

## Employment restructuring during China's economic transition

*As in developed countries, China's service sector has become the main job creator, the country's labor force is better educated, and the average age of the employed is rising; driving those phenomena are a fast-paced employment restructuring and a growing private enterprise at the expense of State and collective ownership*

Ming Lu,  
Jiayong Fan,  
Shejian Liu,  
and  
Yan Yan

During the 1980s and 1990s, China underwent considerable employment restructuring as a result of economic development and institutional reform. In particular, employment growth was rapid in the country's secondary and tertiary industries. The private sector became the main job creator, while employment in the State sector shrank. Before the restructuring, China already had shared some features with Western economies. For example, the Chinese labor force is reasonably well educated, women's share of the labor force rose with the growth of the tertiary industry, and the average age of the labor force is increasing. This article examines the causes and consequences of employment restructuring in China and its relation to economic and social development.

### Changes in industrial employment

Although China has a large population, employment managed to increase by an average rate of 2.63 percent each year during the last two decades. Certainly, this high growth in employment should be attributed chiefly to the country's rapid economic growth during reform. At the same time, the Government still forbade the free dismissal of redundant labor in State-owned enterprises. Accordingly, employment growth in the booming private sector was partly cancelled by the effects of labor separation in those enterprises.

Chart 1 shows the transformation of the Chinese economy from 1978 to 2000 from an economy domi-

nated by primary industries to one in which secondary and tertiary industries now make up half of employment.<sup>1</sup> The employment share of primary industries dropped radically, from almost 71 percent in 1978 to 50 percent in 2000. Over the same period, the employment share of secondary industries climbed from just over 17 percent to almost 23 percent, and that of tertiary industries rose from slightly more than 12 percent to almost 28 percent. The increases are attributable to industrialization, as well as the ongoing changeover from a State-dominated economy to one in which private industry plays an ever-increasing role. The tertiary industries averaged about 6.5-percent growth each year, while the primary and secondary industries posted 1-percent and 4-percent growth, respectively.<sup>2</sup>

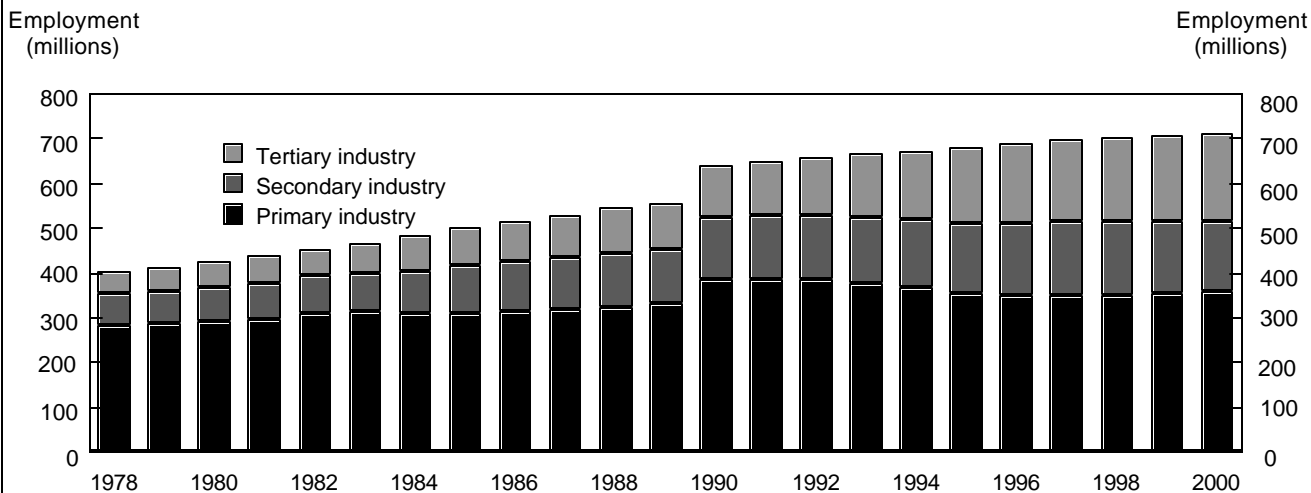
The employment elasticity of gross domestic product (GDP) enables us to compare the labor absorption of the three types of industry. Evidently, the tertiary industry has always been the strongest in absorbing labor, while the other two industries performed weakly in job creation in the 1990s. (See chart 2.) Since 1997, the secondary industry has seen negative employment elasticity of GDP, attributable to a fast contraction of employment in the industry due to reform of the system, especially during recent years.

