How has Economic Restructuring Affected China's Urban Workers?*

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ABSTRACT Using data from the China Urban Labour Survey conducted in five large Chinese cities at year end 2001, we quantify the nature and magnitude of shocks to employment and worker benefits during the period of economic restructuring from 1996 to 2001, and evaluate the extent to which adversely affected urban workers had access to public and private assistance. Employment shocks were large and widespread, and were particularly hard on older workers and women. During the period of economic restructuring, unemployment reached double figures in all sample cities and labour force participation declined by 8.9 per cent. Urban residents faced modest levels of wage and pension arrears, and sharp declines in health benefits. Public assistance programmes for dislocated workers had limited coverage, with most job-leavers relying upon private assistance to support consumption, mainly from other household members.

Well into the post-Mao reform era, China's socialist government maintained a strong commitment to providing lifetime employment and benefits to urban workers through state-sector employment. In the late 1990s, however, the financial insolvency of many state-owned urban enterprises led to aggressive enterprise restructuring that shattered this "iron rice bowl." Implicit lifetime employment was replaced by massive layoffs, widespread unemployment, forced early retirements, and frequent failure to provide promised wage, pension and health-care benefits. According to government statistics, from 1995 to 2001 the number of workers employed in the state-owned sector fell from 113 million to 67 million, a decline of 46 million or 40 per cent.[1] During the same period, employment in the urban collective sector fell by 18.6 million, or nearly 60 per cent.[2] Over this same period, 43 million workers were officially

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1. National Bureau of Statistics, *China Statistical Yearbook* (Beijing: China Statistical Press, 2002).

2. Employment in urban collective enterprises peaked in 1991 at 36.3 million, and fell from 31.5 million to 12.9 million from 1995 to 2001. From 1995 to 2001, employment in mixed ownership work units (joint-stock companies, limited liability companies with mixed ownership) increased from 3.2 million to 14.8 million, and this increase was particularly rapid after passage of the new Company Law in 1997. Thus, employment in work-units of other ownership reforms only absorbed a small share of workers laid off from state and collective sectors.

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registered as laid off, or *xiagang*, including 34 million from the state sector.[3] The adjustments show no sign of letting up after China's recent entry into the World Trade Organization, which many forecast will cause new episodes of labour dislocation. How Chinese families and public policies respond to these challenges will have a major impact on the welfare of millions of Chinese citizens and could alter the prospects for China's economic reforms.

Although many have voiced concern about the plight facing China's urban labour force, there remains a glaring lack of information on even basic labour market outcomes such as unemployment, labour force participation and retirement, let alone systematic analysis of the nature of the shocks, their distribution among China's urban population, or the access of workers to public and private assistance when experiencing hardship. Available survey data have limited spatial or temporal coverage, or fail to measure important dimensions of workers' lives in urban China.

This article uses newly available survey data from the China Urban Labour Survey (CULS) directed by the authors at year-end 2001 in five large Chinese cities (Fuzhou, Shanghai, Shenyang, Wuhan and Xi'an) to provide a detailed description of how recent shocks affected China's workers during the critical adjustment period from 1996 to 2001. The article has two research goals. The first is to assess the extent to which economic restructuring created shocks to employment and benefits for different demographic groups in urban China, and to describe the types of workers who were hit the hardest. The second goal is to evaluate the extent to which adversely affected workers had access to public and private assistance, and to determine which workers and households were most vulnerable in the face of restructuring.

The first section of the article describes the recent restructuring of urban enterprises, reviews the existing literature and raises specific issues of concern. The following sections describe the CULS survey data; analyse how economic shocks to employment and to workers' benefits affected different groups of urban workers; describe responses to shocks and evaluate the extent to which workers had access to public and private assistance mechanisms; and examine subjective welfare assessments to provide further evidence on the vulnerability of different groups of the population to the consequences of economic restructuring. A final section discusses the implications of the findings.

Economic Restructuring in Urban China

One distinctive feature of China's economic transition has been the government's gradualist approach to reforming state-owned enterprises (SOEs). Under China's socialist system, government departments and SOEs provided lifetime employment, housing, health care and pensions

3. Ministry of Labour, *China Labour and Social Security Yearbook* (Beijing: Ministry of Labour and Social Security, 2002).

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to a majority of urban workers. Despite economic reforms, this commitment persisted well into the mid-1990s. 1995 was the first year that there was no absolute growth in state sector employment.[4]

By the mid-1990s, SOE losses had begun to spin out of control.[5] Soft budget constraints and the government's full employment goals had led to substantial redundant labour in SOEs.[6] In 1994, the government began a policy of privatizing small and medium SOEs while protecting larger enterprises, or "seizing the large and relinquishing the small" (*zhuada fangxiao*).[7] By late 1997 it had moved forward with aggressive restructuring of SOEs. The goal was to shut down unprofitable enterprises, diversify ownership, shift enterprises to modern forms of corporate governance, and de-link the provision of social services from individual employers by privatizing housing and shifting responsibility for health insurance and pension provision to city or provincial governments.

As in other transition economies in Eastern and Central Europe and the former Soviet Union, restructuring led to widespread labour dislocation, albeit much later in the transition process. In addition to the massive layoffs described earlier, anecdotal reports of wage and pension arrears leading to active protests became increasingly common, and health insurance coverage of the population declined.[8] Lacking the ability to enforce high mandated benefit contributions from enterprises, cash-strapped municipal governments were often unable to shoulder the responsibility for benefit provision or to maintain equitable access to benefits.

To ease the pain of labour force adjustment, the government established new social welfare programmes. After initial experiments in Shanghai as early as 1993, a special policy to support newly laid-off (*xiagang*) workers was formally implemented nationwide beginning in

4. *China Statistical Yearbook*.

5. Nicholas Lardy, *China's Unfinished Economic Revolution* (Washington: Brookings Institution Press, 1998).

6. Xiaoyuan Dong and Luis Putterman, "The emergence of labor redundancy in China's state industry: findings from a 1980–1994 data panel," *Comparative Economic Studies*, Vol. 43, No. 2 (2001), pp. 111–128. Xiaoyuan Dong and Luis Putterman, "Soft budget constraints, social burdens, and labor redundancy in China's state industry," *Journal of Comparative Economics*, Vol. 31, No. 1 (2003) pp. 111–128. Guo Li and Colin Lixin Xu, "State-owned enterprises, labor redundancy, and job creation: the experience of Chinese provinces," *China Economic Quarterly*, Vol. 1, No. 1 (2001), pp. 97–110.

7. Yuanzheng Cao, Yingyi Qian and Barry Weingast, "From federalism, Chinese style, to privatization, Chinese style," *Economics of Transition*, Vol. 7, No. 1 (1999), pp. 103–131.

8. On the issue of health insurance, see Yuanli Liu, "Health insurance reform in China," report to the Asian Development Bank (2000). For anecdotal evidence of protests caught by the foreign news media in the months just following the CULS, see: David Murphy, "China – urban poverty – nothing more to lose," *Far Eastern Economic Review*, Vol. 165, No 44 (7 November 2002), pp. 30–34; Dexter T. Roberts, "Days of rage: angry workers hit the streets, *Business Week,* No. 3777 (8 April 2002), pp. 50–51. A 1997 survey in four cities found that 9% of pensioners had arrears; see Yanfeng Ge, "Report on urban employment: survey in Shenyang, Qingdao, Changsha and Chendu," report to United Nations Development Program (1998). A 1998 survey in Beijing, Wuxi and Zhuhai found that health insurance and pension coverage of current workers was much lower in Wuxi and Zhuhai where the share of workers in collective and private enterprises was much greater; see David Drury and Marie W. Arneberg (eds.), *No More Forevers: The Chinese Labour Force in a Time of Reform* (Norway: Fafo Institute for Applied Social Science).

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1998. Intended for permanent workers employed before labour contracting began in 1986 or contract workers whose jobs were ended before their contracts expired, the policy provided three years of basic living subsidies, as well as benefits (health care and pension contributions) based on 60 per cent of each worker's final wage.[9] Laid-off workers retained formal ties to their former work units until they found a new job, and were expected to register with newly established re-employment centres charged with providing skill training and assistance in searching for new jobs. The *xiagang* subsidies drew upon unemployment insurance funds as well as central and local budgetary expenditures and enterprise contributions, and were intended as a temporary policy to end on 1 January 2001.[10] Official documentation of the implementation and history of the *xiagang* programme portrays something of a success story.[11] However, our study finds relatively poor performance in terms of both benefit coverage and re-employment.

The government standardized its unemployment insurance programme in 1999. The programme is financed by payroll charges and provides subsidies for up to two years depending on how long the worker and/or the work unit has participated in the programme. Workers whose three years of *xiagang* subsidies expired become immediately eligible for unemployment benefits.

By 1998, most cities also began providing relief through the minimum living standard programme (MLSP), run by the Ministry of Civil Affairs, which provided subsidies to households whose income per capita fell below designated urban poverty lines. The MLSP was administered in a relatively *ad hoc* fashion, lacking standardized poverty lines, funding support, administrative apparati or supervision. Central government financing began in 1999 and expanded significantly in 2001, when expenditures reached 542 million *yuan* and the number of beneficiaries reached 1.17 million.[12]

The China Urban Labour Survey

The CULS was conducted at year-end 2001 by the Institute for Population and Labour Economics at the Chinese Academy of Social Sciences, working with provincial and municipal offices of the National Bureau of Statistics. The authors collaborated in the design and execution of the survey.

