the development contribution of TVEs in light of trade integration.

## **2. Recent Trends in TVE performance**

### ***TVEs in Decline?***

7. The number of TVE enterprises and the number of workers employed in TVEs both fell from 1996 to 1998 following several years of relative stagnation (Table 1). Our definition of TVEs includes rural firms of all ownership types (including private), as well as petty businessmen (*getihu*), so the decline does not simply reflect ownership changes. Such a reversal is unprecedented during the reform period, begging explanation. Because of privatisation, the decline of collectively owned firms is even more dramatic. The drying up of nonagricultural employment opportunities, along with falling commodity prices has led to much slower rural income growth in recent years (Table 2; in fact, rural incomes in many areas have probably fallen despite official reports to the contrary).

---

3. China uses the Marxist standard of eight workers to distinguish firms from the self-employed.

8. Possible reasons for recent TVE stagnation include the following: increased competition which has reduced profit margins, low demand accompanying an overall slowdown in economic growth (due mostly to contractionary monetary policy) and in export growth (largely due to the Asian financial crisis), lack of credit access because of banking reforms that made managers more averse to risky loans, the eventual fallout of poor projects financed by excessively exuberant lending in 1993-94, and inefficient performance of publicly-owned (collective) firms, an argument which likens TVEs to small SOEs.

9. Table 3 summarises the profits earned by township-owned enterprises in Zhejiang and Jiangsu Provinces (China's TVE heartland) during 1994-97, based on data from surveys conducted in 1998. For the full sample of firms (all ownership types), there is a deterioration both in average profit levels and in the percent of firms that are profitable. The decline is especially pronounced for collectively-owned firms, but true for private firms as well.

10. Of the potential causes of stagnation just described, the most difficult structural impediment to resolve is the lack of access to formal financing. We might take an optimistic view that Chinese growth can resume (as it has in recent months), that export markets will recover, and that privatisation will reduce inefficiencies associated with public ownership. But the financing problem reflects entrenched structural problems rooted in the continued channelling of financial resources to state enterprises as well as the growing financial fragility and management challenges facing Chinese banks. Later, we describe the financing problem in greater detail.

### *Privatisation*

11. In China, one of the most striking trends in recent years has been the rapid privatisation of rural collective enterprises. According to surveys conducted by the authors in Zhejiang and Jiangsu Provinces in 1998, the percentage of township-level enterprises that were collectively owned (defined as owning a majority of shares) fell from 78 percent at year-end 1994 to 43 percent at the end of 1997 (Table 3), with a similar fall in the share of output value. A follow-up survey in 2000 found that less than 20 percent of enterprises were collectively-owned by year-end 1999. Firms at administrative levels below and above the township have also been privatised. Many village-owned enterprises were privatised before 1995 (Pan and Park, 1998; Kung, 1999). Also, by the end of 1996, in some provinces the majority of small SOEs had been privatised (Cao, Qian, and Weingast, 1999).<sup>4</sup> Even for firms that have remained collective, managerial contracts have increasingly given managers greater profit retention and decentralised decision-making authority (Chen and Rozelle, 1999).

12. Privatization carries both advantages and disadvantages. On the one hand, ownership reform should improve managerial incentives, and so lead to productivity and profitability increases as well as fewer distortions in the allocation of labour and capital. As seen in Table 4, during the 1990s the private sector of the economy (including both rural and urban areas) has posted robust annual growth rates in terms of the number of firms (46 percent), employment (41 percent), and output (71 percent).<sup>5</sup> Greater commercial incentives should also support more active, competitive factor markets. On the other hand, effective private sector development requires supporting financial, legal, and government institutions, and if appropriate reforms in these supporting institutions are not implemented, private firms may struggle.

---

4. By mid-1996, Heilongjiang had completed 91 percent, Shandong 65 percent, Hunan 60 percent, Jilin 56 percent, and Anhui 39 percent; by end of 1996, Jiangsu had completed about 50 percent, Henan intended to complete full privatization of small SOEs by the end of 1997.

5. The urban private sector surpassed the rural private sector in 1993.

Table 3. Ownership and Performance of Township-Level Enterprises in Zhejiang and Jiangsu Provinces, 1994-97

	1994	1995	1996	1997
<b>1. All Township-Level Enterprises</b>				
Number of firms	415	411	409	405
Of which are profitable (%)	75.9	75.2	67.5	70.9
Profits/production (%)	2.5	2.3	0.4	-1.7
<b>2. Collectively Owned</b>				
Total number of township enterprises	323	276	224	174
Of which are profitable (%)	75.2	73.2	64.3	66.7
Profits/production (%)	2.5	1.9	-0.3	-3.0
<i>Firms That Were Collective in 1994</i>				
Number of Firms	323	318	315	310
Of which are profitable (%)	75.2	71.1	62.2	66.8
Profits/production (%)	2.5	1.7	-0.5	-2.5
<b>3. Privately Owned</b>				
Total number of private enterprises	92	135	185	231
Of which are profitable (%)	78.3	79.3	71.4	74.0
Profits/production (%)	2.3	2.9	1.2	-0.8
<i>Firms that were Private in 1994</i>				
Number of firms	92	92	92	92
Of which are profitable (%)	78.3	89.1	84.8	83.7
Profits/production (%)	2.3	4.1	3.2	0.8
<i>Privatised in the Current Year</i>				
Number of firms	-	42	51	47
Of which are profitable (%)		57.1	66.7	51.1
Profits/production (%)		0.2	-0.7	-6.6

Source: This table is taken from Park and Shen (2000). Based on authors' census of all township-owned and large township enterprises in 60 townships in 15 counties in Zhejiang and Jiangsu, 1998.

Table 4. Private Firm Development, 1991-1997

	Firms		Employment		Output Value	
	Number (million)	Growth (%)	Number (million)	Growth (%)	trillion 1995 yuan	Growth (%)
1991	0.108		1.84		0.09	
1992	0.140	29.5	2.32	26.1	0.12	23.8
1993	0.238	70.4	3.73	60.7	0.26	124.2
1994	0.432	81.7	6.48	74.0	0.55	112.1
1995	0.655	51.4	9.56	47.4	1.01	82.2
1996	0.819	25.2	11.71	22.5	1.59	58.4
1997	0.961	17.3	13.49	15.2	1.98	24.6
Average		45.9		41.0		70.9

Source: IFC (1999)

### *The Market Environment*

#### *Output Markets*

13. There is no question that competition for most categories of industrial goods has increased substantially since the beginning of reforms, and that this increased competition has disciplined firms even while undermining profitability across firm types (Jefferson and Singh, 1999). Nonetheless, a recent debate has emerged about whether China's markets are well-integrated internally. Young (2000) argues that converging structures of production across provinces, in addition to many reports of local protectionism and even internal trade wars over specific commodities, provide strong evidence of poorly integrated markets, at least until the early 1990s. Strong regional protectionism that is easily observed for certain goods, such as automobiles, beer, etc. support this interpretation. A survey of private enterprises in urban areas provides additional support for the lack of market access argument. The survey of 300 firms found that only 12 percent of private firm managers felt their main competitors were SOEs. In many places, government regulation discourages entry in business areas with a large SOE presence. 30 percent of managers report encountering market barriers of some sort (IFC, 1999).