### Employment by sector

An analysis of the employment structure by sector aids in identifying the sectors that have been

Ming Lu is an assistant professor, Department of Economics and Employment and Social Security Research Center, Fudan University, Shanghai, China; Shejian Liu is a postdoctoral researcher, and Jiayong Fan and Yan Yan are graduate students, at the same university. E-mail: luming\_fudan@yahoo.com.

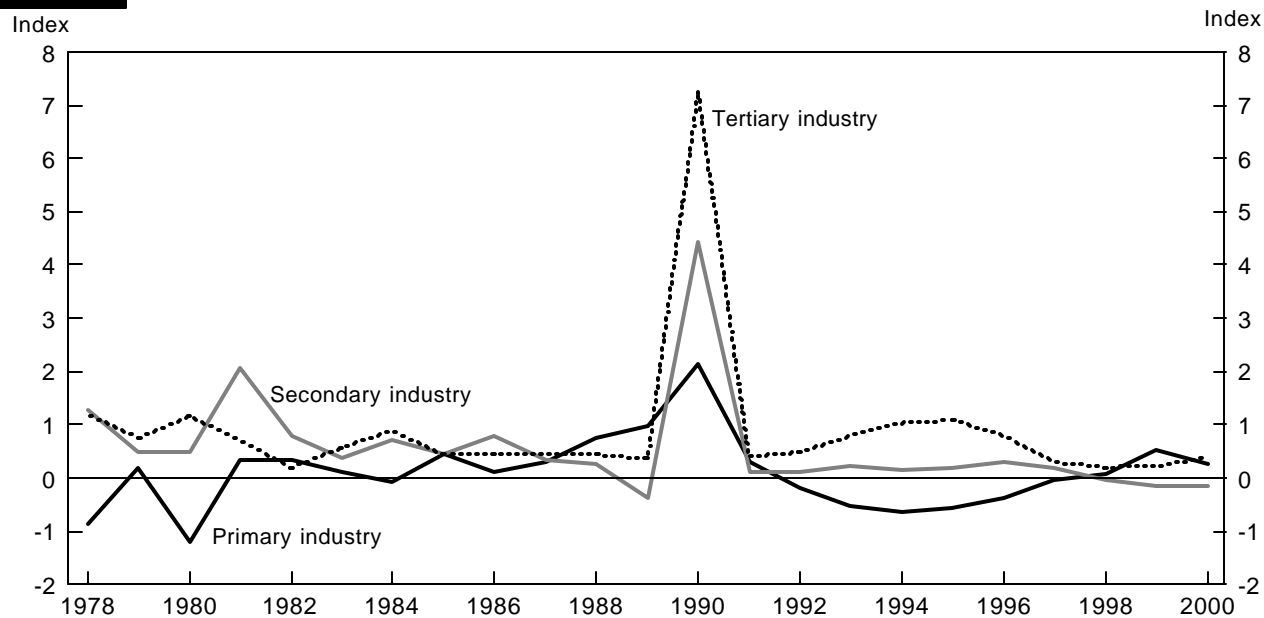
**Chart 1. Changes in employment by industry, 1978–2000**



NOTE: Data from 1990 onward are not comparable to data before 1990, because only since 1990 are working 15-year-olds included among employed persons.

SOURCE: *China Statistical Yearbook, 2000; Summary of China Statistics, 2001.*

**Chart 2. Employment elasticity of GDP by industry, 1978–2000**



NOTE: Employment elasticities were at a high peak in 1990 because that was the year that working 15-year-olds were first included among employed persons.