Five cities were involved in the survey: Fuzhou, Shanghai, Shenyang, Wuhan and Xi'an. They were chosen to provide regional diversity and variation in the size of the state versus private sectors. Fuzhou and

9. Benefits often declined over time and subsidies were supposed to be greater than unemployment insurance subsidies. However, actual benefit amounts depended greatly on municipal financial resources.

10. In practice, many local governments extended benefits to 2003, see Juwei Zhang, "Urban *xiagang*, unemployment and social support policies: a review of labor market policies in transitional China," report to the World Bank (2003).

11. *Ibid.*

12. *Ibid.*

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Table 1: **Summary Statistics for CULS Sample Cities (2001)**

	Unit	*Shanghai*	*Wuhan*	*Shenyang*	*Xi'an*	*Fuzhou*
Urban population (rank)	Million	9.8 (1)	4.5 (4)	4.0 (6)	2.6 (10)	1.2 (32)
GDP per capita	*Yuan*	40788	17882	21736	13409	30776
Population density	Persons/km^2	2382	893	1395	2037	1474
SOE share of industrial output[a]	Per cent	52	63	67	78	33
SOE profitability[b]	*Yuan*	16	11	7	6	17
Mean annual wage	*Yuan*	26169	11314	11615	11164	13511

Notes:
Unless otherwise noted, data are for residents of urban districts only. [a]Provincial aggregate for industrial enterprises with annual sales of over 5 million *yuan* in 2000; [b]1991–97 provincial average profits per 100 *yuan* assets.
Sources:
SSB, *China Urban Yearbook 2002*; SSB, *China Statistical Yearbook 2002*.

Shanghai are coastal cities that have enjoyed outstanding economic performance throughout the reform period, while Shenyang in the north-east, Wuhan in central China and Xi'an in the north-west are interior cities with large, struggling state industrial sectors that have experienced painful restructuring. Summary data on each of the five cities are provided in Table 1. Three are among China's six largest cities by population, and another ranks tenth. Ranked by GDP per capita or by mean wages, the ordering of cities from richest to poorest is Shanghai, Fuzhou, Shenyang, Wuhan and Xi'an. Summary statistics for the pooled sample employ weights based on the sampling rate in each city. Thus, Shanghai receives a relatively large weight because of its large population. Roughly half of the weighted sample comes from the two coastal cities and half from the three interior cities. Our focus on large cities could overstate unemployment problems in urban China, given evidence from census data that our cities have higher unemployment rates than others in the same provinces. On the other hand, the high weight given to Shanghai, where the municipal government is well-financed, could lead to overstatement of the provision of benefits in urban China.

Within each city, a proportional population sampling approach was used to sample an average of 15 registered urban households in each of 70 neighbourhood clusters. Each household head was asked questions about the family, and then all family members above the age of 16 who were no longer in school were interviewed individually. We conducted surveys in 3,499 households (700 in each city), and completed surveys of 8,109 adults over 16. At the time of the survey, 5,787 adults were under mandatory retirement age and 4,238 were currently employed. The survey had a non-response rate of 16.5 per cent, of which 6.5 per cent of households could not be found, 4.9 per cent had moved and 5.1 per cent refused to be interviewed.

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This article studies individuals living in households with local urban permanent residence permits only, and does not consider those with temporary residence permits or with no registration status, a group consisting primarily of rural migrants. China maintains a household registration (*hukou*) system that determines access to employment and many social services and benefits. Our goal is to study how recent changes have affected urban workers previously protected under the socialist system, making the focus on urban registered households appropriate. In the 2000 Population Census, registered urban households comprised 76 per cent of those living in the five sample cities.

The CULS includes individual calendar-based work histories with detailed questions about job changes, transitions to unemployment or retirement, changes in pension, health care and housing benefits, and access to government programmes since January 1996.[13] Like many multi-purpose household surveys, it also includes a battery of questions on work status, income, expenditure, housing and consumer durables, productive assets and wealth, health and household demographics.

Economic Shocks in Urban China

Trends in employment status. We begin by examining key work status outcomes for different demographic groups over time. Specifically, we look at trends in the unemployment rate (UR), the labour force participation rate (LFPR) and the employment rate (ER). We count as unemployed those who report that they were not working at a particular time and who looked for work during the same non-working spell.[14] Individuals in the labour force are those who were working (employed) or not working but looking for work (unemployed). The UR is the share of the labour force that is unemployed, the LFPR is the share of all working-age adults who are in the labour force, and the ER is the share of all working-age adults who are employed. These definitions imply the following identity: $ER = (1 - UR) \times LFPR$.

The three work status measures are calculated for each month from January 1996 to November 2001 based on retrospective work histories of urban residents interviewed in late November and December 2001.[15]

13. More detailed information on the sampling procedure and English language translations of the CULS instruments can be found at: http://www.msu.edu/~gilesj/.

14. This definition of the unemployment rate is not fully consistent with ILO standards, which, for example, are based on job search activity in the past 30 days. Our measure is likely to slightly overstate the true unemployment rate if calculated according to the ILO definition; for a discussion see John Giles, Albert Park and Juwei Zhang, "What is China's true unemployment rate?" *China Economic Review*, forthcoming (2005).

15. Our calculations assume that recall is accurate and that those interviewed in 2001 are representative of the labour force in earlier years. There could be bias in earlier years if the number of deaths and departures from the city are significant and non-random, but we do not expect such bias to be large. We may underestimate earlier unemployment and overestimate the LFPR if non-working adults are more likely than working adults to migrate or die. However, migration of urban residents is sharply circumscribed by China's residential registration system, and migrants could have more skills and greater job opportunities elsewhere, which would reverse the direction of bias. Because the CULS sample frame

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Overall trends for UR, LFPR and ER are presented in Figure 1, which also plots trends by gender. Table 2 reports UR and LFPR for the initial and ending months of the survey recall period. From January 1996 to November 2001, the UR for working-age adults (those aged 16 to 60) increased from 7.1 to 12.5 per cent, the LFPR fell from 83.3 to 74.4 per

Table 2: **Labour Market Status of Individuals Age 16 to 60**

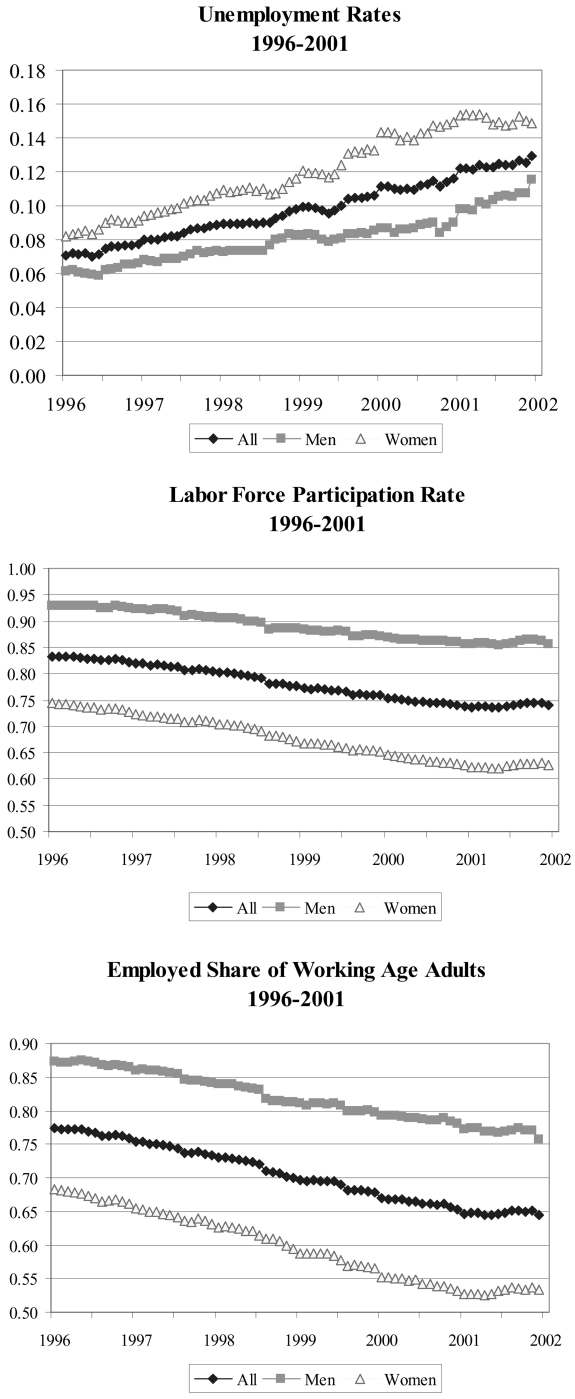
	Unemployment rate (%)			*Labour force participation rate (%)*		
	Jan-96	*Nov-01*	*Change*	*Jan-96*	*Nov-01*	*Change*
Full sample	7.1	12.5	5.5	83.3	74.4	− 8.9
By city:						
Shanghai	5.3	10.4	5.0	86.5	73.1	− 13.4
Wuhan	8.5	16.8	8.2	82.3	74.8	− 7.6
Shenyang	10.3	14.2	3.9	79.7	74.1	− 5.6
Fuzhou	5.4	9.5	4.1	81.4	78.2	− 3.2
Xi'an	6.6	10.8	4.3	81.4	76.7	− 4.7
By demographic group:						
Men (16 to 60)	6.1	10.7	4.6	93.0	86.3	− 6.7
< 30	12.2	17.2	5.0	93.6	92.8	− 0.8
30 to 40	7.2	8.1	0.9	94.7	92.8	− 1.9
40 to 50	4.1	10.3	6.2	97.0	89.0	− 7.9
50 to 55	2.4	11.3	8.9	86.0	83.7	− 2.3
55 to 60	1.0	5.0	3.9	76.6	57.3	− 19.3
Women (16 to 60)	8.2	15.0	6.8	74.4	63.1	− 11.3
< 30	13.7	13.2	− 0.5	83.7	86.5	2.8
30 to 40	10.2	15.8	5.6	88.7	81.2	− 7.5
40 to 50	4.6	17.1	12.5	82.6	68.1	− 14.5
50 to 55	3.3	7.8	4.4	44.4	33.9	− 10.5
55 to 60	2.6	9.2	6.6	19.0	16.1	− 2.9
By education level:						
Primary and below	6.7	18.0	11.3	47.7	45.4	− 2.3
Lower secondary school	10.5	17.7	7.2	79.0	63.2	− 15.8
Upper secondary school	7.1	13.9	6.8	88.4	78.4	− 10.1
Post-secondary education	1.7	4.5	2.8	92.9	89.5	− 3.4