14. Naughton (1999), however, has countered this argument with data from provincial input-output tables, which suggest very high levels of inter-provincial trade (similar to U.S. states). The markets for key agricultural commodities appear well-integrated (Park, Jin, Rozelle, and Huang, 2000), and for many goods there appears to be vigorous competition and market reach throughout China, which can be witnessed by entering any large supermarket or department store throughout the country.

15. Internal market integration is important, because trade raises productivity by allowing for specialisation. The skewed distribution of TVE activity within China might suggest that TVEs in interior provinces are not benefiting from protection, but it could also mean that local demand for many TVE products is limited and access to bigger, outside markets does not exist (especially for industrial production). Coastal firms have full access to export markets, presumably with unlimited demand at the prevailing price.

16. Removing internal bottlenecks in theory provides the same benefits and costs as those associated with external trade liberalisation. If western and central provinces are able to shift resources to activities in which they have comparative advantage (e.g., food processing), they could benefit from more integrated markets even as they lose market share in other products that are purchased from coastal provinces. If they

insist on old production structures or are unable to finance new investments to take advantage of new opportunities, the effects of liberalisation may be one-sided. Coastal provinces may benefit from internal trade liberalisation in the same way that they benefit from international trade liberalisation—gaining access to larger markets.

### *Credit Markets*

17. Over the past several years, it has become increasingly difficult for TVEs to obtain loan financing from state banks. The share of rural lending to TVEs has fallen steadily since 1994, following a brief surge in lending in 1993 following Deng's southern tour (Table 1). TVE loans as a share of TVE revenues have fallen throughout the 1990s (Table 1). This decline is also apparent when comparing loans to total liabilities, output value, or net fixed assets (Nyberg and Rozelle, 1999). The credit squeeze has led banks to shift lending to larger, more established TVEs (Watson, 1999).

18. The non-state sector has often been cut off from formal credit during periods of monetary retrenchment (Brandt and Zhu, 1999). Financial reforms also have heightened the commercial incentives of bank managers (Park and Sehart, 2000), reducing the incidence of "political" lending to local enterprises (Park and Shen, 2000). However, a large part of the difficulty that TVEs have recently experienced in accessing credit is due to assessments by bankers that it is no longer profitable to lend to TVEs. Surveys find that the amount of non-performing loans to TVEs increased substantially from 1994 to 1997 in Zhejiang (Brandt, Park, and Wang, 2000). Much of this has to do with the deteriorating profitability of TVEs described above. In combination with greater financial competition and higher real interest rates, poor TVE performance has led to a collapse in confidence in the ability of whole townships and villages to remain solvent (previously bankers relied on township leaders to honour obligations by enforcing implicit joint liability for firms in the township). Firms savvy to these changes have increasingly defaulted strategically on loans, exacerbating the repayment problems (Park and Shen, 2000). These changes have led to a remarkable shift in the preferences of bank managers in coastal areas in favour of lending to private firms, although the bulk of funds still is lent to collective firms (Park and Shen, 2000). Non-repayment problems also reduces the amount of available funds for new lending. This has been a particularly serious problem in inland provinces (Brandt, Park, and Wang, 2000). Additional contributing factors inhibiting TVE finance have been loan interest rate controls that prevent banks from setting rates that make lending viable in particular regions and to particular firms. The state continues to channel the bulk of state bank funds to the state-owned sector; at the aggregate level the commercial orientation of lending does not appear to have improved following financial reforms in the mid-1990s (Park and Sehart, 2000).

19. Financing thus has emerged as a major constraint to TVE development, and so has the potential for preventing TVEs from seizing new opportunities that come with greater trade integration. This difficulty afflicts not just TVEs but also the private sectors of urban areas, which are also an important source of potential employment growth. According to a survey of private businesses in 4 cities, ninety percent of initial equity was self-financed, while less than 5 percent came from bank loans (IFC, 1999). Eighty percent of firms list finance as a major (40 percent) or moderate constraint, the most cited difficulty other than weak market demand.

### *Labour Markets*

20. Despite the vast movement of rural labour into the rural industrial sector and into Chinese cities, many empirical studies suggest that labour markets in China are highly segmented. For rural industry, Yao (1999) analyses household survey data collected in 1994 in a county in Zhejiang and finds that jobs in rural



industry are rationed and that labour markets are not competitive. There continue to be very large gaps between the marginal labour returns in agriculture and local industry in different locales (World Bank, 1997). Pitt and Putterman (1999) using firm panel data for the years 1984-89 find that TVEs pay higher wages and employ fewer workers than is profit-maximising. Other studies have found that income from rural industry (or wage-earning jobs more generally) exacerbates inequality at every administrative level (province, county, village, household) suggesting that access to TVE jobs is uneven (Rozelle, 1994). Benjamin, Brandt, Glewwe, and Li (1999) find considerable within-village inequality in household incomes, much of it due to differential access to non-farm jobs. They also find great variation in the returns to education across villages, suggesting segmented labour markets. Inter-regional labour market segmentation is also found by Knight and Song (1999) using household survey data from 19 provinces collected in 1995.

21. For migrant jobs in cities, China maintains institutional barriers such as the residence permit (hukou) system, restrictions on access to public education and health services, and job category restrictions for migrants (Solinger, 1999). With the number of laid-off urban workers growing rapidly over the past several years, restrictions on migrants have increased. There are other barriers, too, such as poor information in remote areas about labour market opportunities and poor information available to firms on workers coming from afar. *Prima facie* evidence of significant rural-urban mobility restrictions is the growing gap between rural and urban incomes since the mid-1980s, which has reached an extremely high level using any reasonable comparative or historical comparison. The experience of recent development projects, such as the World Bank poverty projects, provide some optimism that labour mobility can be enhanced with supportive institutional interventions that reduce the information costs of matching employers to labourers (World Bank, 2000). Most migrants (two thirds) stay in their own province, which either implies continued mobility restrictions across provinces or greater opportunities for migrants in local economies (in contrast to employment in TVEs). If the latter is true, urban restrictions on migrant labour could be particularly costly to rural labour in interior provinces where TVE employment opportunities are scarce.

22. Finally, as mentioned earlier, the privatisation process at all levels (SOEs or TVEs) may prove beneficial to the development of more integrated labour markets, because privatised firms are less likely to make employment decisions based on political considerations such as the desire to pass on rents to employees or maximise employment. The more commercial the orientation of enterprise managers, the less willing they will be to bear the costs of discrimination, which should help promote more active markets for labour and managers.