SOURCE: Authors' calculations based on data from *China Statistical Yearbook, 2000* and *Summary of China Statistics, 2001.*

the main job creators during China's period of economic development and restructuring. Table 1 shows that the employment share of the manufacturing industry reached its peak at the end of the 1980s and declined thereafter. The selected sectors in the tertiary industry—especially wholesale and retail trade and catering services, as well as social services—had rapid growth in their employment share. The service sec-

tor not only created a large number of jobs from 1978 to 2000, but also is most able to absorb labor, due to its higher employment elasticity of GDP. In contrast, with a negative employment elasticity, the manufacturing sector is now losing excess labor. (See table 2.)

## State and private employment

As the Chinese economy shifted from essentially complete ownership of the means of production by the State to increasing levels of private ownership, the private economy became a more and more important source of job creation. With its freer policies, greater efficiency, and less socially encumbered outlook, the private sector is developing faster and faster, while the State's share of employment and production is declining.

*Employment in the State sector.* Chart 3 plainly shows the decline in the employment share of State units over the 1978–2000 period, although the numbers of employed persons began to decline—somewhat sharply—only in recent years. Since 1996, the Government has set up reemployment centers to deal with “excess” workers separated from State jobs, the main component of the unemployed in the State sector.

Because it is easier for private firms to enter those sectors of the market which require only a small-scale investment, the State's share of employment is declining most in sectors such as wholesale and retail trade and catering services. However, in sectors such as finance and insurance, where large investments are the norm, State units still hold a large share of employment. (See table 3.)

*Employment in urban collective-owned units.* A collective-owned unit is just that: an enterprise owned by a collective—for example, the workers of the enterprise or the residents of the community in which the enterprise is located. Like State units, urban collective-owned units experienced a decline in their employment share, but more sharply. In addition, the number of employed persons in urban collective-owned units began to fall in 1992, earlier than that in State units. The employment share of urban collective-owned units dropped in each of the four selected sectors shown in table 4, although much more slowly in finance and insurance. (Under the regulations governing entry into the finance and insurance industry, private firms cannot freely open businesses.)

*Employment in township and village enterprises.* A township or village enterprise is registered as owned by residents of a rural community or a township or village government. In China's rural areas, employment in township and village enterprises is growing faster, as a percentage of employment, than rural employment as a whole. The share of township and village enterprises' employment out of total rural employment

**Table 1. Share of employment in Chinese economy, main sectors, 1978–2000**

[In percent]