footnote continued

excludes students in school who have never entered the labour force, we use the same criteria to adjust the samples reconstructed for previous periods. This does not affect unemployment rates but does create an upward bias in measured LFPR and could understate decreases in LFPR if the share of adults in school increases over time.

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Figure 1: **Trends in Urban Employment Status in the CULS, 1996–2001**



Source:

China Urban Labour Survey. Trends reflect respondents with contemporaneous age 16 to 60.

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cent and the ER fell from 77.0 to 64.8 per cent. Looking at the breakdowns by gender, there are sharper increases in UR and sharper declines in LFPR for women than for men. At the beginning of the recall period, the unemployment rate was already higher for women than men (8.2 versus 6.1 per cent). By the end of the period, women's UR jumped by 6.8 per cent to 15 per cent, while men's rose by 4.6 per cent to 10.7 per cent. The scale of female exit from the labour force further underscores the differential impact that transition had on women. Over the recall period, the LFPR of working-age women fell by 11.3 per cent, from 74.4 to 63.3 per cent, while that of men declined by 6.7 per cent to 86.3 per cent in November 2001.

Next, we examine trends in work status by demographic group (Table 2). Employment shocks, as measured by increased unemployment or departures from the labour force, appear to be greatest for older workers approaching mandatory retirement age (60 for men, 55 for women). For men, the rise in UR is greatest for those aged 50 to 55 (from 2.4 to 11.3 per cent), followed by those aged 40 to 50 (from 4.1 to 10.3 per cent). The UR was also high and increasing fast for young men in the 16 to 30 age group, rising from 12.9 to 18.3 per cent. For women, the increase in UR was also largest for older workers, remarkably more than tripling from 4.6 per cent to 17.1 per cent for those aged 40 to 50. In contrast, the UR actually fell slightly for women aged 16 to 30 (13.7 to 13.2 per cent).

Decreases in labour force participation were most pronounced for individuals approaching mandatory retirement age, and are likely to reflect aggressive use of early retirement to reduce payrolls in state sector enterprises. For men near retirement (aged 55 to 60), the LFPR fell by nearly 20 per cent, from 76.6 to 57.3 per cent, and the decline also was substantial for those aged 40 to 50 (97.0 to 89.0 per cent). The LFPR of young men and women (aged 16 to 30) changed little. The decline in the LFPR of women was greatest for older cohorts, falling from 82.6 to 68.1 per cent (a decline of 14.5 per cent) for women aged 40 to 50, and from 44.4 to 33.9 per cent for those near mandatory retirement age (aged 50 to 55).

Table 2 provides breakdowns of changes in work status by city, educational attainment and ownership sector of most recent employment. Wuhan had the highest UR (16.8 per cent in November 2001) and greatest increase in the UR (8.2 per cent). Shanghai had the second greatest increases in the UR (5.0), but the lowest levels. Xi'an and Shenyang had the lowest UR increases but in November 2001 still had higher UR levels than the coastal cities. All but Fuzhou had unemployment rates above 10 per cent in November 2001. The largest declines in LFPR occurred in Shanghai (13.4 per cent), followed by Wuhan (7.6 per cent). The other three cities had negligible declines. Overall, it does not appear that restructuring shocks in China were confined to interior cities, but rather affected workers in affluent coastal cities as well.

To investigate the determinants of labour outcomes in a multivariate framework, we use regression analysis to examine how different factors affected the probability of unemployment and labour force participation

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for both men and women in January 1996 and November 2001. We are particularly interested in assessing the extent to which the greater susceptibility of older workers to employment shocks can be explained by differences in educational attainment. By comparing results for the beginning and end of the recall period, we can see how the importance of different factors changed over time. The independent variables are sets of indicator variables for educational attainment, age group and city. The results reported in Table 3 are the differences in the probability of the outcome in comparison to the reference categories (age 16 to 30, elementary or lower education, living in Shanghai). They are based on estimation of probit models (see notes to Table 3 for details).

Conditional on being in the labour force, the probability of older workers being unemployed in comparison to younger workers decreased over time, but the differences are never statistically different from zero. The probability of unemployment was more strongly influenced by education. For men, those with post-secondary education were 5.9 per cent less likely to be unemployed than those with elementary education or less in 1996, and 6.5 per cent less likely in 2001. For women, the importance of education is greater and increasing faster; having post-secondary education rather than elementary education reduced the probability of unemployment by 7.1 and 17.4 per cent in 1996 and 2001. Thus, conditional on being in the labour force, education is more important than age for determining employment outcomes.

Interestingly, unlike for unemployment, age significantly affects labour force participation even after controlling for education. The probability of men in the 50 to 54 and 55 to 59 age groups remaining in the labour force relative to younger workers fell sharply between January 1996 and November 2001. For women, a significant drop in the probabilities of labour force participation compared to younger workers occurs at all older age levels, especially for those aged 40 to 49, who by year-end 2001 were 20 per cent less likely to be in the labour force than younger women. Women aged 50 to 54 were already 42.8 per cent less likely than young women to be in the labour force in 1996 and were 50.3 per cent less likely in 2001. Controlling for age, the positive effect of education on the likelihood of labour force participation also became more significant over time for both men and women. Finally, men and women with post-secondary education were 5.6 and 21.6 per cent more likely to be in the labour force than the least educated group in 1996, and 14.1 and 30.3 per cent more likely in November 2001.

To evaluate gender bias, we estimated pooled regressions including data for men and women and adding a dummy variable for sex. We find that after controlling for differences in age, education and city, women were no more likely than men to be unemployed in January 1996 but 2.7 per cent more likely in November 2001. Women were 15.8 per cent less likely to be in the labour force at the beginning of the period and 22.8 per cent less likely at the end. Thus, evidence suggests that gender bias in employment status increased over time.

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Table 3: **Determinants of Unemployment and Labour Force Participation by Gender, January 1996 and November 2001 (Marginal Effects on Probability from Probit Model Estimation)**

Gender	*Men*				*Women*			
Model	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Month-Year	*Jan-96*	*Nov-01*	*Jan-96*	*Nov-01*	*Jan-96*	*Nov-01*	*Jan-96*	*Nov-01*
DepVar	*In LF?*	*In LF?*	*Unemp?*	*Unemp?*	*In LF?*	*In LF?*	*Unemp?*	*Unemp?*
30 < = age < 40	0.011	0.011	− 0.032	− 0.079	0.067	− 0.039	− 0.030	0.004
	(0.014)	(0.026)	(0.009)	(0.016)	(0.028)	(0.042)	(0.013)	(0.027)
40 < = age < 50	0.041	− 0.023	− 0.060	− 0.082	− 0.006	− 0.190	− 0.076	0.001
	(0.013)	(0.024)	(0.010)	(0.018)	(0.031)	(0.039)	(0.014)	(0.026)
50 < = age < 55	− 0.070	− 0.089	− 0.046	− 0.062	− 0.428	− 0.503	− 0.054	− 0.061
	(0.030)	(0.036)	(0.008)	(0.018)	(0.045)	(0.038)	(0.012)	(0.035)
55 < = age < 60	− 0.159	− 0.378	− 0.051	− 0.079	− 0.618	− 0.647	− 0.058	− 0.045
	(0.042)	(0.050)	(0.006)	(0.020)	(0.037)	(0.027)	(0.009)	(0.054)
Lower secondary school	0.005	0.035	0.005	0.065	0.069	0.003	0.025	− 0.046
	(0.018)	(0.031)	(0.022)	(0.044)	(0.036)	(0.060)	(0.028)	(0.047)
Upper secondary school	0.028	0.088	− 0.026	0.015	0.184	0.159	− 0.018	− 0.087
	(0.017)	(0.031)	(0.019)	(0.037)	(0.034)	(0.057)	(0.025)	(0.050)
Post-secondary school	0.056	0.141	− 0.059	− 0.065	0.216	0.303	− 0.071	− 0.174
	(0.012)	(0.022)	(0.013)	(0.031)	(0.023)	(0.041)	(0.014)	(0.031)
Wuhan	− 0.056	− 0.064	0.001	0.056	− 0.075	− 0.011	0.060	0.059
	(0.018)	(0.022)	(0.012)	(0.022)	(0.030)	(0.031)	(0.021)	(0.028)
Shenyang	− 0.049	− 0.020	0.019	0.002	− 0.090	− 0.020	0.055	0.065
	(0.019)	(0.022)	(0.014)	(0.021)	(0.030)	(0.033)	(0.023)	(0.031)
Fuzhou	− 0.013	0.046	− 0.011	− 0.009	− 0.131	− 0.011	0.004	− 0.028
	(0.017)	(0.017)	(0.012)	(0.020)	(0.033)	(0.033)	(0.018)	(0.025)
Xi'an	− 0.008	− 0.002	− 0.001	0.019	− 0.080	0.003	0.042	− 0.019
	(0.016)	(0.020)	(0.013)	(0.022)	(0.031)	(0.033)	(0.022)	(0.026)
Model chi-square	226.5	201.3	74.9	69.3	496.1	469.3	95.6	78.1
Observations	3144	2945	2787	2565	3417	3121	2397	2026
Pseudo-R2	0.135	0.147	0.103	0.067	0.202	0.222	0.091	0.074