### **3. TVEs and the International Economy**

23. As seen in Table 5, China's total exports are concentrated in textiles, footwear, leather, and fur (31 percent), and machinery, electrical equipment and vehicles (27 percent). Metals and jewellery products (8 percent) and food, beverages, and tobacco (7 percent) also are somewhat important. The import side is dominated by machinery, electrical equipment, and vehicles (40 percent) followed by textiles, footwear, leather, and fur (12 percent), metals and jewellery products (10 percent), plastics and rubber (8 percent), and chemicals and related products (8 percent). Overall, in terms of net exports, textiles, footwear, leather, and fur is by far the most important export goods category.

Table 5. **Chinese Import and Exports by Commodity Category, 1998**

	Exports	Imports
Total (\$billion)	183.75	140.17
Share of All Trade:		
Food, Beverages, Tobacco	0.073	0.050
Minerals	0.035	0.067
Chemicals and Related Products	0.053	0.079
Plastics and Rubber	0.034	0.083
Textiles, Footware, Leather, Fur	0.308	0.123
Wood and Paper Products	0.017	0.050
Cement, Glass, Gypsum	0.017	0.008
Metals and Jewellery Products	0.080	0.098
Machinery, Electric Equipment, Vehicles	0.272	0.403
Instruments (Film, Measure, Clocks, Music)	0.036	0.035
Other	0.075	0.005

Source: SSB, *China Statistical Yearbook* 1999.

24. TVEs are heavily involved in the export sector. Two thirds of China's export growth during 1978-92 came from the non-state sector (Perkins, 1999). From 1990 to 1995, TVE exports grew by 52 percent annually (in nominal prices). In 1996, 48 percent of exports were produced by TVEs (Watson, 1999) and in 1995, 16 percent of FDI was in TVEs. Figure 3 provides a breakdown of TVE export goods. Mirroring the data for all exports (although goods categories are not identical), textiles, clothing, and silk accounted for 27 percent of exports in 1998, followed by light industry (22 percent), local products and handicrafts (11 percent), food (9 percent), and machinery (8 percent). Not surprisingly TVEs concentrate on labour-intensive industries. China continues to have a strong relative cost advantage in producing labour-intensive consumer goods when compared to most Asian competitors, but competition is growing from South Asia and Vietnam, as well as south-east Asian countries whose devalued currencies following the Asian crisis make them more competitive. Consumer goods account for 70 percent of U.S. imports from China.

25. Table 6 describes the overall industrial production categories of TVEs in China, drawing on data for all TVEs in 1995 (from the industrial census) and collective TVEs in 1998. Textiles remain an important category, accounting for 15 and 18 percent of employment and output value for all TVEs and collective TVEs. However, these percentages are not as high as for exports. Goods that are relatively more important in production than in exports include mineral and metal products (22-25 percent of output value) and food and beverages (10 percent of output value for both measures). Machinery and equipment (9-12 percent) and electric equipment, electronics, and telecommunications (7 percent) are also somewhat important.

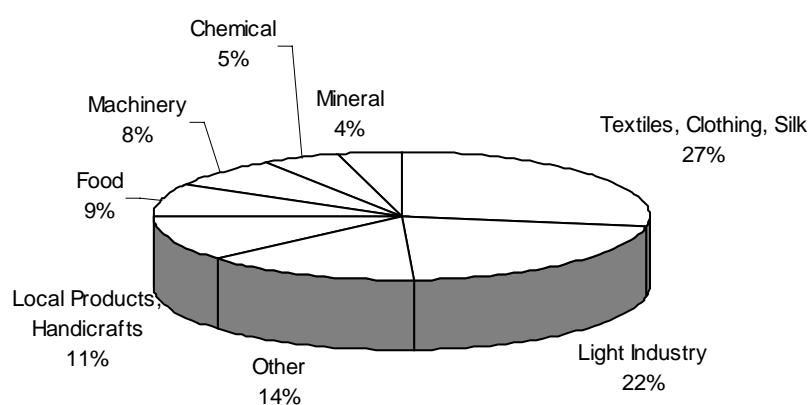
26. The TVE sector also includes non-industrial activities, including (in order of employment number) transportation, commerce, construction, services, and other activities (including agriculture). As seen in Figure 2 and 3, these comprise 41 percent of TVE employment and 29 percent of TVE output value. Non-industrial activities may be relatively more important in interior areas where industrial TVEs have faced difficulties.

Table 6. TVE Industrial Production Categories

	All TVEs in 1995		Collective TVEs in 1998	
	Employment	Output Value	Employment	Output Value
Mining and Quarrying	0.115	0.065	0.094	0.051
Food, Beverages, and Tobacco	0.077	0.105	0.061	0.096
Textiles, Garments, Leather, and Furs	0.151	0.152	0.177	0.178
Timber, Furniture, Paper	0.062	0.057	0.063	0.056
Printing and Record Medium Reproduction	0.010	0.009	0.008	0.008
Cultural, Educational, and Sports Goods	0.016	0.011	0.020	0.011
Petroleum Refining and Coking	0.004	0.007	0.005	0.009
Raw Chemical Materials and Chemical Products	0.034	0.053	0.035	0.054
Medical and Pharmaceutical Products	0.005	0.008	0.005	0.008
Chemical Fibre, Rubber, and Plastics	0.048	0.055	0.049	0.057
Mineral and Metal Products	0.267	0.222	0.279	0.250
Machinery and Equipment	0.072	0.093	0.104	0.123
Electric Equipment, Electronics, Telecommunications	0.043	0.066	0.056	0.072
Other Manufacturing	0.089	0.090	0.037	0.023
Power, Gas, and Water	0.008	0.007	0.005	0.004
Total	1.000	1.000	1.000	1.000

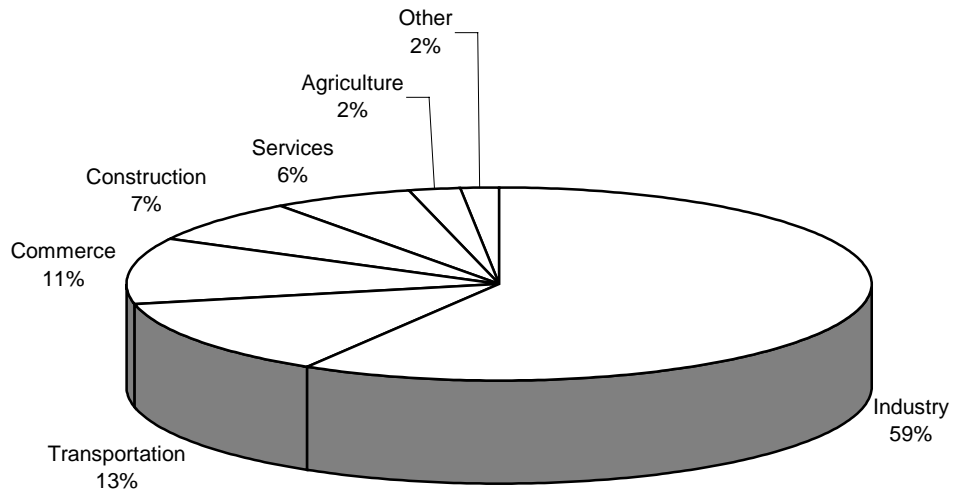
Sources: Data on all TVEs in 1995 is from SSB, The Data of the Third National Industrial Census in 1995, 1997. Data on collective TVEs in 1998 is from SSB, Township and Village Enterprise Statistical Yearbook 1999.