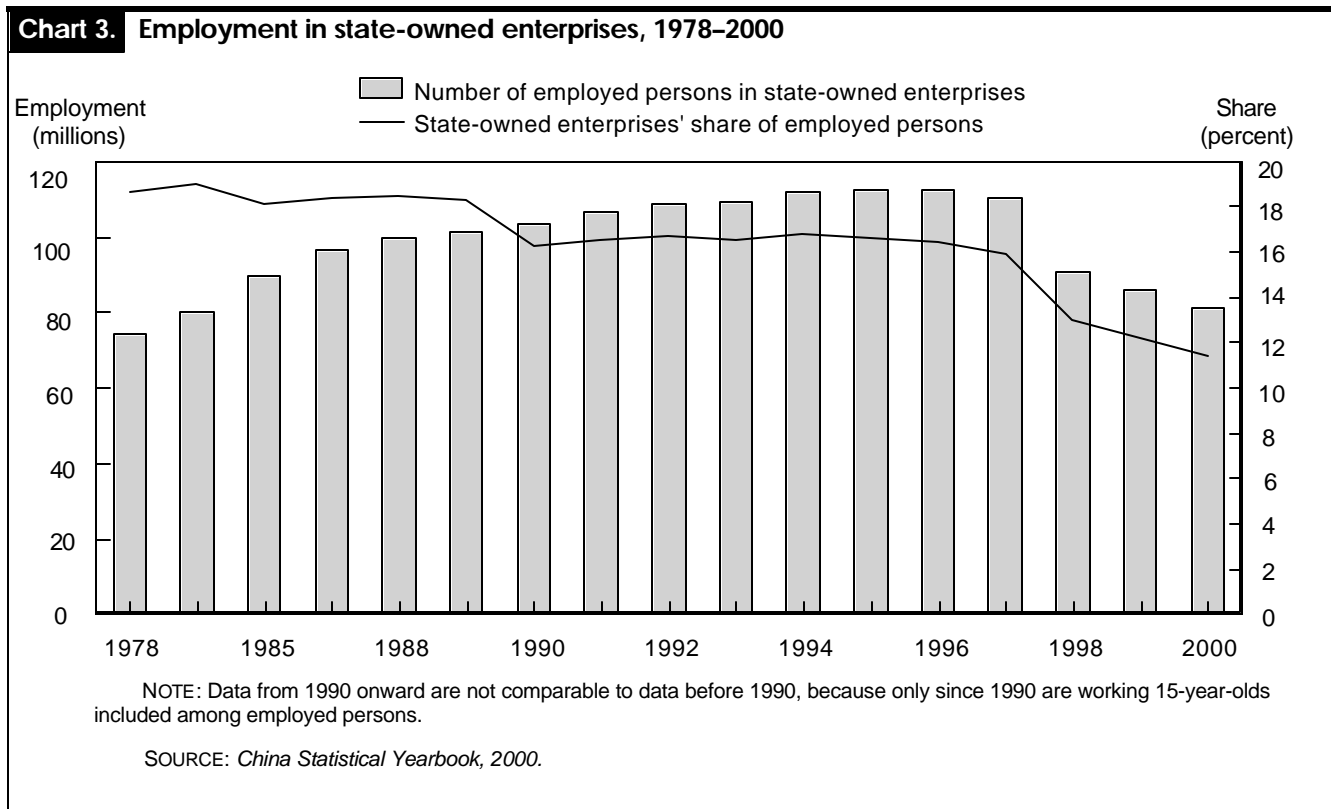
Year	Manufacturing	Wholesale and retail trade and catering services	Banking and insurance	Social services
1978 .....	13.3	2.8	0.2	0.4
1979 .....	13.5	3.0	.2	.5
1980 .....	13.9	3.2	.2	.7
1981 .....	14.0	3.4	.2	.7
1982 .....	14.0	3.5	.3	.7
1983 .....	14.0	3.7	.3	.8
1984 .....	14.6	4.1	.3	.9
1985 .....	14.9	4.6	.3	.8
1986 .....	15.6	4.7	.3	.9
1987 .....	15.8	4.9	.3	1.0
1988 .....	15.9	5.1	.4	1.0
1989 .....	15.5	5.0	.4	1.0
1990 .....	13.5	4.4	.3	.9
1991 .....	13.6	4.6	.4	.9
1992 .....	13.9	4.9	.4	1.0
1993 .....	14.0	5.2	.4	.8
1994 .....	14.3	5.8	.4	.9
1995 .....	14.4	6.3	.4	1.0
1996 .....	14.2	6.6	.4	1.1
1997 .....	13.8	6.9	.4	1.2
1998 .....	11.9	6.6	.5	1.2
1999 .....	11.5	6.7	.5	1.3
2000 .....	11.3	6.6	.5	1.3

SOURCE: *China Statistical Yearbook, 2000* (Beijing, China Statistical Publishing House, 2000); *Summary of China Statistics, 2001* (Beijing, China Statistical Publishing House, 2001). Data published in the yearbooks are based on labor force surveys and cover all of mainland China except Hong Kong and Macau.