Notes:

Marginal effects are the change in probability of the outcome variable given a change in the independent variable, evaluated at sample means using coefficients from maximum likelihood estimation of probit models, which relate the probability of a discrete outcome (y = 1) to a set of covariates X: $\Pr(y = 1) = \phi(X\beta)$, where ϕ is the standard normal cumulative distribution function.

One of the concerns about substantial declines in LFPR, especially among older workers, is that workers may not have left the labour force voluntarily. They may have felt discouraged, incapable of finding suitable new work, or more comfortable describing themselves as retired rather than unemployed. Policy makers may be less concerned if newly unemployed workers are those who left jobs voluntarily in search of better work, and so reflect an increase in natural unemployment associated with a more active labour market. This creates considerable interest in understanding whether job separations were voluntary or involuntary.

To investigate this question, we examine self-reported explanations for the end of employment for all job spells ending during the period 1996 to 2001 (Table 4). Enterprise restructuring is considered to be the reason for job loss if the respondent chooses one of the following responses: work unit closed, went bankrupt, or was merged or reorganized. Other involuntary reasons for job separations include forced early retirement and other dismissals. The remaining reasons for job separations are voluntary departures, mandatory retirement, and "other." Overall, 60.3 and 64.4 per cent of job separations of men and women were involuntary and non-mandatory. These total percentages include 29.0 and 21.8 per cent explicitly related to restructuring, 15.6 and 31.1 per cent forced early retirements and 15.8 and 11.4 per cent other involuntary dismissals. The latter two reasons also could be related to restructuring. Only 25.9 and 19.0 per cent of job separations were voluntary. Even allowing for reporting bias by disgruntled workers, China clearly contrasts with other transition economies in the predominantly involuntary nature of job separations.[16]

For men and women aged 30 to 39 and men aged 40 to 49, restructuring was the most important reason for involuntary job separation. Further, 57.5 per cent of job separations for women aged 40 to 49 and 88.1 per cent for women aged 50 to 54 were in the form of early retirement, and the majority of these women reported that retirement was involuntary.[17] The likelihood that early retirement may be unwanted is underscored when we compare average retirement ages of different cohorts of the elderly. Men aged 60 to 65 in 2001, who began the 1996–2001 period near to the official retirement age, had a lower average retirement age, 57.8, than men aged 65 to 70, who had already passed retirement age before widespread restructuring began, and whose average retirement age was 58.3. Similarly, women aged 55 to 60 in 2001 had a mean retirement age of 50.8 compared to 51.6 for the adjacent older cohort. Nearly all of the elderly in both cohorts had retired by the time of the survey.

16. Tito Boeri and Katherine Terrell, "Institutional determinants of labor reallocation in transition," *Journal of Economic Perspectives*, Vol. 16, No. 1 (2002), pp. 51–76; Tito Boeri, "Transition with labor supply," William Davidson Institute Working Paper No. 274 (2000).

17. Women's earlier retirement age also prevents them from earning higher wages from greater seniority, which affects pension amounts.

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Table 4: **Reasons for Job Separation by Gender and Age (%)**

Reason for job separation	*GTE 16 & LT 30*	*GTE 30 & LT 40*	*GTE 40 & LT 50*	*GTE 50 & LT 55*	*GTE 55 & LT 60*	*Total*
Men						
Enterprise restructuring	18.3	37.7	46.6	16.4	0.7	29.0
Other involuntary separations	17.8	23.1	17.9	10.0	2.7	15.8
Voluntary separations	53.0	29.7	23.9	10.7	2.7	25.9
Retired	1.0	3.8	9.7	61.4	93.9	25.5
of which: early retirement	1.0	4.2	9.4	59.3	72.1	22.1
of which: involuntary	1.0	3.3	6.5	39.3	52.4	15.6
Other	9.9	5.7	2.0	1.4	0.0	3.9
Non-voluntary non-mandatory job separation	37.1	64.2	71.0	65.7	55.8	60.3
Women						
Enterprise restructuring	18.1	47.3	21.3	0.5	0.0	21.8
Other involuntary separations	12.7	23.1	10.7	0.5	0.0	11.4
Voluntary separations	66.1	23.5	7.7	0.5	0.0	19.0
Retired	0.0	2.4	59.4	98.0	96.8	45.7
of which: early retirement	0.0	2.4	57.5	88.1	34.0	39.1
of which: involuntary	0.0	1.7	43.2	77.7	25.5	31.1
Other	3.2	3.7	0.9	0.5	3.2	2.0
Non-voluntary non-mandatory job separation	30.8	72.1	75.2	78.7	25.5	64.4

Notes:

Enterprise restructuring: worker lost job after work-unit closed, went bankrupt, was merged with another firm or reorganized.

Other involuntary: involuntarily dismissed or laid-off for reasons other than restructuring of the firm.

Early retirement: worker retired through an early-retirement programme at the firm. Early retirement is involuntary if the worker's choice was to retire or be fired.

Non-mandatory job separation refers to loss of a job not subject to mandatory retirement provisions.

Changes in wages and benefits. Changes in wages and benefits are important dimensions of shocks that may have affected large numbers of urban workers, even those fortunate enough to keep their jobs. Shocks to wages may take the form of reduced nominal or real wages, or wage arrears. Benefit shocks can take the form of lost health insurance coverage, reduced health insurance benefits and health expenditure reimbursement arrears for those with insurance, reduced pension benefits (for those

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still working), pension arrears (for retired workers), and changes in housing benefits. This section focuses on wage arrears, changes in health insurance coverage and health expenditure reimbursement arrears of employed working-age individuals, as well as pension and health expenditure reimbursement arrears of retired workers. Wage changes associated with job changes are discussed in the next section on responses to shocks. We believe the other types of wage and benefit shocks are less likely to have created immediate, significant hardships for most workers.[18]

Wage, pension and health expenditure reimbursement arrears are typically related to employers' temporary cash flow problems, reflecting their poor financial health. Overall, 10.6 per cent of working-age adults who worked during the 1996 to 2001 period experienced wage arrears at some point during the period (column 1, Table 5). Less than 4 per cent of ever-employed workers (roughly one-third of those with arrears) reported wage arrears in default, meaning that the worker did not expect the wages ever to be paid. There is considerable variation in wage arrears across cities. In Shenyang and Xi'an, about 23 per cent of workers experienced wage arrears (7.8 and 6.4 per cent in default), followed by Wuhan (13.6 per cent), Fuzhou (5.7 per cent) and Shanghai (2.1 per cent). Wage arrears are spread relatively evenly across demographic groups, with over 10 per cent in every group reporting such arrears. Men aged 40 to 50 and women aged 30 to 40 have the highest percentage of wage arrears (13.3 and 14.3 per cent). Wage arrears are much more prevalent among less educated workers (14.6 per cent for those with lower secondary school education, 10.8 per cent for those with upper secondary education and 5.7 per cent for those with post-secondary education). Workers in wholly state-owned, majority state-owned and collective enterprises were most likely to have experienced wage arrears, and those in government or Party organizations or in foreign-invested enterprises were least likely.

To examine changes in health insurance coverage over time, we use the work histories to calculate employer-provided health insurance coverage rates for working adults aged 16 to 60 at the beginning and end of the recall period (columns 2 and 3, Table 5). Overall, coverage fell substantially, from 81.6 per cent in January 1996 to 68.7 per cent in November 2001. Declines were greater for women (75.7 to 61.0 per cent) than men (84.5 to 74.3 per cent). They were most dramatic in Shanghai (decline of 17.0 per cent) and Xi'an (16.4 per cent), followed by Fuzhou (11.9 per cent), Wuhan (8.2 per cent) and Shenyang (6.4 per cent). However, by the

18. Wage data from the CULS work histories reveal that reductions in nominal wages while staying with the same employer rarely occurred, although our data are not ideal for examining such changes because the survey asks about starting and ending wages for each job spell but does not capture wage reductions that followed wage increases. Inflation was only 0.54% per annum from 1996 to 2001 in urban China, making real wage shocks due to inflation inconsequential. In pretests, we found that most workers did not have a good understanding of the details of their pension or health care benefits. It has not been common practice to take housing away from displaced workers, probably because of concern that such changes could be socially and politically explosive.