Figure 1. TVE Export Goods, 1998



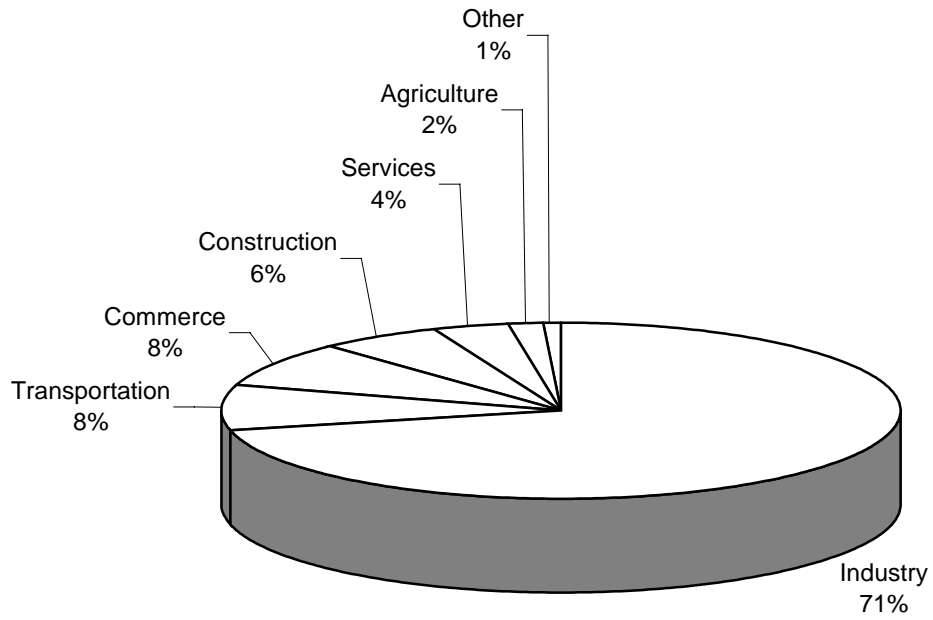
Source: SSB, Township and Village Enterprise Statistical Yearbook 1999.

Figure 2. TVE Employment By Sector, 1998



Source: SSB, Township and Village Enterprise Statistical Yearbook 1999.

Figure 3. TVE Output Value by Sector, 1998



Source: SSB, Township and Village Enterprise Statistical Yearbook 1999.

27. Thus, while TVEs are engaged in a wide range of industrial and non-industrial activities, exports are heavily concentrated in textiles and light industrial consumer goods produced by industrial TVEs. The WTO will directly affect TVEs engaged in the production of tradables, but other TVE activities may also influence the overall effect of the WTO on the opportunities for rural labour. For instance, higher incomes from more specialised production could increase the demand for services provided by non-industrial TVEs even in areas where industrial TVEs are not successful.

#### *Recent Trends*

28. The Asian crisis led to a halt to China's rapid growth in exports and foreign direct investment. Export growth, which was 16.5 percent from 1987 to 1997, was only about 3 percent in the subsequent 2 years (Lardy, 2000). China's trade surplus fell 61 percent during the first 5 months of 1999, and FDI fell from 1998 levels as well, the first shrinkage of FDI during the reform period. Nonetheless, Zhu Rongji and the Chinese leadership, in agreeing to the WTO conditions for opening up the economy to outside competition, courageously espouse "competition-led growth," based on the idea that competition spurs productivity, boosts profits, inspires investment, etc. Very recently, there are reports of an upsurge in exports and growth this year.

#### **4. Regional Patterns**

29. Rural industries in China have always been heavily concentrated on the coast, despite periodic efforts (including the current Western Development Initiative) to encourage the establishment of more TVEs in interior provinces. Table 7 summarises various regional indicators of TVE performance in 1998. While the coast contains 34 percent of the nation's rural labour force, it accounts for 45 percent of TVE employment and 54 percent of TVE output value. This means that 36 percent of rural labourers work in TVEs on the coast but only 17 percent in the West. Employees in TVEs in coastal areas are more likely to work for collective firms (46 percent) compared to those in the West (29 percent). See Appendix Tables for statistics by province.

30. The distribution of TVEs directly linked to the international economy is much more skewed than the patterns of overall TVE production. In 1998, 86 percent of TVE exports were produced in coastal provinces, and 80 percent of profits from TVE joint ventures were earned in coastal provinces. Fourteen percent of TVE workers worked in exporting firms on the coast, compared to only 2 percent in the West. In coastal provinces, a full 6 percent of TVE workers were in joint ventures, compared to 0.2 percent in the West. Guangdong Province, a stone's throw from Hong Kong, alone accounted for 25 percent of national employment in exporting TVEs and 34 percent of employment in TVE joint ventures (Appendix Table 1). The employment shares for Zhejiang, Jiangsu, Fujian, and Shandong were also more than or near to 10 percent for both TVE exporting firms and TVE joint ventures (Appendix Table 1). Regional concentration of production for export is not just a TVE phenomenon. Three fourths of all Chinese exports (not just of TVEs) came from 6 coastal provinces in 1994 (Perkins, 1999).

31. Watson (1999) observes that in the East, there is a trend among TVEs toward larger scale, more capital-intensive and higher technology products. In the central region, the focus remains on labour-intensive production; there is also some comparative advantage in agricultural processing. Construction and transport are relatively more important in the centre and west. The west, however, continues to suffer from severe market handicaps in developing industry. Also, one fourth of TVE industry uses agricultural products, so that TVEs could be complementary to agricultural shifts in response to WTO.

