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China's Labor Market Performance and Challenges

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Abstract

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A more market-oriented labor market has emerged in China in the past twenty years with growing importance of the urban private sector, as state-owned enterprises have downsized. Despite the progress on reforms, a sizable surplus of labor still exists in the rural sector and state-owned enterprises. The main challenge facing China's labor market in coming years is to absorb the surplus labor into quality jobs while adjusting to World Trade Organization (WTO) accession. This paper estimates that if annual GDP growth averages 7 percent and the employment elasticity is one-half, urban unemployment could double to about 10 percent over the next three to four years. These pressures would be limited by stronger economic growth, especially in the private sector and more labor-intensive service industries which have generated the most jobs in recent years. Therefore, policy should focus on encouraging private sector development while reducing barriers to labor mobility, improving worker skills, upgrading job search services, and strengthening the social safety net.

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I. INTRODUCTION

China's labor market has undergone significant changes in the past twenty years. A more market-oriented labor market has emerged with the growing importance of the urban private sector, as state-owned enterprises (SOEs) have downsized. At the same time, rural employment growth has slowed, and migrants have sought jobs in the more dynamic coastal provinces. Despite the progress on reforms, a sizable surplus of labor still exists in the rural sector (about 150 million) and SOEs (about 10–11 million).

The main challenge facing China's labor market in coming years is to absorb the surplus labor into quality jobs while adjusting to World Trade Organization (WTO) accession. This paper estimates that if GDP growth averages 7 percent and the employment elasticity is one-half (in line with historical experience), the unemployment rate could nonetheless double over the next three to four years to about 10 percent, before declining as SOE reform is completed. These pressures would be limited by stronger economic growth, especially in the private sector and the more labor-intensive service industries which have generated the most jobs in recent years.

The paper first discusses trends in the Chinese labor market before outlining the progress on reforms. It then presents an analysis of the medium-term outlook for employment and unemployment, and draws some policy conclusions

II. TRENDS IN CHINA'S LABOR MARKET

China's population remains predominantly rural, despite a strong trend toward urbanization. Over 60 percent were classified as rural by the 2000 census, compared with 80 percent two decades ago (Table 1). While population growth slowed in the 1990s to average just under 1 percent per annum, the labor force grew somewhat faster (about 1½ percent per annum), owing to a rise in the working-age population. The labor force participation rate also rose to average about 83 percent by the late 1990s.

Job growth since 1990 has been mainly in the urban areas. Jobs in urban areas increased at an average rate of 3 percent per annum (or 6½ million p.a.) over the past 12 years despite layoffs in SOEs that halved their workforce to less than 40 million by 2001 (Figure 1 and Table 2).^{2,3}

² Some of these jobs were not lost, however, but simply reclassified to joint ownership as SOEs were reorganized into shareholding units or formed partnerships with other entities. Separate data show layoffs from SOEs and collectives of 25½ million during 1998–2001.

³ Young (2000) points out that employment numbers are not strictly comparable over time, particularly given that the 1990 census had a wider definition of employment than the old labor force survey. This resulted in a sharp jump in employment in 1990.

Table 1. Population, Labor Force, and Employment, 1980–2002

	1980	1990	1995	2000	2001	2002 Est.
(In millions, at end of year)						
Population	987.1	1,143.3	1,211.2	1,265.8	1,276.3	1,284.5
Urban	191.4	301.9	351.7	458.4	480.6	502.1
Rural	795.7	841.4	859.5	807.4	795.6	782.4
Urban (percent of total)	19.4	26.4	29.0	36.2	37.7	39.1
Rural (percent of total)	80.6	73.6	71.0	63.8	62.3	60.9
Working age population (15–64)	594.1	763.1	829.0	888.0	894.3	903.0
Labor force 1/	429.0	653.2	687.4	739.9	744.3	751.3
Participation rate (in percent) 2/	72.2	85.6	82.9	83.3	83.2	83.2
Employment 3/	423.6	647.5	680.7	720.9	730.3	737.4
Unemployment 4/	5.4	5.7	6.7	19.1	14.1	13.9
as percent of total labor force	1.3	0.9	1.0	2.6	1.9	1.9
as percent of urban labor force	4.9	3.2	3.4	7.6	5.6	5.3
Urban						
Employment	105.3	170.4	190.4	231.5	239.4	247.8
Unemployment						
Registered	5.4	3.8	5.2	6.0	6.8	7.7
Laid-off workers (<i>xiagang</i>) 5/	...	...	...	9.1	7.4	6.4
Registered unemployed and <i>xiagang</i>	...	...	...	15.1	14.2	14.1
Unemployment rate (in percent)						
Registered	4.9	2.5	2.9	3.1	3.6	4.0
Registered unemployed and <i>xiagang</i> 6/	...	...	...	6.0	5.6	5.4
Rural						
Employment	318.4	477.1	490.3	489.3	490.9	489.6

Sources: *China Statistical Yearbook*, various years; CEIC database; and authors' estimates.

1/ From the labor force survey, defined as economically active persons 16 years and older, either working one hour or more in the reference week or looking for work.

2/ Labor force as percent of working age population. Data for the working age population defined consistent with the labor force (16 years and older) are not available.

3/ From the labor force survey, defined as those working for one hour or more in the reference week.

4/ Defined as difference between labor force and employment.

5/ Those *xiagang* remaining attached to reemployment centers, at the end of the year.

6/ Calculated as percent of the urban labor force.