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Table 5: **Wage Arrears and Health Insurance Coverage of Individuals Age 16 to 60 (as a % of Workers in Each Category)**

	Percent of employed persons with			*Percent of all individuals with insurance in 2001*	*Percent of workers with health insurance with reimburse-ment arrears*
	Wage arrears	*Employer provided health insurance*			
		in Jan 96	*in Nov 01*		
Full sample	10.6	81.6	68.7	56.1	22.1
By city					
Shanghai	2.1	91.6	74.6	87.4	18.9
Wuhan	13.6	76.9	68.7	46.2	19.5
Shenyang	23.1	59.9	53.5	39.1	27.7
Fuzhou	5.7	79.5	67.6	48.7	18.9
Xi'an	23.3	81.0	64.6	57.5	38.2
By demographic group					
Men (16 to 60)	11.1	84.5	74.3	46.4	20.3
<30	10.1	77.8	66.3	57.4	16.0
30 to 40	10.0	81.7	76.3	59.9	21.1
40 to 50	13.3	87.0	72.7	73.2	22.8
50 to 55	11.2	92.3	82.2	73.1	17.3
55 to 60	7.5	90.1	79.0	60.3	24.4
Women (16 to 60)	12.3	75.7	61.0	45.3	26.2
<30	11.0	64.0	64.7	45.6	21.1
30 to 40	14.3	77.0	67.8	54.5	25.7
40 to 50	12.0	82.4	61.4	59.7	30.9
50 to 55	10.7	75.6	42.2	61.4	24.6
55 to 60	1.7	55.8	24.8	52.2	21.1
By education level					
Primary school and below	11.8	70.3	49.0	28.3	24.5
Lower secondary school	14.6	76.1	54.0	45.8	26.6
Upper secondary school	10.4	81.6	68.3	58.0	22.4
Post-secondary education	5.7	90.8	82.3	79.4	18.1
By ownership sector					
Government or Party	1.9	89.7	78.9	82.3	22.8
Wholly state-owned	13.8	88.3	82.2	77.5	23.8
Majority state-owned	9.2	87.6	80.8	68.5	31.1
Collective	11.7	78.5	66.7	67.0	22.9
Foreign-invested	1.3	72.2	73.0	52.5	14.0
Private	6.3	35.1	25.1	19.2	11.3
Other	17.2	75.5	42.4	27.6	24.3

Note:
Columns 1 and 5 report arrears for all individuals employed between 1996 and 2001. Ownership sector is most recent ownership sector for those not working in 2001.

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end of the period, Shanghai still had the highest coverage rate (74.6 per cent) and Shenyang the lowest (53.5 per cent). Declines were very modest in wholly-owned SOEs and in government, but more common in majority-owned SOEs, collective enterprises and non-public enterprises. The low percentage of workers in the private sector with employer-provided insurance suggests that prospective loss of benefits could be a barrier preventing workers from shifting from the public to private sectors. Most reductions in health insurance coverage appear to be associated with job changes. There was no evidence of large numbers of employees losing insurance outright while working with the same employer. Given that the employment rate declined over time and non-working individuals are less likely to have health insurance, the decline in health insurance coverage for the whole population was surely greater than the decline in insurance coverage of working adults.

Column 4 of Table 5 shows health insurance coverage rates for all individuals aged 16 to 60 in November 2001, whether working or not, based on responses to a separate question on current health insurance status. Overall, 56.1 per cent of working-age adults in the five city CULS survey had health insurance, of which 6.1 per cent of adults purchased insurance themselves. Shanghai had by far the highest coverage rate (87.4 per cent), followed by Xi'an (57.5 per cent), Fuzhou (48.7 per cent), Wuhan (46.2 per cent), and Shenyang (39.1 per cent). The fact that Shanghai's overall coverage rate is even higher than the employer-provided coverage rate for employed workers in 2001 could reflect both the high coverage rate of early retirees (97.6 per cent of retirees in Shanghai report that they have health insurance) and Shanghai's relative success in separating health care provision from enterprises. In general, health insurance is closely tied to employment; 66.7 per cent of employed working-age adults had health insurance coverage, compared to only 35.4 per cent of those who were not working. Comparing coverage rates of different demographic groups, a higher percentage of men than women in each age category had health insurance coverage. Health insurance coverage was much higher for more educated workers, and in government or publicly owned enterprises.

Those with health insurance may also experience shocks if they have difficulty obtaining promised reimbursements. Health expenditure reimbursement arrears among those with health insurance were more common than wage or pension arrears. Overall, 22.1 per cent of working-age adults with health insurance report health expenditure reimbursement arrears (column 5, Table 5). The variation across cities in health expenditure reimbursement arrears is quite different from that for wage and pension arrears, and follows more closely differences in city income per capita. Xi'an has by far the greatest prevalence, at 38.2 per cent, followed by Shenyang (27.7 per cent), Wuhan (19.5 per cent), Fuzhou (18.9 per cent) and Shanghai (18.9 per cent). Unlike other types of arrears, there is no significant difference in arrears across demographic or education categories conditional on having insurance.

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Table 6: **Shocks to Benefits Experienced by Retired Workers**

	Number of formal retirees	*Percent of formal retirees who*			*Retirees with health insurance who have had reimbursement arrears (%)*
		Are not working	*Experienced pension arrears*	*Have health insurance*	
Full sample	2,532	74.7	10.6	73.9	29.9
By city					
Shanghai	672	82.5	4.7	97.6	18.1
Wuhan	491	74.1	12.8	38.4	60.4
Shenyang	489	75.8	26.4	42.8	77.6
Fuzhou	380	68.3	4.5	57.9	42.5
Xi'an	500	73.9	15.9	71.6	34.8
By demographic group					
Men (over 40)	1,020	77.0	10.4	76.3	26.2
Age 40 to 50	9	4.1	5.0	50.4	29.0
Age 50 to 55	53	51.5	15.3	66.4	38.1
Age 55 to 60	110	82.1	15.3	70.9	18.6
Age 60 to 70	469	97.9	10.2	79.7	26.6
Age >70	379	97.9	7.8	78.0	26.5
Women (over 40)	1,512	73.1	10.7	72.3	32.4
Age 40 to 50	169	34.8	6.3	80.5	21.9
Age 50 to 55	254	87.9	11.1	73.6	26.0
Age 55 to 60	242	92.7	13.3	74.9	34.7
Age 60 to 70	545	89.2	12.7	66.5	40.8
Age >70	302	71.7	8.5	71.2	35.0
By education level					
Primary school and below	529	80.5	12.6	67.6	38.2
Lower secondary school	1,078	71.5	11.3	70.4	33.9
Upper secondary school	542	67.4	9.8	80.2	23.4
Post-secondary education	383	90.8	6.8	83.6	19.6

Next, we briefly describe shocks to benefits affecting retired workers (Table 6). While these shocks mainly affected elderly individuals, defined as those aged 60 and older, they also affected some who retired early (28 per cent of retirees were below mandatory retirement age at the time of the survey). We find that 10.6 per cent of retirees report experiencing

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pension arrears. For the most part, the breakdowns by city and educational attainment exhibit the same patterns as for wage arrears. The greatest prevalence of pension arrears is in Shenyang, where 26.4 per cent of retirees report arrears. Table 6 also shows that health insurance coverage rates of retired persons were generally higher than those of working-age adults (74.2 per cent compared to 56.1 per cent), but conditional on having insurance, the incidence of health expenditure reimbursement arrears was greater (29.9 per cent compared to 22.1 per cent). This latter difference makes sense because the elderly would be expected to have a higher demand for health services.

One of the main goals of labour policy reforms was to "socialize" the work benefit system by shifting responsibility for its provision from enterprises to local governments. Many inequities in benefit access occur because, in the absence of such reforms, workers in poorly performing enterprises became vulnerable to losing promised benefits. The CULS provides information on whether health insurance reimbursements and pension payments were provided by work units or local governments. In January 1996, only 5.6 per cent of employed workers with health insurance received socialized benefits, but by November 2001 this had increased to 55.7 per cent. However, progress in socializing health insurance benefits varied dramatically by city. The share of the insured receiving socialized health insurance benefits in 2001 was 88.6 per cent in Shanghai, 50.5 per cent in Xi'an, 35.6 per cent in Fuzhou, 11.4 per cent in Wuhan and 9.1 per cent in Shenyang. Shanghai also led the way in socializing pension benefits. By 2001, 93.9 per cent of pensioners in Shanghai received their pension payments from government offices rather than their enterprise, compared to 69.5 per cent in Fuzhou, and roughly 60 per cent in the other three cities. In 1996, the share of pensioners receiving socialized pension benefits ranged from 15 to 25 per cent in the different cities.

Responses to Economic Shocks

Workers who are adversely affected by economic shocks may reduce the negative impact of lost wages and benefits in several ways. First, workers losing jobs may try to find a new job. If this fails or if they are unwilling to search for new work, they can seek access to government social welfare programmes, turn to family and friends, or draw upon their own savings or other assets. Workers who formally retire may be eligible for pension payments. This section evaluates the extent to which workers adversely affected by recent economic shocks have been able to find support through these various mechanisms.