**Table 2. Employment elasticity of gross domestic product, main sectors of Chinese economy, 1991–98**

Year	Manufacturing	Wholesale and retail trade and catering services	Banking and insurance	Social services
1991 .....	0.3	0.6	0.8	0.2
1992 .....	.2	.5	.4	.5
1993 .....	.2	.6	.7	-1.2
1994 .....	.3	1.1	-2	1.2
1995 .....	.2	.9	.4	1.2
1996 .....	-.0	.5	.6	.7
1997 .....	-.2	.7	.6	1.0
1998 .....	-1.7	-.4	.3	.9

SOURCE: By authors' calculation based on data from *China Statistical Yearbook, 2000* (Beijing, China Statistical Publishing House, 2000); and *Summary of China Statistics, 2001* (China Statistical Publishing House, 2001). Data published in the yearbooks are based on labor force surveys and cover all of mainland China except Hong Kong and Macau.



and, indeed, out of the employment of the whole country grew rapidly over the 1978–99 period, but during the 1990s, the growth rate declined somewhat. (See table 5.) Table 6 shows the share of employment held by township and village enterprises, by sector, from 1978 to 1998. It is plain that township and village enterprises' share of employment in transportation and in commerce and catering services grew faster than did manufacturing's and construction's shares, but manufacturing still accounts for the major part of township and village enterprises' employment. The faster growth of township and village enterprises' share of employment in tertiary industry is not unexpected, because of the ongoing urbanization of rural areas of China.

*Employment in individual and private enterprises.* Since the 1990s, employment among both the self-employed and private enterprises in general has registered a high growth rate. (See table 7.) In particular, private enterprises have contributed greatly to job creation. Meanwhile, the employment elasticity of GDP of the self-employed and of private enterprises in general is considerably higher than that of enterprises of different ownership. (See table 8.) It appears that, lacking funds and technology, self-employed individuals and private enterprises prefer labor-intensive production.

*Distribution of urban first-time workers, by ownership.* An

examination of the distribution of urban first-time workers, by type of ownership, shown in the following tabulation, reveals

**Table 3. State-owned enterprises' share of employment in main sectors of Chinese economy, 1978, 1980, and 1985–99**

[In percent]

Year	Manufacturing	Wholesale and retail trade and catering services	Banking and insurance	Social Services
1978 .....	45.9	79.6	55.3	59.8
1980 .....	44.1	73.7	63.6	47.1
1985 .....	40.1	34.7	67.4	45.1
1986 .....	38.6	34.2	66.5	41.4
1987 .....	38.4	33.0	66.5	40.5
1988 .....	38.5	32.8	66.0	40.1
1989 .....	39.1	33.3	66.3	40.2
1990 .....	39.4	33.4	66.5	39.7
1991 .....	39.4	33.1	65.8	41.6
1992 .....	38.7	32.3	66.9	41.8
1993 .....	37.1	29.3	67.4	54.0
1994 .....	34.6	26.9	74.2	49.2
1995 .....	34.0	24.7	73.6	44.8
1996 .....	33.0	23.4	71.2	44.0
1997 .....	31.3	21.6	68.2	42.6
1998 .....	22.6	14.9	66.2	37.1
1999 .....	20.3	12.8	62.5	34.6

SOURCE: *China Statistical Yearbook, 2000* (Beijing, China Statistical Publishing House, 2000). Data published in the yearbook are based on labor force surveys and cover all of mainland China except Hong Kong and Macau.

**Table 4. Urban collective-owned enterprises' share of employment in main sectors of Chinese economy, 1978, 1980, and 1985-99**

[In percent]

Year	Manufacturing	Wholesale and retail trade and catering services	Banking and Insurance	Social Services
1978	21.5	15.1	30.3	33.0
1980	22.8	17.2	26.3	31.9
1985	21.7	31.1	23.9	21.7
1986	21.0	29.8	24.3	19.5
1987	20.6	28.0	24.1	18.6
1988	20.2	26.9	23.2	17.6
1989	20.5	27.0	23.9	17.1
1990	20.6	26.8	23.4	15.7
1991	20.2	26.2	23.1	16.2
1992	19.2	24.8	23.0	14.9
1993	17.2	21.5	20.4	18.6
1994	15.8	18.3	23.5	16.3
1995	14.5	16.2	24.3	13.4
1996	13.8	14.8	25.0	11.5
1997	12.9	13.3	24.4	10.7
1998	8.9	8.9	22.6	7.8
1999	7.7	7.3	21.3	7.0

SOURCE: *China Statistical Yearbook, 2000* (Beijing, China Statistical Publishing House, 2000). Data published in the yearbook are based on labor force surveys and cover all of mainland China except Hong Kong and Macau.