Table 2. Employment, by Enterprise Ownership, 1980–2002

	1980	1990	1995	2000	2001	2002
(In millions, at end of year)						
Total employment	423.6	647.5	680.7	720.9	730.3	737.4
Urban employment	105.3	170.4	190.4	231.5	239.4	247.8
State units	80.2	103.5	112.6	81.0	76.4	75.1
<i>Of which:</i> SOEs	67.0	73.0	76.4	43.9	39.5	...
Institutions	22.0	21.6	26.1	26.4	26.2	...
Governments	4.7	8.9	10.1	10.7	10.7	...
Collectively owned	24.3	35.5	31.5	15.0	12.9	12.5
Joint units 1/	0.0	1.0	3.7	13.4	15.2	...
Foreign funded 2/	0.0	0.7	5.1	6.4	6.7	...
Private units	0.8	6.7	20.6	34.0	36.6	...
Residual	0.0	23.1	16.9	81.6	91.6	...
Rural employment	318.4	477.1	490.3	489.3	490.9	489.6
TVEs 3/	30.0	92.7	128.6	128.2	130.9	133.0
Rural privately owned	...	1.1	4.7	11.4	11.9	...
Self-employed	...	14.9	30.5	29.3	26.3	...
Residual	288.4	368.4	326.4	320.4	321.8	...
(In percent of total)						
Urban employment	100.0	100.0	100.0	100.0	100.0	100.0
State units	76.2	60.7	59.1	35.0	31.9	30.3
<i>Of which:</i> SOEs	63.7	42.8	40.1	19.0	16.5	...
Institutions	20.9	12.7	13.7	11.4	10.9	...
Governments	4.4	5.2	5.3	4.6	4.5	...
Collectively owned	23.0	20.8	16.5	6.5	5.4	5.0
Joint units 1/	...	0.6	1.9	5.8	6.4	...
Foreign funded 2/	0.0	0.4	2.7	2.8	2.8	...
Private units	0.8	3.9	10.8	14.7	15.3	...
Residual	0.0	13.6	8.9	35.3	38.3	...
Rural employment	100.0	100.0	100.0	100.0	100.0	100.0
TVEs	9.4	19.4	26.2	26.2	26.7	27.2
Rural private owned	...	0.2	1.0	2.3	2.4	...
Self-employed	...	3.1	6.2	6.0	5.4	...
Residual	90.6	77.2	66.6	65.5	65.6	...

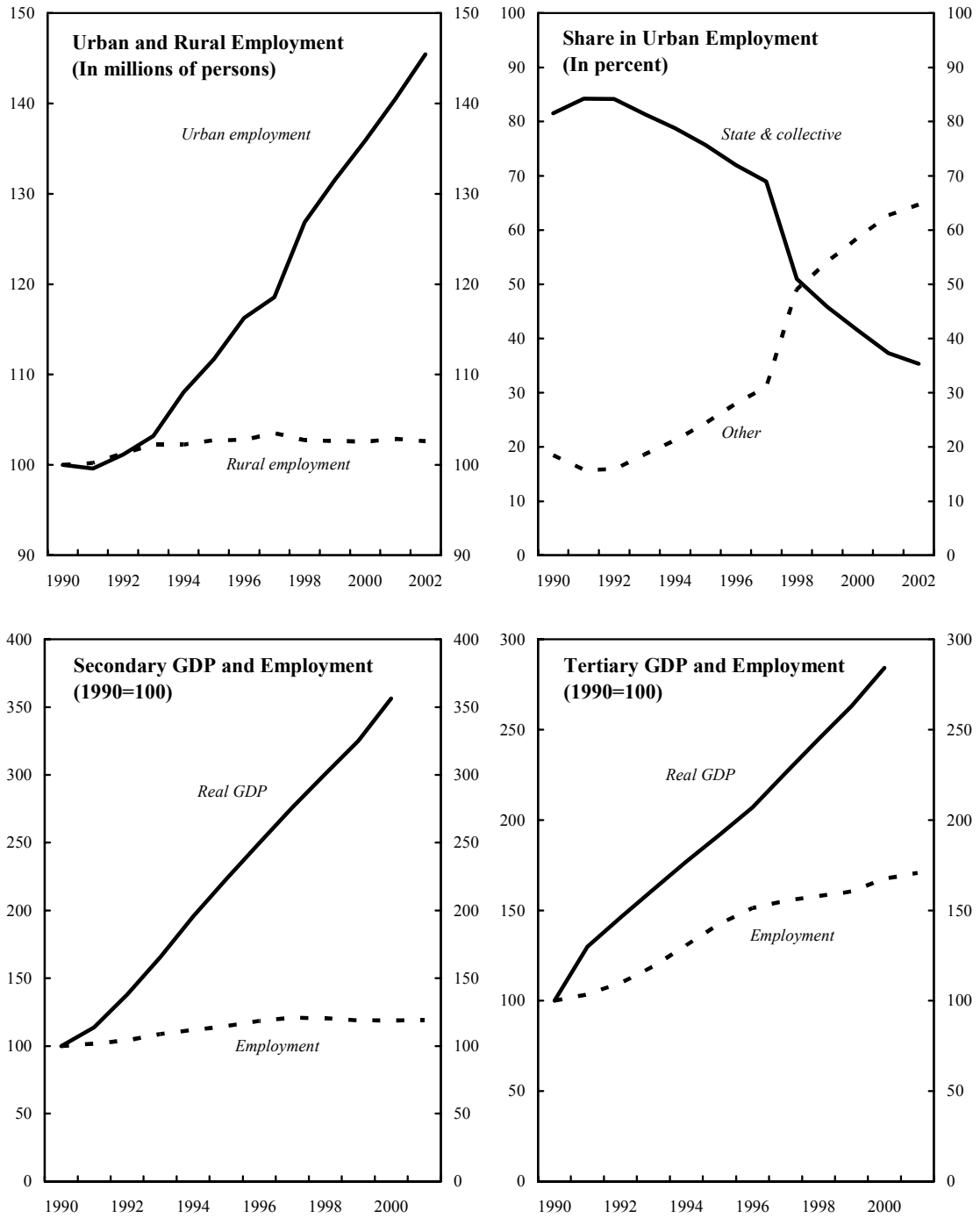
Sources: *China Statistical Yearbook*, various years; CEIC database; and authors' estimates.

1/ Joint owned, limited corporations, and shareholding units.

2/ Includes Hong Kong SAR, Macao SAR, and Taiwan Province of China funded.

3/ Town and village enterprises.

Figure 1. Employment and GDP, 1990–2002



Source: CEIC database.

Employment in collectives also declined sharply from 1995 onward. The job losses at SOEs and collectives were more than offset by (i) job growth in the private sector (including foreign-funded enterprises), which created 17½ million jobs in the six years ending with 2001, and (ii) an unexplained increase of 75 million jobs over the same period. The latter appears to be attributable to jobs in the informal sector (such as street vending, construction and household services), which are not well covered by the statistics.⁴

Most of the job growth in the past five to six years appears to have taken place in the service sector and in the coastal provinces. The pace of job creation was much faster in the tertiary sector than in other sectors (Table 3), and was concentrated in the coastal provinces (especially Fujian, Guangdong, Shandong, and Zhejiang, Table 4). In those provinces, the private sector (and foreign direct investment) has flourished since the government opened up special economic zones in the early 1980s. The development of the private sector was also helped by sound macroeconomic and structural policies that maintained strong economic growth (see IMF, 2003) and specific steps taken to foster the nonstate sector. These steps included formally elevating the private sector's role to parity with the state sector (in a 1999 amendment to the Constitution), continued external and domestic liberalization, and improved access to credit.