Re-employment. For workers who lose jobs involuntarily, finding a new job in as short a time as possible may be the best way to avoid large welfare losses associated with lost pay and benefits. However, even if one finds a new job, the extent to which re-employment cushions the original employment shock depends upon the duration of non-employment and the difference in wages and benefits between the new job and the old

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one.[19] Access to public and private support or to pension payments also determines the welfare loss associated with non-employment, and may affect the duration of non-employment. Some workers also leave jobs voluntarily in the hopes of finding better jobs or when a better job offer is already in hand. Thus the dynamics of re-employment may vary considerably depending on the reason for job separation. We are particularly interested in the re-employment of those suffering from employment shocks due to restructuring.

Between January 1996 and November 2001, the CULS documented 2,705 job separations of working-age adults. As shown in Table 7, 34.8 per cent of individuals experiencing job separations were employed again within 12 months of leaving their jobs, and 44.7 per cent were employed again by November 2001. In Shanghai and Fuzhou, cities hit less hard by restructuring, about 42 per cent of individuals were employed again within 12 months. In Shenyang, Wuhan and Xi'an, only 29 to 30 per cent of workers leaving jobs were employed again within 12 months. Out-of-work duration also differed by gender, age and education. For all age groups, the share of men re-employed was higher than the share of women. For both men and women, there was a significant decline in the share re-employed for those over 40. Individuals with more education were more likely to be re-employed.[20]

When we look at the duration of unemployment by reason for job separation, we find, not surprisingly, that those who left jobs voluntarily were much more likely to find new jobs quickly compared to those who left involuntarily. Of those who voluntarily left jobs, 62.3 per cent were re-employed within 12 months and 70.7 per cent were employed by November 2001. In contrast, of those losing jobs because of restructuring or other involuntary reasons, only 38.0 and 31.7 per cent found new jobs within 12 months. The re-employment rate was even lower for those who said they had retired early.

The plight of state-sector employees is highlighted by the finding that only 29.1 per cent of individuals leaving state-owned enterprises were employed again within a year, and only 36.8 per cent by November 2001. Employees leaving government or Party organizations fared better, with 60.3 per cent re-employed within a year, followed by individuals working in foreign-invested and private sectors.

During the late 1990s, China's policy makers hoped that the demand for labour in the non-state sector would absorb laid-off workers from the state sector. Has labour, in fact, shifted from the state to non-state sector? Table 8 displays a transition matrix with ownership sector of previous job

19. In the US, individuals who experience layoffs have persistently lower income and lower household consumption per capita. For a review of this literature, see Melvin Stephens Jr. "The long-run consumption effects of earnings shocks," *Review of Economics and Statistics*, Vol. 83, No. 1 (2001), pp. 28–36.

20. When we analyse out of work duration in a multivariate framework using a duration model, we find that these age, gender and education effects remain significant (see John Giles, Albert Park and Fang Cai, "Re-employment of dislocated workers in China: the roles of institutions and information" (mimeo, Michigan State University, December 2005).

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Table 7: **Job Separations, Unemployment Spell Duration and Changes in Nominal Wages of Re-Employed (For Individuals Between 16 and 60 Years of Age)**

	As % of all job separations		*Nominal wage comparison for re-employed workers*		
	Employed within 12 months	*Employed by Nov. 2001*	*Mean % change*	*% lower*	*% higher*
Total	34.8	44.7	2.1	39.2	55.0
By city					
Shanghai	42.1	49.7	0.3	42.9	52.9
Wuhan	28.6	38.3	2.6	35.1	56.0
Shenyang	28.5	39.6	0.9	41.3	53.7
Fuzhou	41.8	51.4	19.3	34.0	59.9
Xi'an	30.2	42.8	3.6	40.9	52.8
By demographic group					
Men (16 to 60)	42.1	52.2	4.6	36.3	58.7
< 30	53.4	68.7	20.1	22.1	71.4
30 to 40	51.5	65.6	7.0	32.8	61.6
40 to 50	44.3	52.4	− 5.8	44.4	52.1
50 to 55	27.8	31.9	− 13.3	52.4	42.9
55 to 60	12.2	15.5	− 14.6	52.2	43.5
Women (16 to 60)	29.0	38.7	− 0.4	42.4	51.4
< 30	44.1	63.4	9.1	32.0	60.5
30 to 40	36.8	49.7	9.7	37.5	55.9
40 to 50	22.1	28.4	− 5.4	48.9	45.3
50 to 55	22.0	24.4	− 38.0	63.3	34.7
55 to 60	9.4	10.4	− 5.6	70.0	20.0
By reason for job separation					
Restructuring	38.0	50.5	16.7	36.4	62.1
Other involuntary	31.7	43.5	− 2.8	52.2	44.8
Voluntary separation	62.3	70.7	25.6	24.4	69.7
Retirement	17.2	20.4	− 22.3	54.5	44.7
Other	57.4	67.6	39.6	33.3	61.9
By education level					
Primary school and below	24.7	32.7	− 33.0	59.5	33.3
Lower secondary school	27.7	36.8	− 2.2	42.7	51.5
Upper secondary school	37.9	48.7	5.3	38.7	55.8
Post-secondary education	51.6	60.9	7.9	28.7	64.9
By ownership sector					
Government or Party	60.3	61.9	36.6	27.0	64.9
Wholly state-owned	29.1	36.8	− 3.8	46.9	50.9
Majority state-owned	30.6	41.4	− 1.4	43.8	52.8
Collective	31.3	38.8	10.1	37.6	59.0
Foreign-invested	57.4	66.2	− 15.5	41.5	48.8
Private	51.2	59.9	2.9	30.6	55.3
Other	23.5	40.0	7.2	14.3	57.1

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Table 8: **Mobility Across Ownership Sectors, January 1996 to November 2001 (Employment in New Sector and % of Separations from Previous Sector)**

Previous sector	*Number of job separations*	*Government or Party*	*Wholly-state-owned enterprise*	*Majority-state-owned enterprise*	*Collective enterprise*	*Foreign invested enterprise*	*Individual or private enterprise*	*Other*	*Still out of work in November 2001*
Government or Party	68	26.5	4.4	4.4	10.3	2.9	8.8	1.5	41.2
Wholly-state-owned enterprise	944	1.8	8.5	1.2	7.0	1.8	14.1	1.2	64.5
Majority-state-owned enterprise	247	0.8	2.0	11.7	6.9	2.4	14.2	0.4	61.5
Collective enterprises	673	1.3	1.2	0.4	14.7	1.3	16.9	1.8	62.3
Foreign invested enterprise	66	0.0	4.5	0.0	6.1	33.3	16.7	0.0	39.4
Individual or private enterprise	427	0.9	3.5	0.9	4.7	1.9	41.2	0.9	45.9
Other	45	0.0	0.0	4.4	4.4	0.0	17.8	20.0	53.3
Total	2,470	2.0	4.6	2.1	8.7	2.6	19.6	1.5	58.9

on the vertical axis and ownership sector of new job on the horizontal axis. Of the 944 workers who left state sector jobs, 64.5 per cent were still out of work in November 2001. Of the 35.5 per cent who found new employment, 8.5 per cent, or less than one-fourth of re-employed workers, found work in state-owned enterprises, 7.0 per cent in collective enterprises and 14.2 per cent (about 40 per cent of the employees who found new jobs) in the private sector. Similar transitions characterized workers leaving the majority state-owned and collective sectors.

Do workers finding new employment end up taking a cut in pay, or do some actually do better with new employers? Columns 3 to 5 of Table 7 provide summary information on changes in nominal wages when individuals change jobs. The first column reports mean percentage changes in wages from previous job to new job. The second and third columns report the share of respondents with lower and higher nominal wages, respectively. Workers under 40 experienced an increase in mean nominal wages, while those over 40 saw average wages decline. The decrease in nominal wages was largest for workers near mandatory retirement. Given that older workers have less human capital and are likely to find it difficult to learn new skills, this result is not surprising. Overall, job loss did not appear to have a scarring effect for younger workers, but did for older workers. Interestingly, the pattern of wage changes does not differ significantly depending on whether job separations are voluntary or involuntary. This would suggest a conclusion similar to other surveys, which contrasts with findings in many countries that job loss is associated with a permanent decrease in wages.[21] However, it is important to keep in mind that nearly 60 per cent of workers experiencing job separations during this period were still unemployed in November 2001.

The importance of education and prior sector of employment also figure prominently in the changes observed between jobs. Individuals with upper secondary education and above saw positive increases in wages as they shifted between jobs, while workers with lower secondary or primary education saw a drop in their average wage. Similarly, workers formerly in wholly-owned SOEs, majority-owned SOEs and foreign-invested enterprises witnessed an average decline in nominal wages, while those that had been previously employed in government or Party organizations or in the private sector saw an average gain.

New jobs may also restore employment-related benefits, unless new employers are foreign or private firms that provide fewer benefits than SOEs. Take the case of health insurance. Of the 1,120 workers in the CULS who found new jobs after ending job spells, 80 per cent did not receive health insurance benefits in their new jobs. For individuals with employer-provided health insurance in their previous job, 73 per cent did not receive health insurance benefits in their next job. Thus, even when re-employment restored wage income, it often did not reverse lost benefits associated with departures from state-sector employment.