**Table 5. Township and village enterprises' employment and employment shares in Chinese economy, 1978, 1980, 1985, and 1987-99**

Year	Township and village enterprises' employment (millions)	Rural employment (millions)	Township and village enterprises' share in rural employment (percent)	Township and village enterprises' share in total employment (percent)
1978	28.3	306.4	9.2	7.0
1980	30.0	318.4	9.4	7.1
1985	69.8	370.7	18.8	14.0
1987	88.1	390.0	22.6	16.7
1988	95.5	400.7	23.8	17.6
1989	93.7	409.4	22.9	16.9
1990	92.7	472.9	19.6	14.5
1991	96.1	478.2	20.1	14.8
1992	106.3	483.1	22.0	16.2
1993	123.5	487.8	25.3	18.6
1994	120.2	487.9	24.6	17.9
1995	128.6	488.5	26.3	18.9
1996	135.1	490.4	27.6	19.6
1997	130.5	493.9	26.4	18.8
1998	125.4	492.8	25.4	17.9
1999	127.0	495.7	25.6	18.0
Annual growth (percent) ....	7.4	2.32	—	—

NOTE: Dash indicated not calculated.

SOURCE: *China Statistical Yearbook*, various years (Beijing, China Statistical Publishing House). Data published in the yearbooks are based on labor force surveys and cover all of mainland China except Hong Kong and Macau.

that State-owned and collective-owned units are providing fewer and fewer jobs for such individuals.<sup>3</sup>

Type of ownership	Millions of workers		
	1990	1995	1997
State-owned establishments	4.75	2.60	2.26
Collective-owned establishments	2.35	1.70	1.28
Establishments under other types of ownership	.35	1.55	1.92
Self-employed	.40	1.35	1.64

In contrast, an increasing number of first-time workers are employed in privately owned firms or are self-employed.

## Composition of employment

Compared with developed countries, and even some developing countries, the labor force of China is less educated. However, things are changing. From 1996 to 1999, those in the labor force with less than a junior middle school (grades 7-9) education saw their numbers decrease by 4 percent. During the same period, the number of employed persons with higher education increased by 1 percent. The following tabulation presents the composition of employed person in China, by highest education level attained:<sup>4</sup>

Education level	Percent			
	1996	1997	1998	1999
Total	100.0	100.0	100.0	100.0
No schooling	13.0	11.6	11.5	11.0
Primary school (grades 1-6)	35.3	34.8	34.2	33.3
Junior middle school (grades 7-9)	37.5	37.9	38.9	39.9
Senior middle school (grades 10-12)	11.3	12.1	11.9	11.9
Higher education (college or university)	2.8	3.5	3.5	3.8

Compared with their share in 1996, the share of employed persons aged 15 to 34 years was smaller in 1998. This might be partly because more youths postponed their entry into the labor market in 1998 and undertook a college education instead. The change in the structure of employed persons by age from 1996 to 1998 is also attributable to the aging of the Chinese population. Table 9 shows the structure of employment in China, by age, in 1996 and 1998.

The composition of employment by sex in China is also of interest. From 1978 to 1998, the proportion of women workers in State-owned enterprises, as well as the proportion in other enterprises, was consistently lower than that of men. Over the period, though, the proportion of women workers in State-owned enterprises increased steadily, while the proportion in other enterprises rose and then fell. (See table 10.) As in developed countries, the expansion of the tertiary industry may have caused an increase in the number of women in the labor market, chiefly because more jobs became available for women, but also because the growth of the service sector freed more women to work.