This paper estimates that a 1 percent increase in GDP is correlated with a ½ percent increase in employment in the past two decades (Table 5).⁵ The elasticity appears to be higher in the eastern

⁴ In general, limitations in the labor market statistics make analysis of these data difficult. The aggregate labor market data are derived from the National Bureau of Statistics' (NBS's) quarterly labor force sample survey of almost 1 million persons, benchmarked to the 1990 and 2000 population censuses. The detail by industry sector is based on the NBS establishment survey, which excludes much of the private sector—hence there is a large difference between aggregate employment and the sum of the parts, resulting in a sizable residual. See China's submission to the General Data Dissemination System at dsbb.imf.org for a description of the labor market data.

⁵ Two-way fixed-effects panel regressions were estimated for nonagricultural employment data by province over the period 1978–2000, giving almost 700 observations. This has the advantage of having far more degrees of freedom for the estimates than if the analysis had been based only on national level data. The equations (estimated in double-log form) specify provincial nonagricultural employment as a function of output, real wages, and provincial and time dummies.

Table 3. Employment, by Industry, 1980–2001

	1980	1990	1995	2000	2001
(In millions, at end of year)					
Farming, forestry, animal husbandry, fishery	291.2	341.8	330.2	333.6	329.7
Mining and quarrying	7.0	8.8	9.3	6.0	5.6
Manufacturing	59.0	86.2	98.0	80.4	80.8
Electricity, gas, and water	1.2	1.9	2.9	2.8	2.9
Construction	9.9	24.2	33.2	35.5	36.7
Geological prospecting, water conservancy	1.9	2.0	1.4	1.1	1.1
Transport, storage, post and telecommunication	8.1	15.7	19.4	20.3	20.4
Wholesale, retail trade and catering services	13.6	28.4	42.9	46.9	47.4
Banking and insurance	1.0	2.2	2.8	3.3	3.4
Real estate, social services, health, and education	18.5	26.3	27.0	30.7	31.5
Government, party agencies and social organizations	5.3	10.8	10.4	11.0	11.0
Others	5.9	18.0	44.9	56.4	58.5
Residual	1.1	81.2	58.3	92.8	101.4
Total	423.6	647.5	680.7	720.9	730.3
Primary	291.2	389.1	355.3	360.4	365.1
Secondary	77.1	138.6	156.6	162.2	162.8
Tertiary	55.3	119.8	168.8	198.2	202.3
Non-agricultural	132.4	258.4	325.4	360.4	365.1
(In percent)					
Primary	68.7	60.1	52.2	50.0	50.0
Secondary	18.2	21.4	23.0	22.5	22.3
Tertiary	13.1	18.5	24.8	27.5	27.7
Non-agricultural	31.3	39.9	47.8	50.0	50.0

Sources: *China Statistical Yearbook*, various years; and CEIC database.

Table 4. Urban Employment, by Province, 1990 and 2001

	Total Urban Employment (millions)			Share in State-owned Units (percent)		
	1990	2001	Change 1990–2001	1990	2001	Change 1990–2001
National	166.2	239.4	73.2	61.0	31.9	-29.1
North	22.6	21.7	-0.8	75.2	56.5	-18.7
Beijing	4.6	4.6	0.0	77.6	53.0	-24.6
Tianjin	2.9	2.4	-0.5	74.9	44.4	-30.5
Hebei	6.7	6.6	0.0	74.6	61.9	-12.6
Shanxi	4.5	4.2	-0.3	75.7	64.9	-10.8
Inner Mongolia	3.9	3.8	-0.1	73.0	49.6	-23.4
Northeast	25.4	19.8	-5.5	65.0	50.7	-14.3
Liaoning	10.8	8.6	-2.2	62.0	44.5	-17.5
Jilin	5.6	4.2	-1.4	65.2	56.0	-9.2
Heilongjiang	9.0	7.1	-1.9	68.5	54.9	-13.5
East	40.1	43.1	3.0	65.3	45.0	-20.3
Shanghai	5.4	4.4	-1.0	73.4	42.1	-31.3
Jiangsu	9.0	8.8	-0.2	59.4	44.2	-15.3
Zhejiang	5.1	6.0	1.0	55.5	30.6	-24.9
Anhui	5.2	5.7	0.5	63.2	45.6	-17.6
Fujian	3.4	4.2	0.9	63.9	38.5	-25.3
Jiangxi	4.1	3.8	-0.3	74.0	60.1	-13.9
Shandong	7.9	10.2	2.3	70.2	52.4	-17.8
Central and South	28.6	36.6	7.9	82.0	51.0	-31.0
Henan	7.3	8.3	1.0	71.7	55.1	-16.5
Hubei	8.3	6.7	-1.6	63.3	58.1	-5.2
Hunan	..	5.6	...	...	58.5	...
Guangdong	8.5	11.0	2.5	61.9	36.2	-25.7
Guangxi	3.4	3.8	0.4	75.9	59.4	-16.5
Hainan	1.1	1.1	0.0	83.4	58.2	-25.2
Southwest	13.6	15.4	1.7	69.4	57.5	-12.0
Chongqing	...	2.8	...	...	49.1	...
Sichuan	7.2	6.4	-0.8	68.9	56.8	-12.2
Guizhou	2.5	2.5	0.0	74.3	64.0	-10.3
Yunnan	3.1	3.5	0.5	81.6	60.2	-21.3
Tibet	0.9	0.2	-0.6	17.1	66.7	49.6
Northwest	7.8	11.6	3.8	...	61.7	...
Shanxi	4.0	4.5	0.6	78.6	58.8	-19.8
Gansu	2.4	2.5	0.0	81.0	66.5	-14.5
Qinghai	0.7	0.7	0.0	79.8	56.1	-23.8
Ningxia	0.7	0.8	0.1	80.3	63.1	-17.2
Xinjiang	..	3.2	...	...	62.8	...
Unexplained residual	28.1	91.2	63.0	...	...	...