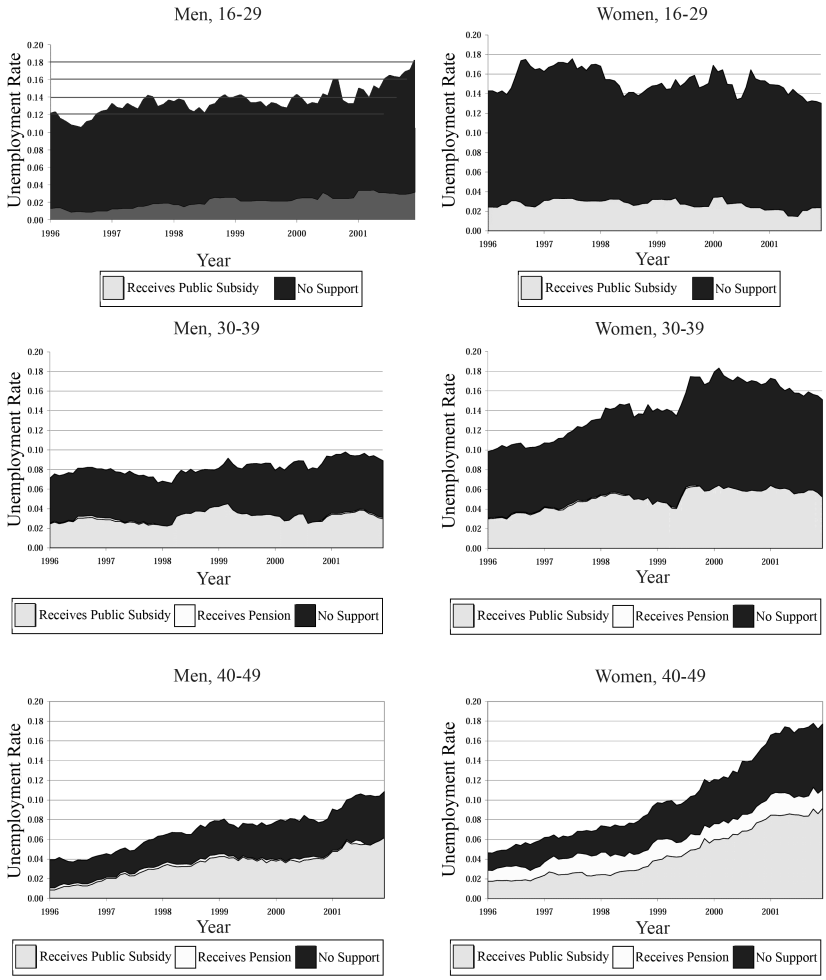
21. See Simon Appleton, John Knight, Lina Song and Qingjie Xia, "Labor retrenchment in China: determinants and consequences," *China Economic Review*, Vol. 13, pp. 252–275.

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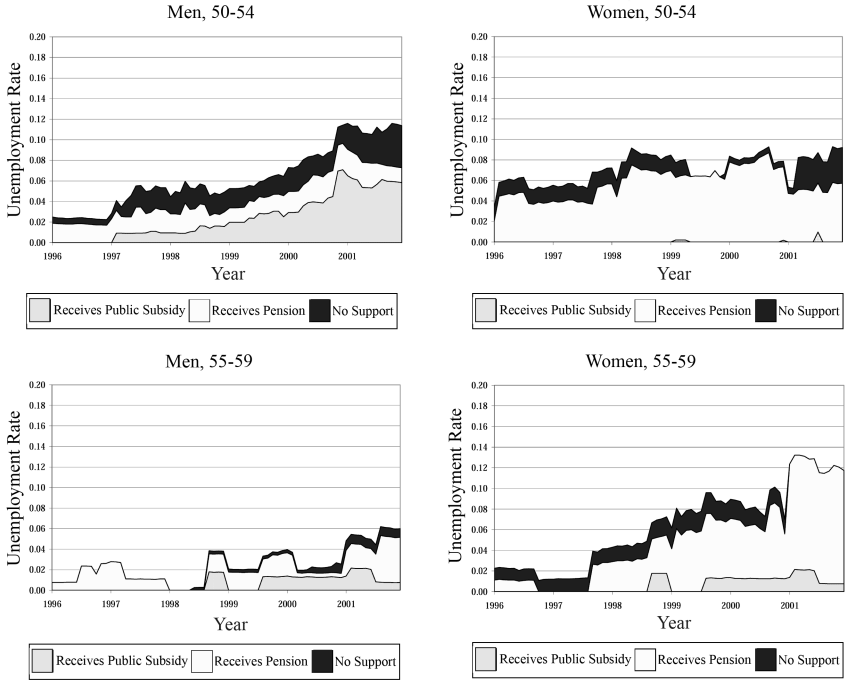
Access to public support. The three main social insurance programmes designed to help workers adversely affected by economic shocks are *xiagang* subsidies, unemployment subsidies and MLSP payments. Publicly funded pension payments, especially for those who retire early, can also be considered a form of public support. Whether or not and to what extent dislocated workers had access to these different forms of public support is an important but poorly understood policy question.

Figure 2 plots unemployment rates by demographic group, and breaks down the unemployed into three categories: the share with access to *xiagang* or unemployment insurance subsidies (shaded in grey); the share receiving pension payments (white); and the share lacking access to public support (black). Because MLSP payments are targeted to the household, they are not considered here. Fewer than 20 per cent of

Figure 2: **Share of Unemployed Receiving Public Subsidies and Pensions by Gender and Age**



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Source:

China Urban Labour Survey.

unemployed workers under 30 had access to public subsidies, and even for those aged 30 to 40, fewer than 30 per cent of unemployed men and 25 per cent of unemployed women had access to subsidies. For men aged 40 to 55 and women aged 40 to 50, coverage was better, with over half of the unemployed receiving subsidies. For those near retirement age, pensions became an important source of support. For men aged 50 to 55 and women aged 40 to 50, about one-fifth of the unemployed receive pensions, and for men aged 55 to 59 and women aged 50 to 59, the vast majority of the unemployed received pensions.

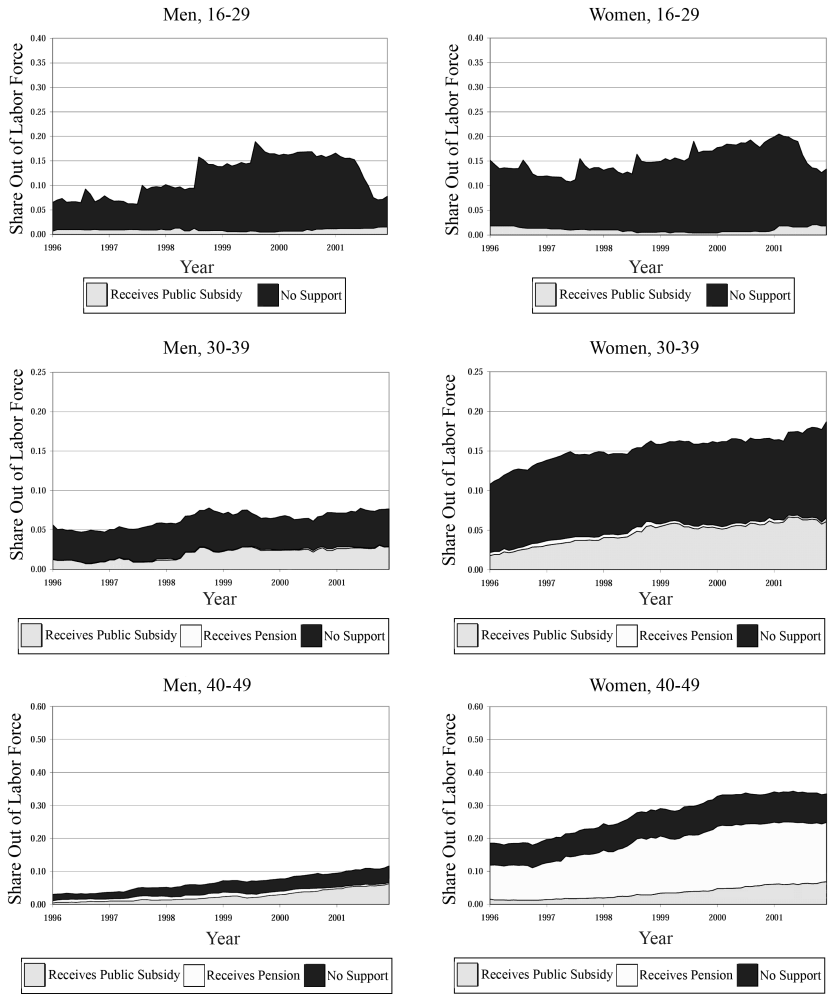
The importance of pensions as a source of support for older working-age adults becomes more evident when we look at public support for those who are out of the labour force, again broken down by gender and age group (Figure 3). For women over 40 and men over 50, large majorities of those out of the labour force received pensions. Otherwise the patterns of support are similar to those for the unemployed. Considering all forms of public support, including pensions, coverage increased monotonically with the age of the worker. However, for all age groups, there remained substantial shares of dislocated workers who received no public support at all, including one-third to one-half of the unemployed