Table 7. Regional Indicators of TVE Performance in 1998

	Coast	NE& Central	West	China
National shares:				
Rural employment	0.338	0.381	0.281	1.000
TVE employment	0.450	0.371	0.179	1.000
TVE collective employment	0.536	0.330	0.135	1.000
TVE profit	0.455	0.403	0.142	1.000
TVE collective profit	0.586	0.365	0.050	1.000
TVE output value	0.544	0.337	0.119	1.000
TVE collective output value	0.641	0.286	0.074	1.000
TVE employment in exporting firms	0.819	0.142	0.039	1.000
TVE export value	0.864	0.113	0.023	1.000
TVE joint venture employment	0.894	0.091	0.015	1.000
TVE joint venture profit	0.803	0.174	0.023	1.000
TVE share of rural employment	0.360	0.264	0.173	0.271
Collective share of TVE employment	0.459	0.342	0.289	0.385
Collective share of TVE profit	0.471	0.331	0.128	0.366
Collective share of TVE output value	0.528	0.380	0.276	0.448
Share of TVE employment in exporting firms	0.139	0.029	0.017	0.076
TVE export value/TVE output value	0.113	0.024	0.014	0.071
Share of TVE employment in joint venture firms	0.058	0.007	0.002	0.029
Share of TVE profits in joint venture firms	0.087	0.021	0.008	0.049

Source: Calculated from SSB, Township and Village Enterprise Statistical Yearbook 1999.

Notes: Coast includes Beijing, Tianjin, Hebei, Shandong, Jiangsu, Zhejiang, Shanghai, Guangdong, Fujian, and Hainan (10 provinces). Northeast and central includes Heilongjiang, Jilin, Liaoning, Shaanxi, Anhui, Henan, Hubei, Hunan, Jiangxi (9 provinces). West includes Inner Mongolia, Shaanxi, Gansu, Ningxia, Qinghai, Xinjiang, Chingqing, Sichuan, Guangxi, Guizhou, Yunnan (11 provinces). Tibet is excluded because of missing data.

32. These observations suggest that there is some room for specialisation based on comparative advantage within the TVE sector, and for linkages to agriculture in some areas. Nonetheless, because WTO will open markets for goods produced by firms located primarily on the coast, it will be a great policy challenge to nurture linkages to the economies (and labour) of interior regions. This can happen if rural labour from interior regions has fuller access to a national labour market, and if firms in the interior have supportive institutions that facilitate adjustment to the realignments in comparative advantage that will occur with more open markets and even greater export orientation of firms on the coast.

## 5. Anticipated Effects of China's Entry into the WTO

### *Agriculture*

33. The effects of trade integration on the non-agricultural sector in rural areas, as well as on the ability of TVEs to employ more rural labour, will depend importantly on the effect of the WTO on the agricultural sector. In academic and policy debates, there is disagreement over whether effects will be marginal or very painful (Huang, Rozelle, and Zhang, 2000). Tariffs in agriculture were 47 percent in 1991. In 1996, rates were reduced from 36 percent to 23 percent, in 1997 to 17 percent, and under the WTO should reach 10 percent by 2005. The WTO also gradually increases the allowable quantity of

imports of different commodities through a system of Tariff Rate Quotas (TRQs). The recent history of tariff reductions suggests that China's rural sector is already dealing with significant adjustments. Those who argue that the effects of WTO will be felt only gradually point to the phased implementation of quota increases, the higher international prices for some agricultural commodities, and the benefits of cheaper imported inputs, in particular fertiliser and agricultural equipment.

34. There are different scenarios for how the government will respond to new pressures related to trade integration in agriculture (Carter and Rozelle, 2000). If local leaders react defensively to competition from new imports and lower commodity prices by insisting that their regions remain self-sufficient in key grains (perhaps supported by price supports and other policies that reduce labour mobility), adjustment will be longer and more painful. Unfortunately, this has been a frequent Chinese government response in the past; witness the agricultural retrenchment policies initiated since 1998. If China's agriculture is truly opened up and greater specialisation is pursued, higher incomes from production more consistent with comparative advantage could be a boon to the non-state sector in the form of new funds, greater market demand, forward and backward production linkages, and greater supply of labour—the traditional linkages between agriculture and industry.

35. Many have pointed out that agricultural price effects of WTO are likely to affect interior areas and the north-east (wheat and corn-growing regions) more adversely. These are precisely the areas where TVEs are less successful, and so for WTO to work favourably from a regional perspective requires a much improved environment for developing enterprises in these regions or getting labour out to exporting areas on the coast.

### *Textiles*

36. As described earlier, textiles are the most important export category for China's TVEs. As for many aspects of the WTO debate, there is disagreement about how much China's entry into the WTO will increase its export opportunities in this sector.

37. China agreed to provide WTO members with safeguard protection against surges in Chinese textile imports until December 31, 2008, or four years beyond that permitted under WTO rules. The safeguard provision is based on the 1997 U.S.-China Bilateral Textile Agreement. More generally, China agreed to a 12-year, product-specific safeguard allowing WTO members to take action against import surges from China that cause "market disruption" (GAO, 2000). However China did not acquiesce to U.S. demands that U.S. quotas for Chinese textiles be extended to 2010, or 5 years beyond the time when quotas will be eliminated for all other WTO members. Instead, the WTO Agreement on Textiles and Clothing, which will phase out quotas under the Multi-Fiber Arrangement, will be extended to China.

38. Pessimists who complain that the potential for increased exports is exaggerated make several points. First, China will reduce its own tariffs on textiles from an average of 25.4 percent currently to 11.7 percent by January 1, 2005, and so will face greater competition on its own turf. Second, the safeguard provisions will prevent large increases in export market penetration. Third, competition will increase from other countries in south-east Asia and south Asia. Fourth, only eighteen percent of the country's exports are textile exports to countries that have quotas, so that lifting quotas won't have dramatic effects on total trade.

39. Nonetheless, because of China's strong competitive position, the eventual removal of quantitative restrictions on textile imports will almost certainly lead to higher market share in the U.S. and other importing countries. An independent ITC report projects that the U.S. trade deficit with China will increase by as much as \$586 million, with U.S. producers of footwear, apparel, and wood products most



vulnerable. According to the report, China's GDP will increase by 4 percent, exports by 12 percent, and imports by as much as 14 percent. U.S. imports from China would increase by 7 percent (Reuters, 1999).

### *Other Products*

40. The WTO will have potential effects on all tradable goods for which tariffs are adjusted or non-tariff barriers are removed (both in China for foreign goods and in other countries for Chinese exports). Until 1994, China's tariff and non-tariff barriers were among the highest among developing countries. Now, China compares favourably with Korea and Japan in terms of trade protection even though it is far behind them economically. Following WTO accession, average tariff rates on industrial products will fall from an average of 24.6 percent to 9.4 percent overall and 7.1 percent on priority U.S. products.<sup>6</sup> As a result, TVE firms, like all industrial firms, will face increased domestic competition. This will heighten the importance of shifting production lines to those for which China has comparative advantage. Lower import tariffs, in addition to benefiting consumers, could also help some Chinese producers, including exporters, by making imported inputs cheaper, but this may also reduce backward linkages.