Sources: *China Labor Market Yearbook*, 1991 and 2002.

Table 5. Estimates for Nonagricultural Employment 1/

Variable	National	Eastern Provinces	Mid and West Provinces	1978–1993	1993–2000
Constant	4.5 (23.8)	1.5 (12.6)	1.7 (5.6)	1.6 (22.9)	2.3 (10.2)
Log (GDP)	0.47 (79.2)	0.60 (15.8)	0.42 (5.4)	0.52 (18.0)	0.20 (2.4)
Log (Wages)	-0.10 (4.3)	-0.07 (2.4)	0.00 (0.0)	-0.01 (2.3)	0.01 (2.1)
Adj. R square	0.99	0.99	0.98	0.98	1.00
Hausman test	(48.7)	(25.2)	(64.1)	(19.5)	(152.4)

Source: Authors' estimates.

1/ A two-way fixed-effect panel regression was undertaken, including provincial dummies and time dummies to control unobservable effects, using the following specification (with t-statistics in parentheses):

$\text{Log}(\text{Employment}) = A \text{ log}(\text{GDP}) + B \text{ log}(\text{wages}) + \text{province dummies} + \text{time dummies}$, where Employment is total employment in nonagricultural sectors of the province i in year j , GDP is nonagricultural real GDP (deflated by the GDP deflator) of province i in year j , Wages is the nominal wage index deflated by the consumer price index (CPI) of the province i in year j .

provinces (about 0.6), where there is a greater concentration of private sector firms.⁶ The elasticity was lower in the late 1990s (about 0.2), as SOEs moved to cut labor and lift productivity.

⁶ The estimates based on provincial data are subject to possible bias owing to statistical weaknesses in the provincial GDP and employment data. The sum of provincial GDP data exceeded the national GDP figure by about 11 percent in 2001, with the gap widening since the mid-1990s owing to downward adjustments to the aggregate data made by NBS. On the other hand, the sum of provincial employment data for the nonagricultural sector was about 20 percent below the national-level employment data throughout the sample period, owing to a narrower coverage of employment in the provincial survey. Nonetheless, alternative ordinary-least-squares (OLS) estimates for the period 1978–2000 using national-level nonagricultural GDP and employment data suggest a similar elasticity of about 0.45, with an elasticity for the secondary sector of 0.37 and for the tertiary sector of 0.67.

Urban registered unemployment has risen since the mid-1990s owing to job losses in the state sector. The registered unemployment rate, as measured by the Ministry of Labor and Social Services (MOLSS), was relatively constant at around 2½–3 percent in the 1990s, but rose to 4.0 percent by the end of 2002.⁷

Alternative measures show higher unemployment in recent years. Taking account of *xiagang* (laid-off workers), the total for registered unemployed and *xiagang* reached 5½ percent of the urban labor force by the end of 2002.⁸ However, survey evidence suggests that a significant proportion of *xiagang* should not be classified as unemployed according to International Labor Organization (ILO) guidelines, as they work more than one hour per week in informal jobs.⁹ Although informal sector workers may want higher-quality jobs in the formal sector or may want to work longer hours, they are not strictly considered unemployed following ILO guidelines. Instead, they are considered to be underemployed.

A further measure of unemployment that is more consistent with ILO guidelines is the difference between the labor force and employment published by the National Bureau of Statistics (NBS) from the quarterly labor force survey.¹⁰ This measure shows unemployment of almost 14 million, or about 2 percent of the total labor force, at the end of 2002. No breakdown is available between urban and rural unemployment for this measure, but even if all the unemployed were in urban areas, this measure would show an urban unemployment rate of 5.3 percent at the end of 2002.¹¹

⁷ The MOLSS measures unemployed persons as those in the age group 16 up to age of retirement who are looking for work, have nonagricultural residence card (urban hukou), are able to work, want to work and have registered in the local labor exchanges for work, including graduates looking for work.

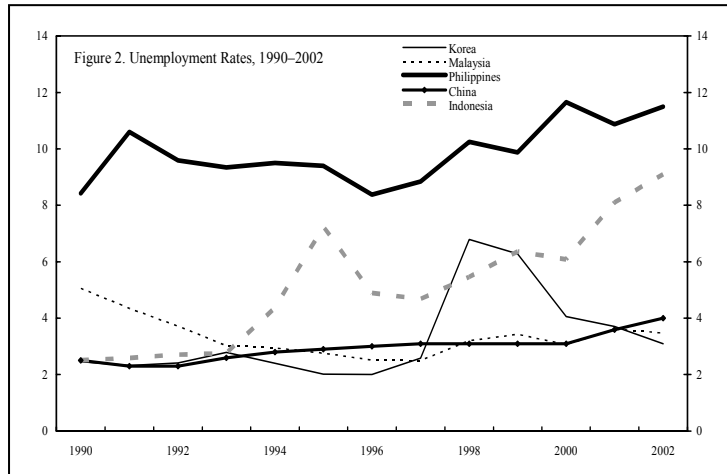
⁸ *Xiagang* refers to workers laid-off from SOEs who remain registered with reemployment centers.

⁹ Zhao Yaohui (Beijing University) presented evidence of hidden reemployment during a seminar on Economic Reform and the Labor Market in China held in December 2001 in Beijing. The paper drew evidence from a 1999 survey of 6,500 *xiagang* and showed that about 60 percent of those still registered as laid-off workers were employed in the informal sector.

¹⁰ The labor force is defined as the sum of the employed and unemployed. The National Bureau of Statistics does not publish the unemployment number from the labor force survey, but it publishes the total labor force (labeled “economically active population”) and employment, allowing unemployment to be derived as the difference between these two aggregates.

¹¹ The National Bureau of Statistics does not separately publish a time series for both the urban and rural economically active populations, so it is not possible to derive an estimate for both urban and rural unemployment.

In October 2002, the National Bureau of Statistics Commissioner stated that new estimates by the NBS suggested an urban unemployment rate (measured consistent with ILO guidelines) of about 4–5 percent of the labor force. The NBS is continuing to work to improve the labor force survey with the aim of publishing a time series for unemployment (as outlined in China’s submission to the IMF’s General Data Dissemination System).



The true level of unemployment, however, remains uncertain. Solinger (2002) argues that although unemployment is certainly higher than is shown by official data, it is not possible to accurately calculate the scale of the layoffs at state firms or of urban unemployment given the poor quality of the data.