**Table 6. Township and village enterprises' share of employment in main sectors of Chinese economy, 1978, 1980-92, 1994, 1996, and 1998**

[In percent]

Year	Agriculture	Manufacturing	Construction	Transportation	Commerce and catering services
1978 .....	21.5	61.4	8.3	3.7	5.1
1980 .....	15.2	64.8	11.1	3.8	5.1
1981 .....	12.8	66.7	11.8	3.6	5.1
1982 .....	11.1	66.6	13.5	3.6	5.2
1983 .....	9.6	67.0	14.9	3.4	5.1
1984 .....	5.5	70.2	13.1	2.5	8.7
1985 .....	3.6	59.3	16.8	6.4	13.9
1986 .....	3.0	60.0	16.0	6.8	14.2
1987 .....	—	59.8	15.6	7.1	14.7
1988 .....	2.6	59.7	15.6	7.2	17.9
1989 .....	2.6	60.0	15.6	7.5	14.9
1990 .....	2.5	60.1	14.5	7.7	15.1
1991 .....	2.5	60.5	14.4	7.6	15.0
1992 .....	2.5	59.6	14.6	7.5	15.8
1994 .....	2.3	61.4	14.3	—	17.0
1996 .....	2.5	58.2	14.4	7.9	17.0
1998 .....	2.2	58.5	13.0	7.1	19.2
Growth rate .....	-3.9	7.5	10.2	11.3	15.1
Employment elasticity .....	-.3	.3	.4	.4	.5

NOTE: Dash indicates data not available.

SOURCE: *China's TVE Yearbook*, various years (Beijing, Agriculture Press).

**Table 7. Number of establishments, employment, and employment share for self-employed individuals and private enterprises in China, 1989-98**

Year	Private establishments	Characterized as self-employed (millions)	Employment (millions)		Employment share (percent)	
			Private establishments	Self-employed	Private establishments	Self-employed
1989 .....	90,581	12.5	1.6	19.4	0.3	3.5
1990 .....	98,141	13.3	1.7	21.1	.3	3.3
1991 .....	107,843	14.2	1.8	23.1	.3	3.6
1992 .....	139,633	15.3	2.3	24.7	.4	3.8
1993 .....	237,919	17.7	3.7	29.4	.6	4.4
1994 .....	432,240	21.9	6.5	37.8	1.0	5.6
1995 .....	654,531	25.3	9.6	46.1	1.4	6.8
1996 .....	819,252	27.0	117.1	50.8	1.7	7.3
1997 .....	960,726	28.5	135.0	54.4	1.9	7.8
1998 .....	1,200,978	31.2	171.0	61.1	2.4	8.7

NOTE: Number of establishments characterized as self-employed differs from number of self-employed persons because some self-employed establishments have more than one self-employed person.

SOURCE: Houyi Zhang and Lizhi Ming, *Report on the Development of China's Private Enterprises, 1999* (Beijing, Social Sciences Documentation Publishing House, 2000).

**Table 8. Employment elasticity of GDP of private enterprises and self-employed individuals in China, 1990-98**

Year	Employment growth (percent)		Production growth (percent)		Employment elasticity	
	Private establishments	Self-employed	Private establishments	Self-employed	Private establishments	Self-employed
1990 .....	3.7	8.5	23.4	14.8	0.2	0.6
1991 .....	8.2	9.6	17.6	21.8	.5	.4
1992 .....	26.1	6.9	34.1	18.4	.8	.4
1993 .....	60.8	19.1	92.7	49.8	.7	.4
1994 .....	73.7	28.4	148.4	18.1	.5	1.6
1995 .....	47.5	22.2	86.5	70.4	.6	.3
1996 .....	22.5	8.7	34.5	26.8	.7	.3
1997 .....	15.3	8.5	20.8	28.7	.7	.3
1998 .....	26.7	12.4	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>2</sup> )

<sup>1</sup> Combined production growth for private establishments and self-employed individuals was 51.8 percent.

<sup>2</sup> Combined production growth for private establishments and self-employed individuals was .5 percent.

NOTE: Data on production are deflated by consumer price indexes, with 1989 as the base year.