### *Market Environment*

41. In addition to providing new export market opportunities for rural industry, barring a large economic crisis, the WTO will help improve the market environment for TVEs, by accelerating the restructuring of state-owned enterprises and by forcing the financial and distribution sectors to become increasingly commercial in their orientation. The WTO has provisions for opening financial markets that could lead to sweeping changes in how banking services are provided. Foreign banks, who will have full access to the market for both deposits and loans to residents and firms within 5 years, unlike Chinese state-owned banks will have a strong incentive to identify profitable firms, whether privately or publicly owned. Along with ownership reform in line with recent Company Law, these changes should lay the groundwork for successful private, commercial production and financing activities. The WTO also stipulates that foreign companies will be able to establish their own distribution systems, which should accelerate internal market integration. An analysis of the determinants of export success finds that the most important factors are enterprise decision-making autonomy and freer domestic markets, both of which should improve under WTO (Perkins, 1999). Perkins also finds that greater export orientation in turn increases total factor productivity growth.

## **6. Policy Priorities in Light of Trade Integration**

42. This paper attempts to convey a simple message. Trade integration will accelerate structural change that is already ongoing in China. To the extent that the Chinese economy is able to adjust quickly to exploit new comparative advantages under trade liberalisation, trade integration can produce many positive benefits. Underlying confidence in this basic principle over the long run underpins the Chinese leadership's commitment to entering the WTO. However, if China adopts defensive or contradictory policies rather than embracing new opportunities, adjustment will be longer and more painful, and may have strong regional effects that exacerbate existing political tensions.

---

6. Specific rate reductions include the following: agricultural equipment 11.54 to 5.7 percent (2002), autos 100 and 80 to 25 percent (2005), chemicals 14.74 to 6.9 percent (2005), civil aircraft 14.7 to 8 percent (2002), construction equipment 13.6 to 6.4 percent (2004), cosmetics up to 40 to 10-15 percent (2005), furniture 22 to zero percent (2005), information technology products 13 to zero percent (2005), paper 14.2 to 5.5 percent (2005), pharmaceuticals 9.6 to 4.2 percent (2003), and toys up to 35 to zero percent (2005).

43. In considering the effect of WTO on the Chinese farmer, it is important to think about effects on both agricultural and nonagricultural activities. China's rural enterprises, in particular, because they are export-oriented, are more flexible in adjusting to new economic environments, and reflect China's comparative advantage in labour-intensive production activities, can provide new opportunities for rural labour. At the same time, rural labour should be encouraged to shift into more labour-intensive agricultural activities as well (e.g. horticulture, aquaculture, fruit and vegetable productions, etc.). Successful adjustment can lead to virtuous cycles of higher productivity, growing incomes, increasing market demand, and more rapid structural adjustment. However, the recent poor performance of the TVE sector provides important warnings of the institutional challenges that TVEs face in trying to fulfil their market potential. Some of the problems are macroeconomic in nature, reflecting broad failures in the financial and distribution systems.

44. First, as emphasised by Rawski (1998), artificially low capital costs and the direction of most available credit to the state sector creates a bias toward capital-intensive sectors and technologies. This is a common distortion in many developing countries with strict capital controls, but has been overlooked in China amidst the relatively successful development of labour-intensive industries. However, as competition intensifies and growth slows, capital market distortions may prevent the rural industrial sector from realising its potential labour-absorbing capacity. WTO itself may help achieve this goal by forcing China's financial market to open itself to competition from international commercial banks.

45. Recommendations for improve credit access of TVEs, which are similar to those made for promoting private sector development (IFC, 1999) include the following:

- allow non-state financial institutions and smaller banks, which have greater ability and willingness to lend to smaller, private firms,
- move away from zero-risk lending which discourages lending to riskier projects even if expected returns are high (should instead evaluate portfolio performance measures),
- allow flexible interest rates to give commercial banks an incentive to lend to TVEs,
- provide transitional loan guarantee funds to encourage banks to lend to new types of clients (e.g., private entrepreneurs), and
- promote development of supporting legal (contract law) and information systems (credit histories, uniform accounting practices, etc.) to enhance the ability of banks to lend profitably to smaller enterprises.

46. Given the concentration of export-oriented enterprises on the coast, spreading the benefits of new export opportunities will require more integrated labour markets. Privatisation and commercialisation of enterprises may help in this process by giving firm managers less incentive to discriminate against labourers from distant regions. In addition, following previous recommendations of similar ilk (World Bank, 1997), the government should consider ways to increase labour market flexibility. Possibilities include the following:

- limit urban restrictions on migrant labour (discrimination in provision of public services, exclusion from specific job categories, etc.)
- implement development projects to enhance labour mobility from poor regions (e.g., World Bank Southwest Poverty Alleviation Project).

- improve information systems (labour centres, etc.) for finding non-agricultural jobs

47. A third area of high priority should be to improve the policy environment for the private sector, which accounted for 38 percent of new formal employment in China during 1990-97 (Rawski, 1998). Much progress was made by the incorporation of private ownership into the constitution in 1999, following the revisionist statement on state ownership as the pillar of the economy at the 15<sup>th</sup> Party Congress in 1997. With rapid privatisation, China is moving rapidly to an economy that will be dominated by the private sector, with collective ownership representing an important, but clearly transitional phase. Possible measures to support private enterprises could include the following:

- Ensure transparent licensing that doesn't restrict entry. Registration should not be an approval process but a true registration process. The Law on Protection Against Unfair Competition, passed in 1993 should be more strictly enforced.
- Strengthen the rule of law, including commercial laws, bankruptcy laws, contract enforcement.
- Allow private firms to have export licensing (this process has just begun).
- Prevent extractive fees from being charged by local governments. Some locales with deteriorating fiscal resources many have a strong incentive to charge such fees.

48. Finally, the government should continue to encourage ownership and contract reforms that strengthen the profit incentives and corporate governance structure of enterprises and financial institutions. This process of institutional development will play a critical role in achieving successful structural adjustment. The government should also police against trade barriers and other distortions (e.g. local government fee extractions) that hinder highly competitive, integrated internal markets.