Urban unemployment varies considerably by region, with the highest rates in the northeastern provinces. The registered unemployment rate ranges from a low of 1.2 percent in Beijing to a high of 4.7 percent in the northeastern province of Heilongjiang (Table 6). The regional variation is even greater for unemployment including *xiagang*, with the northeastern region (or China’s “rust-belt” concentration of SOEs in declining industries) facing the largest unemployment pressures with a rate of 8.3 percent by the end of 2002—1½ times the national average.

Rural employment growth was rapid in the late 1980s and early 1990s, as town and village enterprises (TVEs) evolved quickly to meet a pent-up demand for consumer goods and take advantage of a pool of cheap rural labor. By the mid-1990s, however, TVEs began to face financial problems brought on by poor management and growing competition from the private sector, and employment in these enterprises has declined slightly from a peak of 135 million in 1996. The bulk of rural workers, however, are employed on farms. Growth of farm employment also rose sharply in the 1980s, putting added pressure on already small farm sizes, before declining by almost 50 million in the 1990s as rural-to-urban migration picked up. Migrants have tended to move first to TVEs in rural areas, then further afield to the faster-growing eastern provinces (Fang, 2001). The largest concentrations of migrants are found in the Pearl River Delta (Guangdong) and Yangtze River Delta (Shanghai and Jiangsu), where average GDP per capita is 4 to 10 times that in poorer rural provinces such as Gansu and Guizhou. Estimates of the migrant population vary, ranging between 80 million and 150 million.¹²

¹² The National Bureau of Statistics estimates there were about 80 million permanent migrants (i.e., those living in urban areas for more than six months) between 1990 and 2000. No reliable data are available for the number of temporary migrants, with estimates in the range of 30–75 million.

Table 6. Urban Unemployment Rate, by Region, 1990 and 2001

	1990 (in percent)	2001 (in percent)	Laid-off workers (<i>xiagang</i>) millions, 2001	Unemployed and <i>xiagang</i> as percent of labor force, 2001
National	2.5	3.6	7.4	5.6
North 1/	1.8	2.9	0.7	4.0
Beijing	0.4	1.2	0.0	1.0
Tianjin	2.7	3.6	0.1	6.2
Hebei	1.1	3.2	0.3	4.4
Shanxi	1.2	2.6	0.2	4.6
Inner Mongolia	3.8	3.7	0.1	3.6
Northeast 1/	2.1	3.7	1.8	8.3
Liaoning	2.2	3.2	0.8	8.9
Jilin	1.9	3.1	0.3	7.5
Heilongjiang	2.2	4.7	0.7	8.4
East 1/	2.4	3.6	0.9	4.0
Shanghai	1.5	...	0.0	...
Jiangsu	2.4	3.6	0.1	3.2
Zhejiang	2.2	3.7	0.0	2.6
Anhui	2.8	3.7	0.3	5.1
Fujian	2.6	3.8	0.0	2.4
Jiangxi	2.4	3.3	0.4	8.3
Shandong	3.2	3.3	0.1	2.6
Central and South 1/	2.8	3.4	2.2	5.8
Henan	3.3	2.8	0.5	5.0
Hubei	1.7	4.0	0.7	9.3
Hunan	2.7	4.0	0.8	10.4
Guangdong	2.2	2.9	0.1	2.6
Guangxi	3.9	3.5	0.1	4.1
Hainan	3.0	3.4	0.0	3.5
Southwest 1/	3.4	3.9	0.8	5.5
Chongqing		3.9	0.2	7.2
Sichuan	3.7	4.3	0.4	7.0
Guizhou	4.1	4.0	0.1	5.3
Yunnan	2.5	3.3	0.1	2.6
Tibet	...	...	0.0	...
Northwest 1/	4.3	3.5	0.8	6.1
Shanxi	2.8	3.2	0.4	7.1
Gansu	4.9	2.8	0.2	6.2
Qinghai	5.6	3.5	0.1	7.7
Ningxia	5.4	4.4	0.0	6.1
Xinjiang	3.0	3.7	0.1	3.5

Sources: *China Labor Market Yearbook*, 1991 and 2002.

1/ Simple average for unemployment rate; sum for laid-off workers.

Despite increased migration, considerable surplus labor persists in the rural areas. The Organization for Economic Cooperation and Development (OECD) (2002) estimates that if the average GDP contribution per worker in nonagricultural jobs is used as a benchmark, rural hidden unemployment can be estimated to represent around 275 million (where hidden unemployment is defined as low-productive employment regardless of working time). If the benchmark is set more modestly at one-third of the productivity of nonagricultural workers (in line with other Asian countries), rural hidden unemployment would be around 150 million.¹³

The relatively low skill levels of rural labor and the urban unemployed make it more difficult for them to find quality jobs. Illiteracy rates are much higher among the rural population, with relatively few rural residents having completed secondary school or college.¹⁴ Skill levels are also low in the northeastern provinces of Heilongjiang, Jilin, and Liaoning where there is a higher-than-average concentration of unemployed and *xiagang*. In these provinces, only about one in five people have education beyond primary school.

The level of urban unemployment in China is similar to other countries in the region, but rural underemployment appears to be higher. Unemployment rates in most other Asia countries rose to about 3–6 percent following the 1997–98 financial crisis (Figure 2), which indicates they are similar to China's urban registered rate of 4 percent (excluding *xiagang*). In the rural sector, however, the low productivity of China's farmers compared with those in other Asian countries suggests a higher level of underemployment than elsewhere in Asia (Table 7).¹⁵

¹³ The Ministry of Agriculture also estimates rural underemployment of about 150 million people (Zhang Hangyu presentation to the Labor Market Reform Conference, Beijing, December 2001).

¹⁴ Illiteracy exceeded 15 percent of the total population in six predominantly rural western provinces (Guizhou, Gansu, Ningxia, Qinghai, Tibet, and Yunan) in 2001 but was less than 5 percent in many of the more urbanized eastern provinces. In the same western provinces, the proportion of the population with education beyond primary school was less than 15 percent, while in the eastern provinces of Beijing, Tianjing, and Shanghai it was much higher, in the range of 30–40 percent.