SOURCE: Houyi Zhang and Lizhi Ming, *Report on the Development of China's Private Enterprises, 1999* (Beijing, Social Sciences Documentation Publishing House, 2000); *China Statistical Yearbook*, various years (Beijing, China Statistical Publishing House). Data published in the yearbooks are based on labor force surveys and cover all of mainland China except Hong Kong and Macau.

**Table 9. Structure of employed persons in China, by age, 1996 and 1998**

[In percent]

Age group	1996	1998
Total .....	100.0	100.0
16-19 .....	6.0	5.8
20-24 .....	13.0	11.1
25-29 .....	16.6	15.9
30-34 .....	16.2	16.0
35-39 .....	10.5	11.5
40-44 .....	12.3	12.3
45-49 .....	9.0	10.0
50-54 .....	6.2	6.7
55-59 .....	4.6	4.5
60-64 .....	3.1	3.1
65 or older .....	2.7	3.0

NOTE: Data earlier than 1996 are not comparable to data listed.

SOURCE: *China Statistical Yearbook, 1997, 1999* (Beijing, China Statistical Publishing House, 1997, 1999). Data published in the yearbooks are based on labor force surveys and cover all of mainland China except Hong Kong and Macau.

**Table 10. Proportion of women workers in China, 1978, 1980, and 1985-98**

Year	Percent of workforce	Percent in State-owned enterprises	Percent in other enterprises
1978 .....	32.9	28.5	—
1980 .....	35.4	30.8	—
1985 .....	36.4	32.4	45.5
1986 .....	36.6	32.8	47.3
1987 .....	36.8	33.2	48.6
1988 .....	37.0	33.4	49.5
1989 .....	37.4	33.9	50.8
1990 .....	37.7	34.2	51.2
1991 .....	37.8	34.5	52.3
1992 .....	37.8	34.7	52.1
1993 .....	37.3	35.1	47.6
1994 .....	38.0	35.5	47.9
1995 .....	38.6	36.1	48.3
1996 .....	38.7	36.4	47.5
1997 .....	38.8	36.5	47.2
1998 .....	37.9	36.1	43.0

NOTE: Dash indicates data not available.

SOURCE: *China Labor and Social Security Yearbook, 1999* (Beijing, China Statistical Publishing House, 1999).

market reform was introduced into the country. Employment restructuring in China shares some common characteristics with that in developed countries. First, the tertiary industry—especially the service sector—has become the main job creator. Second, the labor force has become better educated as higher level skills and more knowledge played an increasingly important role in the economic transition. Third, the average age of the employed has risen, partly because youths are furthering their education and, consequently, entering the labor market later. Finally, women's share of the labor force is lower than that of men, although their proportion in State-owned units has risen.

China's economy also has its distinctive features. The country's rapid economic development has required its industrial structure to adjust to the quickly changing conditions, and the adjustment has not often been easy. Moreover, the composition of employed persons by type of ownership has changed greatly over the reform period. The proportion of employment in State-owned and collective-owned units has declined sharply, especially in sectors, such as manufacturing and services, that private establishments find it relatively easy to enter. In the meantime, private enterprises have become the major job creators for both those already employed and those just entering the marketplace. Part of the ability of private enterprises to create jobs stems from the labor-intensive technology that those enterprises have adopted, which requires more workers and thus holds out more promise of absorbing labor. □

## Notes

<sup>1</sup> Primary industries include forestry, animal husbandry, and fishing; mining and quarrying, manufacturing, and construction are classified as secondary industries; and banking and insurance, wholesale and retail trade and catering services, and social services are considered tertiary industries.

<sup>2</sup> The employment growth figures presented are the authors' calculations, based on employment data from *China Statistical Yearbook, 2000* (Beijing, China Statistical Publishing House, 2000).

<sup>3</sup> *China Statistical Yearbook, 1998* (Beijing, China Statistical Publishing House, 1998).

<sup>4</sup> *Ibid.*, various years.

THIS ARTICLE HAS EXAMINED THE STRUCTURE of employment in China and its evolution over the past couple of decades, after