## REFERENCES

- Benjamin, Dwayne, Loren Brandt, Paul Glewwe, and Guo Li. 1999. *Markets, Human Capital, and Inequality: Evidence from Rural China*, mimeo.
- Brandt, Loren, Albert Park, and Sangui Wang. 2000. *Are Financial Reforms Leaving the Poor Behind?: Regional Differences in Bank Performance and Fund Allocation in Rural China*, preliminary results.
- Brandt, Loren and Xiaodong Zhu. 2000. "Redistribution in a Decentralized Economy: Growth and Inflation in Reform China," *Journal of Political Economy* 108(2): 422-39.
- Carter, Colin, and Scott Rozelle. 2000. *Will China Become a Major Force in World Food Markets?*, mimeo, University of California at Davis.
- Cao, Yuanzheng, Yingyi Qian, and Barry Weingast. 1999. From Federalism, Chinese Style, to Privatization, Chinese Style," *Economics of Transition* 7(1): 103-131.
- Che, Jiahua, and Yingyi Qian, 1998. Insecure Property Rights and Government Ownership of Firms," *Quarterly Journal of Economics* 113(2): 467-96.
- Chen, Hongyi, and Scott Rozelle. 1999. "Leaders, Managers, and the Organization of Township and Village Enterprises in China," *Journal of Development Economics* 60(2): 529-57.
- General Accounting Office (GAO). 2000. *World Trade Organization: China's Membership Status and Normal Trade Relations Issues*, Report to Congressional Committees.
- Huang, Jikun, Scott Rozelle, and Linxiu Zhang. 2000. *WTO and Agriculture: Radical Reforms or the Continuation of Gradual Transition?*, mimeo, Center for Chinese Agricultural Policy, Chinese Academy of Sciences.
- International Finance Corporation (IFC). 1999. *China Private Enterprise Study: A Draft Report*.
- Jefferson, Gary, Thomas Rawski, Li Wang, and Yuxin Zheng. 1999. *Ownership, Productivity Change, and Financial Performance in Chinese Industry*, mimeo.
- Jefferson, Gary, and Inderjit Singh. 1999. "Overview," in Gary Jefferson and Inderjit Singh, eds. *Enterprise Reform in China: Ownership, Transition, and Performance* (New York: Oxford University Press, pp. 1-22).
- Jin, Hehui, and Yingyi Qian. 1998. "Public versus Private Ownership of Firms: Evidence from Rural China," *Quarterly Journal of Economics* 113(3): 773-808.
- Knight, John, and Lina Song. 1999. "Increasing Wage Inequality in China: Efficiency versus Equity?" University of Oxford Applied Economics Discussion Paper Series No. 211.

- Kung, James Kai-Sing. 1999. "The Evolution of Property Rights in Village Enterprises: The Case of Wuxi County," in Jean Oi and Andrew Walder, eds., *Property Rights and Economic Reform in China* (Stanford: Stanford University Press, pp. 95-122).
- Lardy, Nicholas. 2000. "Permanent Normal Trade Relations for China," Chinaonline.com, May 2<sup>nd</sup>.
- Mooney, Paul. 2000. "Post-WTO Shocks for China's Farmers," *ChinaOnline*, January 17.
- Naughton, Barry. 1995. *Growing Out of the Plan: Chinese Economic Reform, 1978-92* (Cambridge; New York and Melbourne: Cambridge University Press).
- Naughton, Barry. 1999. *How Much Can Regional Integration Do to Unify China's Markets?*, Paper for a conference on Policy Reform in China, Stanford University, November 18-20.
- Nyberg, Albert, and Scott Rozelle. 1999. *Accelerating China's Rural Transformation* (Washington, D.C.: The World Bank).
- Pan, Suwen, and Albert Park. 1998. *Collective Ownership and Privatization in China's Village Enterprises*, William Davidson Institute Working Paper.
- Park, Albert, Hehui Jin, Scott Rozelle, and Jikun Huang. 2000. *Market Emergence and Transition: Transaction Costs, Arbitrage, and Autarky in China's Grain Markets*, mimeo.
- Park, Albert, and Kaja Sehr. 2000. *Tests of Financial Intermediation and Banking Reform in China*, mimeo.
- Park, Albert, and Minggao Shen. 2000. *Joint Liability Lending and the Rise and Fall of China's Township and Village Enterprises*, William Davidson Institute Working Paper, University of Michigan.
- Perkins, Frances. 1999. "Export Performance and Enterprise Reform in China's Coastal Provinces," in Gary Jefferson and Inderjit Singh, eds., *Enterprise Reform in China: Ownership, Transition, and Performance* (New York: Oxford University Press, pp. 241-263).
- Pitt, Mark, and Louis Putterman. 1999. "Employment and Wage in Township, Village, and Other Rural Enterprises," in Gary Jefferson and Inderjit Singh, eds., *Enterprise Reform in China: Ownership, Transition, and Performance* (New York: Oxford University Press, pp. 197-216).
- Rawski, Thomas. 1998. *China: Prospects for Full Employment*, Report to the International Labor Organization.
- Rawski, Thomas and Robert Mead. 1998. "On the Trail of China's Phantom Farmers," *World Development* 26(5): 767-81.
- Reuters. 1999. "'Bigger' US Trade Gap if China Joins WTO," September 4, 1999.
- Rozelle, Scott. 1994. "Rural Industrialization and Increasing Inequality: Emerging Patterns in China's Reforming Economy," *Journal of Comparative Economics* 19(3): 362-91.
- Rozelle, Scott, Guo Li, Minggao Shen, Amelia Hughart, and John Giles. 1999. "Leaving China's Farms: Survey Results of New Paths and Remaining Hurdles to Rural Migration," *China Quarterly* 158: 367-93.

- Solinger, Dorothy. 1999. *Contesting Citizenship in Urban China* (Berkeley, Los Angeles, and London: University of California Press).
- State Statistical Bureau Source (SSB). Various years. *China Statistical Yearbook* (Beijing: Statistical Press).
- State Statistical Bureau Source (SSB). 1997. *The Data of the Third National Industrial Census in 1995* (Beijing: Statistical Press).
- State Statistical Bureau Source (SSB). Various years. *Township and Village Enterprise Statistical Yearbook* (Beijing: Statistical Press).
- Watson, Andrew, ed. 1999. *Township and Village Enterprises Development Project*, Report to the Asian Development Bank.
- Whiting, Susan H. 2000. *Power and Wealth in Rural China: The Political Economy of Institutional Change* (Cambridge: Cambridge University Press).
- World Bank. 1997. *China 2020: Development Challenges in the New Century* (Washington, D.C.: The World Bank).
- World Bank. 2000. *China: Overcoming Rural Poverty* (Washington, DC: The World Bank).
- Yao, Yang. 1999. "Rural Industry and Labor Market Integration in Eastern China," *Journal of Development Economics* 59: 463-496.
- Young, Alwyn. 2000. "The Razors Edge: Distortions and Incremental Reform in the People's Republic of China," *Quarterly Journal of Economics*.