¹⁵ China's agricultural productivity is less than 20 percent of its nonagricultural productivity. This is low compared with other Asian countries, where agricultural productivity is about one third of nonagricultural productivity.

Table 7. Selected Asian Countries: Labor Productivity, 2000 1/

	Agricultural Sector	Nonagricultural Sector	Agricultural/Nonagricultural productivity
	(US\$ per employee)		
China	476	2,519	0.19
Indonesia	160	641	0.25
Korea	2,368	5,857	0.40
Malaysia	1,122	2,694	0.42
Philippines	295	900	0.33
Taiwan Province of China	2,181	8,622	0.25

Sources: CEIC database; and authors' estimates.

1/ Defined as value added divided by the number of employees.

III. LABOR MARKET REFORMS IN CHINA

The labor market has undergone significant changes since the opening up of the economy in the late 1970s. The pre-reform allocation of labor was characterized by direct allocation of jobs and administrative control of wages. Employers had very little control over their workforce or the wage bill, and employees had little say in where they worked. China has gradually moved toward marketization of the labor market, particularly in the nonstate sector, including greater flexibility in hiring and firing of labor (Box 1).

Following the initiation of reforms in the early 1980s, a “dual-track transition” of the labor market took place with the development of the state sector. Employment in foreign-funded enterprises (FFEs) and collectives rose rapidly in the 1980s due to labor market reforms and the opening of the economy to private and foreign investors, while SOEs maintained jobs and provided a wide range of social services for employees (including housing, health care, education, and pensions). Moreover, insolvent SOEs were supported by direct and indirect subsidies to avoid bankruptcies and widespread layoffs that might give rise to social tension.

As SOE reform gained pace in the late 1990s, about 25 million SOE and collective employees were laid-off in 1998–2002 as part of a reemployment program (*xiagang*) that provided laid-off workers with a safety net. Such employees could enter Reemployment Centers (REC) where they could stay until they found a job or for up to three years. As long as they stayed in the REC they remained officially employed by the SOE, but received a lower monthly benefit than their

Box 1. Steps Toward Labor Market Flexibility

In 1980, China's first national work conference on labor market issues adopted a more flexible labor market strategy. Urban job-seekers were allowed to find work in the state, collective, or newly-recognized private sectors, and enterprises were granted more autonomy in hiring decisions. The authorities, however, continued to formulate a labor plan, but instead of unilaterally allocating workers to enterprises, labor bureaus began to introduce workers to hiring units.

Wage flexibility has been increased gradually. From 1978, firms were allowed to re-institute bonuses (subject to ceilings) and piece wages. In 1994, the introduction of a new Labor Law also gave management more discretion over wage determination. As a result of these reforms, the share of bonuses in total wages for all enterprises rose from 2 percent of the wage bill at the start of the reforms in 1978 to about 16 percent in 1997.

A labor contracting system was introduced in the mid-1980s. This signaled a marked shift away from the system of lifetime tenures with its potentially distorted work incentives. The initial steps were modest and resulted in only moderate growth in the share of employees under contract, but further reforms in 1994 gave new impetus to labor contracting. As a result, the share of workers on contracts almost doubled from between 1994 and 1997, to about one-third of urban workers. Restrictions on movements of workers across firms were also removed, in an attempt to reduce the scale of the mismatch of labor inherent in the pre-reform system.

SOEs gained the right to lay off permanent workers. Those employees without contracts had lifetime tenure with SOEs, but in the mid-1990s, this tenure was eroded. SOEs, however, were required to establish so-called "re-employment centers" (RECs) for laid-off workers (*xiagang*), which provide retraining and job search assistance and pay unemployment benefits. If the laid-off worker remained unemployed for more than three years, the employer could sever the relationship. From 2002, newly laid-off workers receive only unemployment benefits, and the RECs will be phased out by 2004.

previous wage. Although most of the *xiagang* are middle-aged workers with few skills and poor education, more than two-thirds were reported to have found jobs, while others have retired.¹⁶ The number of *xiagang* remaining in RECs has declined from a peak of about 9½ million at end-1999 to about 6.4 million by end-2002, as workers have found jobs, transferred to the registered unemployed or dropped out of the workforce.

¹⁶ Solinger (2003) argues that the official estimates of re-employment of *xiagang* are overstated.

Despite the reforms, surplus labor remains in SOEs. Labor productivity of SOEs still lags behind the nonstate sector, suggesting that if SOE labor productivity could be raised to nonstate levels, about 10–11 million SOE workers could be considered redundant (Table 8).¹⁷

Given the pressures from SOE downsizing, the government has been strengthening the social safety net outside of RECs for urban workers. An unemployment insurance fund has been established, separate from the RECs, and now covers more than 100 million workers (about 40 percent of the urban workforce). Minimum wage legislation was also introduced in 1994 with the new Labor Law. Minimum wage standards have been established in all provinces, but the government has faced difficulties in enforcing compliance, especially for migrant workers.

The authorities are also moving to improve training and education of the largely unskilled *xiagang* and migrants. The ILO is assisting the government's reform efforts, based on the ILO's goal of decent work (Box 2). The World Bank (2001) notes that a variety of government programs have increased the poor's access to education in the 1990s, including an effort to achieve nine-year universal basic education by 2010. However, funding is inadequate in many poorer regions.

Labor unions are also being encouraged, with ILO assistance. Unions have historically played a very limited role, despite more than 120 million members of grassroots unions in 2001. In October 2001, China amended its labor union law to clarify the role of unions. The law now provides that, if the enterprise decides on "major matters" such as business management and development, it is required to listen to the unions' opinions, thereby strengthening the say of labor in business decisions.

During the central planning period, control on population movement was achieved through a combination of household registration (*hukou*), rural commune controls, and food rationing. The elimination of communes and food rationing in the 1980s reduced obstacles to rural-urban migration. *Hukou* reforms were also initiated in the 1990s, but more significant steps were taken last year (Box 3). Other barriers to migration also exist, including uncertainties about the portability of pensions and health insurance across regions.

¹⁷ In 2001, labor productivity of SOEs in the industrial sector was only 71 percent of nonstate enterprises, suggesting that if SOE labor productivity matched that of non-SOEs almost one-third million of the 15½ million SOE workers in this sector could be redundant. Given that a further 22 million SOE workers are employed outside the industrial sector, this implies a total SOE labor surplus of about 10–11 million. Foreign-funded enterprise labor productivity is almost twice that of SOEs, suggesting that if this higher benchmark is used, almost half the SOE workers (or 18 million) could be considered redundant.