Appendix Table 1. Provincial TVE Performance Indicators, 1998 (percent of national totals)

	Rural employment	TVE employment	TVE collective employment	TVE profit	TVE collective profit	TVE output value	TVE collective output value	TVE employment in exporting firms	TVE export value	TVE joint venture employment	TVE joint venture profit
Beijing	0.003	0.007	0.015	0.007	0.014	0.007	0.013	0.010	0.006	0.017	0.006
Tianjin	0.004	0.009	0.015	0.022	0.035	0.014	0.021	0.025	0.020	0.023	0.047
Hebei	0.057	0.060	0.044	0.087	0.071	0.061	0.039	0.040	0.027	0.030	0.046
Shanxi	0.021	0.025	0.027	0.018	0.019	0.018	0.018	0.009	0.007	0.007	0.004
Inner Mongolia	0.013	0.029	0.010	0.054	0.013	0.025	0.006	0.005	0.003	0.002	0.003
Liaoning	0.020	0.034	0.027	0.077	0.047	0.060	0.036	0.032	0.039	0.035	0.108
Jilin	0.013	0.019	0.010	0.022	0.011	0.014	0.008	0.004	0.002	0.002	0.001
Heilongjiang	0.020	0.012	0.011	0.010	0.013	0.009	0.010	0.002	0.002	0.003	0.002
Shanghai	0.005	0.012	0.026	0.014	0.036	0.023	0.045	0.053	0.047	0.082	0.100
Jiangsu	0.059	0.067	0.096	0.041	0.073	0.098	0.148	0.134	0.183	0.153	0.117
Zhejiang	0.045	0.063	0.069	0.084	0.073	0.105	0.098	0.132	0.148	0.101	0.118
Anhui	0.059	0.045	0.045	0.045	0.043	0.031	0.030	0.022	0.013	0.010	0.013
Fujian	0.026	0.041	0.036	0.040	0.039	0.048	0.040	0.084	0.106	0.074	0.059
Jiangxi	0.033	0.024	0.019	0.017	0.015	0.013	0.011	0.008	0.004	0.005	0.006
Shandong	0.078	0.096	0.108	0.081	0.148	0.099	0.126	0.087	0.086	0.099	0.161
Henan	0.088	0.061	0.057	0.067	0.091	0.053	0.050	0.025	0.012	0.010	0.015
Hubei	0.038	0.050	0.063	0.055	0.074	0.058	0.075	0.012	0.012	0.011	0.013
Hunan	0.060	0.070	0.054	0.073	0.040	0.063	0.037	0.026	0.018	0.008	0.011
Guangdong	0.057	0.094	0.125	0.077	0.095	0.087	0.111	0.254	0.241	0.315	0.149
Guangxi	0.045	0.029	0.017	0.027	0.011	0.024	0.011	0.018	0.011	0.004	0.002
Hainan	0.005	0.002	0.001	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000
Chongqing	0.028	0.011	0.018	0.004	0.004	0.007	0.009	0.004	0.002	0.002	0.002
Sichuan	0.083	0.046	0.041	0.015	0.007	0.036	0.023	0.006	0.003	0.005	0.007
Guizhou	0.036	0.010	0.007	0.010	0.002	0.005	0.005	0.001	0.001	0.001	0.000
Yunnan	0.041	0.032	0.023	0.019	0.006	0.014	0.013	0.002	0.001	0.001	0.005
Shaanxi	0.029	0.030	0.019	0.020	0.013	0.017	0.011	0.002	0.001	0.000	0.000
Gansu	0.020	0.011	0.011	0.007	0.005	0.005	0.004	0.002	0.001	0.001	0.004
Qinghai	0.004	0.002	0.001	0.000	0.000	0.001	0.000	0.001	0.000	0.000	0.000
Ningxia	0.004	0.004	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.000
Xinjiang	0.007	0.006	0.004	0.003	0.001	0.003	0.002	0.000	0.000	0.000	0.000

Source: Calculated from SSB, *Township and Village Enterprise Statistical Yearbook 1999*.

Appendix Table 2. **Provincial TVE Performance Indicators, 1998**

	TVE share of rural employment	Collective share of TVE employment	Collective share of TVE profit	Collective share of TVE output value	Share of TVE employment in exporting firms	TVE export value/TVE output value	Share of TVE employment in joint venture firms	Share of TVE profits in joint venture firms
Beijing	0.574	0.798	0.729	0.815	0.104	0.059	0.066	0.045
Tianjin	0.667	0.624	0.595	0.680	0.210	0.104	0.073	0.108
Hebei	0.285	0.285	0.299	0.288	0.050	0.031	0.015	0.026
Shanxi	0.328	0.407	0.381	0.449	0.027	0.030	0.008	0.012
Inner Mongolia	0.606	0.135	0.085	0.114	0.013	0.010	0.002	0.003
Liaoning	0.456	0.304	0.226	0.274	0.071	0.047	0.030	0.069
Jilin	0.389	0.198	0.181	0.240	0.015	0.012	0.003	0.002
Heilongjiang	0.160	0.354	0.481	0.494	0.014	0.017	0.006	0.013
Shanghai	0.650	0.854	0.912	0.852	0.348	0.142	0.207	0.342
Jiangsu	0.306	0.552	0.656	0.675	0.153	0.132	0.067	0.140
Zhejiang	0.376	0.426	0.320	0.419	0.160	0.101	0.047	0.069
Anhui	0.209	0.380	0.350	0.428	0.038	0.030	0.007	0.014
Fujian	0.425	0.343	0.353	0.367	0.157	0.156	0.053	0.072
Jiangxi	0.197	0.297	0.306	0.367	0.025	0.023	0.006	0.018
Shandong	0.333	0.435	0.666	0.570	0.069	0.061	0.030	0.097
Henan	0.189	0.359	0.497	0.422	0.031	0.017	0.005	0.011
Hubei	0.356	0.484	0.492	0.573	0.018	0.015	0.007	0.012
Hunan	0.315	0.295	0.203	0.264	0.028	0.020	0.003	0.007
Guangdong	0.445	0.515	0.455	0.569	0.206	0.196	0.098	0.096
Guangxi	0.179	0.220	0.151	0.206	0.046	0.032	0.003	0.004
Hainan	0.121	0.208	0.195	0.226	0.004	0.009	0.003	0.002
Chongqing	0.103	0.635	0.364	0.575	0.029	0.018	0.005	0.024
Sichuan	0.149	0.350	0.179	0.294	0.011	0.006	0.003	0.024
Guizhou	0.072	0.294	0.055	0.422	0.008	0.016	0.002	0.001
Yunnan	0.207	0.280	0.116	0.393	0.004	0.006	0.001	0.012
Shaanxi	0.281	0.237	0.233	0.285	0.006	0.006	0.000	0.000
Gansu	0.158	0.363	0.291	0.360	0.010	0.007	0.003	0.028
Qinghai	0.133	0.285	0.263	0.371	0.033	0.045	0.002	-0.001
Ningxia	0.263	0.184	0.139	0.263	0.013	0.031	0.002	0.003
Xinjiang	0.207	0.268	0.100	0.331	0.004	0.002	0.000	0.000

Source: Calculated from SSB, Township and Village Enterprise Statistical Yearbook 1999.