Table 8. Industrial Employment and Output, 1995–2001

	1995	1997	1999	2000	2001
Industrial sector					
Value added (RMB billions)	1,942.0	1,983.5	2,156.4	2,539.2	2,832.9
Employees (millions)	66.1	78.7	58.1	55.8	54.4
Output/employee (RMB thousands)	29.4	25.2	37.1	45.5	52.1
State-owned					
Value added	1,107.0	919.2	820.4	721.3	623.4
Employees	43.9	38.9	25.1	19.7	15.4
Output/employee	25.2	23.6	32.7	36.6	40.4
Non-state-owned					
Value added	835.0	1,064.3	1,336.0	1,817.9	2,209.5
Employees	22.2	39.8	33.0	36.1	39.0
Output/employee	37.6	26.7	40.5	50.4	56.7
Ratio, state-to non-state-owned					
Value added	1.33	0.86	0.61	0.40	0.28
Employees	1.98	0.98	0.76	0.55	0.39
Output/employee	0.67	0.88	0.81	0.73	0.71
Selected categories:					
Foreign funded (including Hong Kong SAR, Macao SAR, and Taiwan Province of China)					
Value added	228.1	354.0	485.0	609.0	712.8
Employees	4.8	7.1	7.9	8.5	9.4
Output/employee	47.5	49.9	61.4	71.6	75.8
Textiles, garments, leather, and furs					
Value added	144.6	187.1	190.5	218.9	246.7
Employees	9.5	11.1	8.2	8.1	8.4
Output/employee	15.3	16.9	23.2	26.9	29.4
Transportation equipment and ordinary machinery					
Value added	147.4	180.0	193.7	216.5	260.5
Employees	7.8	8.2	5.3	5.1	5.7
Output/employee	19.0	22.0	36.5	42.1	45.7

Sources: *China Industrial Statistical Yearbook*, various years; and authors' estimates.

Box 2. ILO Support for Reforms

In 2001, the Ministry of Labor and Social Security (MOLSS) and the ILO agreed on a program of cooperation to support labor reforms in China based on the ILO's goal of *Decent Work*. The program includes: collaboration to promote international labor standards in China; analyzing the labor market and working to improve labor market statistics; strengthening training services; promoting an expansion of the coverage of social security schemes; advising on improving occupational safety; and promoting tripartite discussions between government, employers, and workers.

The program promotes training in a numbers of areas. ILO will collaborate with MOLSS to design a range of retraining and job creation schemes, including for *xiagang* and disabled and disadvantaged groups. It also aims to improve entrepreneurial training and micro-credit facilities to medium and small-sized enterprises. In addition, the ILO will work with the MOLSS to improve employment services to provide better matching of labor supply and demand.

Social protection is to be improved. The aim is to strengthen the governance and administration of social security, particularly the unemployment benefit system. The program also aims to strengthen provision for employment injury insurance, while working to improve national safety and health programs.

Labor market reforms are being driven in part by accession to WTO. Li and Zhai (1999) estimate that job losses as a result of WTO could amount to about 14½ million, comprising 13 million workers in rural areas and 1½ million in urban areas (mainly in the automobile and machinery industries).¹⁸ While some rural workers with good land will be able to switch to higher value-added crops, the World Bank (2001) assesses that those on marginal land could be seriously affected by WTO accession, resulting in higher poverty and/or urban migration. IMF staff estimate that growth may slow in the short-term as a result of WTO accession, due to restructuring, but benefits will come from higher growth in the medium-term of about ½–¾ percent annually (IMF 2003) The textile and clothing industry, in particular, will get a boost from 2005 onwards with the elimination of quotas, and its strong cost competitiveness may lead to a sizable increase in China's world market share (see Martin *et al*, 1999). Job growth, therefore, could be enhanced by a shift of resources from less competitive capital-intensive industries, such as transport and heavy machinery, toward more labor-intensive sectors such as textiles and clothing, and services.¹⁹

¹⁸ These workers can be considered part of the 150 million rural and 10–11 million SOE surplus labor estimated above.

¹⁹ For example, if output of the textile and clothing industry increased by 50 percent while automobile and ordinary machinery output fell by 50 percent, the net increase in jobs would be about 1 million due to the labor intensive nature of the textile and clothing industry (both sectors had a similar level of output in 2000).

Box 3. Hukou Reform

The household registration (hukou) system was set up in the mid-1950s to control the movement of population and effectively constrained the development of a national labor market. An urban hukou was needed to stay in cities and gain preferential access to city services such as education, health, and social security. Moreover, urban enterprises were restricted from recruiting labor from another province unless labor could not be found locally.

Since the mid-1990s, reforms to the hukou system have been initiated. In 1997, the authorities experimented with relaxation of household registration regulations in some small towns and cities, allowing migrants who had either a stable income (from a job or business) or owned a house to obtain an “urban hukou.” These reforms, however, were not very far-reaching, and by end-2000 only 540,000 people had applied for a hukou in small towns and cities.

The reform gained momentum in 2001. Since October 2001, a person with stable work and a residence should be able to obtain a hukou in more than 20,000 small towns and cities, while retaining their land use rights in the countryside. In addition, the State Planning Commission stipulated that charges levied by localities on migrants, such as “temporary residence fees” and “birth control fees” must be removed by early 2002. These charges could amount to several hundred renminbi, a sizable portion of migrant earnings.

While the new reforms are a significant step toward establishing a national labor market, a number of barriers remain. First, a hukou in small towns and cities is not as attractive to rural migrants as a hukou in large and medium cities (that provide better services), where reforms have not been as far reaching. Second, the ownership of a residence is a demanding condition for most rural migrants to meet, given their relatively low income. Third, localities will likely resist reducing fees applied to migrants, given the potential loss of revenue. Fourth, those who obtain an urban hukou can only give birth to one child, while in many rural areas, two children are permitted.

IV. THE ROAD AHEAD

Looking ahead, the capacity of the labor market to absorb the 160 million or so surplus workers in the rural and SOE sectors can be assessed by analyzing a range of projections for labor supply and demand. Specifically, a central scenario assumes the following:

1. The population of working age grows by 10–13 million annually through 2010 based on projections by Wang (2001).
2. The labor force participation rate stays at the 2002 level of 83 percent.
3. All new entrants to the labor force seek jobs in the nonagricultural sector.

4. Nonagricultural GDP grows by 7½ percent annually through 2010 under a central scenario (implying overall GDP growth of 7 percent). An optimistic scenario would be 8½ percent nonagricultural growth, while a pessimistic scenario would be 6½ percent nonagricultural growth.
5. The employment elasticity is 0.47 percent as calculated for the period 1978–2000.
6. The impact of wage growth on employment is relatively minor.

Projections for the central scenario of nonagricultural growth of 7½ percent suggest that unemployment could rise in coming years (Table 9). New job growth is projected at about

Table 9. Labor Force and Employment Projections, 2002–2010 1/

	2002	2003	2004	2005	2010	Sum for 2003–2005	Sum for 2003–2010
(In millions)							
Nonagricultural employment	361 2/	374	387	401	476	...	...
New jobs (annual increase)	8	13	13	14	16	40	115
Total population	1,285	1,293	1,301	1,308	1,342	...	...
Working-age population (15–64)	903	916	929	941	996	...	...
Increase of working-age population (annual change)	9	13	13	12	10	38	93
Increase of labor force (annual change)	7	11	10	10	8	32	77
New jobs less increase in labor force	...	2	3	4	8	8	38
Surplus labor seeking jobs	...	9	9	8	5	33	54
SOE reemployment	...	3	3	2	0	9	11
Rural migrants	...	6	6	6	5	24	44
Change in urban unemployment (survey based) 3/	...	7	6	4	-3	20	16
Urban unemployment rate (in percent)	4.5 4/	7.1	9.1	10.3	8.2		

Source: Authors' estimates.

1/ Assuming 7 percent GDP growth, 7 1/2 percent non-agricultural GDP growth, and 0.47 employment elasticity.

2/ End-2002 employment is reduced by 11 million to take account of remaining redundant SOE workers.

3/ Defined as surplus labor seeking jobs less new jobs less increase in labor force.

4/ The urban unemployment rate for 2002 is based on the survey data referred to by the NBS Commissioner in October 2002.

13–14 million annually in 2003–2005, before taking account of future SOE downsizing. This is somewhat higher than the 8 million average annual increase in 1995–2002, which was held down by SOE job losses. Most of the new jobs are assumed to be taken by new entrants to the labor force (10–11 million annually). This implies that the labor market can absorb about 2–4 million surplus rural and SOE workers annually in 2003–2005, without increasing the explicit urban unemployment rate. However, if most of the SOE downsizing takes place in the next three years, and about 6 million rural migrants²⁰ move to urban areas annually, the unemployment rate (survey based) would more than double to a peak of over 10 percent by 2005. The unemployment rate would then decline to about 8 percent by 2010, as the natural increase in the labor force slows and SOE downsizing is complete.

The projections, however, are illustrative only and are subject to a wide range of uncertainty. Using more optimistic assumptions of 8½ percent non-agricultural growth and an employment elasticity of 0.6 implies that the non-agricultural economy could absorb 99 million surplus workers in 2003–2010, almost two-thirds of the rural and SOE labor surplus (Table 10). A more

Table 10. Projections of Jobs for Migrants and Laid-Off Workers from SOEs 1/

A. 2003–2005 job increase, in millions				
Assumptions:		Growth rate (in percent) 2/		
		6.5	7.5	8.5
Employment	0.30	-10	-7	-3
Elasticity	0.47	3	8	13
	0.60	12	18	27
B. 2003–2010 job increase, in millions				
Assumptions:		Growth rate (in percent) 2/		
		6.5	7.5	8.5
Employment	0.30	-17	-7	3
Elasticity	0.47	21	38	56
	0.60	52	72	99

Source: Authors' estimates.

1/ Defined as new jobs less the increase in the labor force owing to growth in the working-age population.

2/ For the nonagricultural sector. Roughly equivalent to 6, 7, and 8 percent for overall GDP growth.

²⁰ About three-quarters of the annual rate of the Tenth Five-Year plan which targeted the transfer of 40 million rural labor force into urban areas over the period 2001–2005.

pessimistic scenario of 6½ percent nonagricultural growth and an employment elasticity of 0.35 suggests that labor force growth would outstrip job growth in 2003–2010 by 17 million putting considerable upward pressure on unemployment. The unemployment projection also depends crucially on the assumption about migration, with rural migrants unlikely to come to urban areas unless jobs are available. Therefore, the urban unemployment rate may not rise significantly if migrants remain on the farms as part of the surplus rural labor.

V. POLICY CONCLUSIONS

The labor market has become more market-oriented over the past twenty years, and the main challenge now is to create quality jobs for the new entrants to the labor force as well as absorb the sizable labor surplus in the SOE and rural sectors. To address the labor market pressures, government policies will need to focus on encouraging job growth in the private sector (especially in the service sector), which has been the main source of job growth in recent years; reducing barriers to migration; developing worker skills; facilitating job searches; and strengthening the social safety net.

Private sector development. The National Re-employment Conference held in September-2002 and the subsequent 16th Congress of the Communist Party stressed employment generation as one of the government's main policy priorities and emphasized the need to support private sector development. However, non-state-owned firms face numerous hurdles to growth. Access to capital remains difficult for them because tight ceilings on bank lending rates limit the ability of banks to factor in the added risk of lending to private enterprises, and the number of new stock market listings are strictly limited by the authorities, as is private corporate bond issuance. Moreover, private firms face significant regulatory barriers to entry, including those created by state monopolies in many industries, especially in the service sector.

Labor mobility. To encourage greater labor mobility, restrictions on internal migration have been reduced. However, a further liberalization of the “hukou” system of residency permits will likely be needed to allow surplus rural workers to move to the cities and allow unemployed and *xiaolang* in low-job-growth regions to relocate to higher-growth regions. This reform will also be important in addressing the widening gap between urban and rural incomes.

Improving worker skills. In order to enhance employment prospects of the lower-skilled rural and urban unemployed workers, better education and training is important (with assistance from the ILO).

Improving job search services. Easier access to information on job opportunities and fostering the establishment of private employment agencies would help improve the matching of job seekers with prospective employers.

Strengthening the social safety net. Widening the coverage of the unemployment insurance scheme and other social safety nets would be helpful in protecting vulnerable groups.

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