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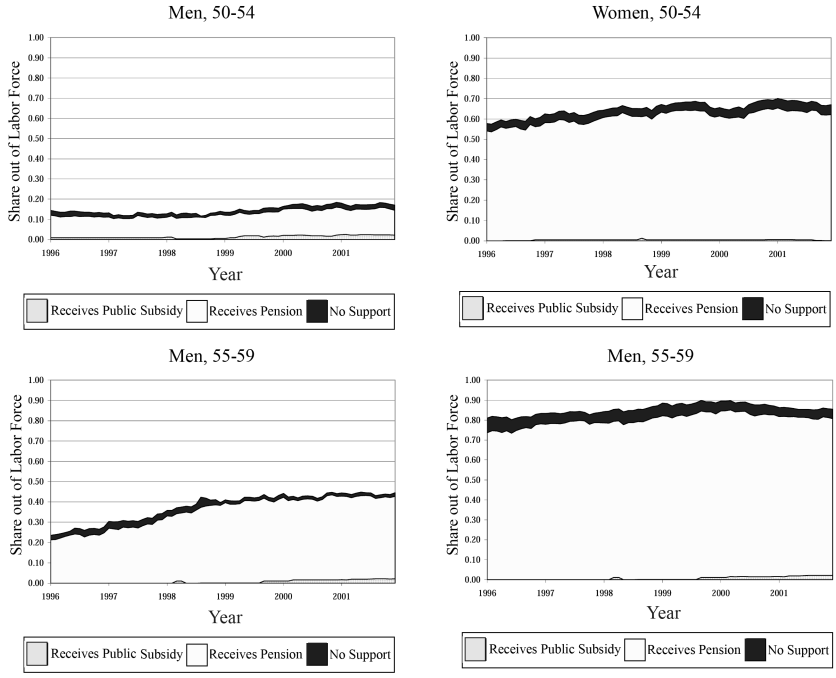
aged 40 to 50, the group experiencing the greatest employment shocks due to restructuring.

Even for those who received public support, the magnitude of support and its importance relative to private sources of support may have been limited. In the work histories, we directly asked respondents to report the most important source of financial support during each non-working spell. Table 9 reports these responses by sex and reason for job separation. For those experiencing involuntary job separations, the most frequent main source of support was income from other household members (33.7 per cent for men, 54.4 per cent for women). Forms of public support were cited by 33.5 per cent of men and 26.3 per cent of women, the most common choice being *xiagang* subsidies (24.7 per cent of men and 21.5 per cent of women). For those reporting voluntary

Figure 3: **Share of Individuals Out of the Labour Force Receiving Public Subsidies and Pensions by Gender and Age**



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Source:

China Urban Labour Survey.

separations, only 13.8 per cent of men and 12.9 per cent of women reported public support as the main source of support while not working. For retired workers, nearly all reported primary reliance on pensions.

Another way to examine the relative importance of public versus private support is to compare the level and composition of household income (including public and private transfers) and consumption per capita for households with fully employed members and those with non-working members (Table 10). All income components are annualized and household per capita averages are calculated for each of the following components: earned income (from wages and bonuses); pension income; public subsidies (*xiagang* subsidies, unemployment subsidies and MLSP payments); lump-sum severance payments;[22] and private transfers from individuals outside the household. Income per capita is listed both with and without lump sum severance payments. We also present data on household consumption per capita.[23] In households with

22. While there are just over 100 individuals reporting lump sum payments, some of them are quite large. Since these payments are often in lieu of any future pension or health benefit, it is also difficult to think of them as part of annual salary. It is likely that they reflect the unsanctioned practice of "buying up working years" in which workers receive a lump-sum payment and forsake future employment or benefit claims from the employer. For more information see Juwei Zhang, "Urban *xiagang*."

23. We do not include expenses on housing or education of children in the consumption measure listed in Table 12.

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Table 9: **Primary Means of Support When Not Working By Reason for Leaving Previous Job**

	Reason for leaving previous job			
Percent using each type of support	*Involuntary*	*Voluntary*	*Retired*	*Total*
Men				
Total job separations	368	128	231	727
Pension	0.8	0.0	93.5	30.1
Xiagang subsidy	24.7	7.0	1.7	14.3
Unemployment payment	6.3	1.6	0.0	3.4
Social welfare funds	1.6	4.7	0.0	1.7
Savings	23.1	25.8	2.2	16.9
Income of other household member	33.7	53.9	1.3	27.0
Help from other friends and family	2.7	2.3	0.4	1.9
Income from temporary job	6.3	3.1	0.4	3.9
Loans	0.5	0.0	0.4	0.4
Other	0.3	1.6	0.0	0.4
Women				
Total job separations	387	154	584	1,125
Pension	1.0	0.0	92.1	42.7
Xiagang subsidy	21.5	5.3	2.0	10.1
Unemployment payment	2.3	2.0	0.0	1.2
Social welfare fund	1.3	5.3	0.2	1.4
Savings	12.4	7.3	0.9	6.4
Income of other household member	54.4	70.0	3.9	33.6
Help from other friends and family	1.8	4.7	0.2	1.5
Income from temporary job	4.9	4.7	0.7	2.9
Loans	0.3	0.0	0.0	0.1
Other	0.0	0.7	0.0	0.1

Note:
Results are for adults who have not yet reached mandatory retirement age (60 for men and 55 for women) and who had non-work spells of greater than one month.

non-working members, public subsidies were still only a small fraction of per capita income. With one male not working, earned income per capita, presumably earned by other household members, was still more than five times the value of *xiagang* subsidies, unemployment subsidies and MLSP payments combined, and for those with one woman out of work, earned income per capita was nearly 20 times as great as the public subsidy per capita. For households with two or more adults out of work, subsidies were still less than one-third of earned income per capita earned by other adults in the household, while nearly 50 per cent of total income was from pension funds or disability payments.

Further appreciation of the coverage and leakage of the *xiagang* and registered unemployment programmes can be drawn from information describing both the benefits received and current work-status of *xiagang* and registered unemployed workers. The CULS contains information on

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Table 10: **Household Annual Per Capita Income and Consumption By Number and Gender of Working Age Household Members Out of Work**

Income components (per capita)	*Number and gender of current out-of-work working-age household members*				
	0	*1 man*	*1 woman*	*Two or more*	*All*
Earned income (salaries + bonus)	6,174	3,193	5,461	1,752	5,267
Pension and disability income (monthly)	3,449	2,172	1,763	2,345	2,816
Unemployment subsidies and MLSS	144	607	374	566	286
Lump sum severance	69	144	180	286	125
Net private transfers	5	30	− 49	42	− 2
Income per capita (excluding lump sum severance)	9,771	6,001	7,549	4,705	8,367
Income per capita (including lump sum severance)	9,840	6,145	7,729	4,991	8,492
Non-housing consumption	7,893	5,753	7,187	5,005	7,226
Number of households	2,023	311	811	353	3,498

969 workers who reported that they were current or former *xiagang* workers. Of this group, 83.9 per cent were still *xiagang* in November 2001. Only 42.3 per cent of self-described *xiagang* workers actually received formal *xiagang* registration certificates, and 35.1 per cent did not receive any living support subsidies (24.6 per cent of registered and 44.4 per cent of non-registered *xiagang* workers). Self-reported *xiagang* workers may be unregistered if they are not strictly eligible for *xiagang* status but prefer using the word to describe their situation, or if they are qualified but work units are unwilling to grant registered status because of the financial responsibilities entailed. The flipside of the incomplete coverage problem is leakage. We find that 17.4 per cent of *xiagang* workers received *xiagang* or unemployment living allowances while also working.

There is some overlap in the targeting of xiagang and unemployment subsidies. Some *xiagang* workers were registered as unemployed (15.1 per cent) and received unemployment benefits (7.7 per cent). Some *xiagang* workers were even able to receive both *xiagang* and unemployment subsidies at the same time (3.1 per cent). The new unemployment subsidies also have problems of incomplete coverage and leakage. Many unemployed workers were not officially registered as such, and of those who registered, 40.6 per cent received no subsidies. But 18.2 per cent of registered unemployed workers received some type of subsidy while

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working. Those receiving both *xiagang* and unemployment subsidies accounted for 7.1 per cent of the registered unemployed.

According to official guidelines, *xiagang* workers were required to enrol at re-employment centres, and the centres were required to provide a basic living allowance; make contributions on behalf of workers to pension, medical insurance, unemployment insurance and other social insurance pools; and organize re-training and provide referrals for re-employment.[24] In fact, only 23.8 per cent of self-reported *xiagang* workers had medical insurance, and 18.9 per cent of those with insurance experienced reimbursements arrears. Moreover, only 39.0 per cent of workers with a *xiagang* certificate and 27.5 per cent without believed that they would ever receive a pension, let alone benefit from employer pension contributions. Finally, in practice, access to retraining programmes was far from complete. Only 12 per cent of self-described *xiagang* workers reported that participation in retraining programmes was mandatory and an even lower percentage reported actually participating in a training programme.[25]

Access to private support. Evidence presented in Tables 9 and 10 suggests that pooling of income within households was an important source of insurance against job loss. After the income of other household members, the next most frequent source of private support for individuals experiencing involuntary job separations was own savings (23.0 per cent for men and 12.4 per cent for women). Loans and private transfers were the main source of support for only a tiny fraction of such individuals. The low amount of transfers and lack of correlation between transfer amounts and the work status of family members reported in Table 10 reinforces the point that private transfers from non-household members did not provide significant relief to those experiencing adverse shocks to employment.

Can household composition itself be an important source of insurance against negative income shocks? For all working age adults between 16 and 60, only 38 per cent of unemployed adults and 32 per cent of those out of the labour force lived in households with two or fewer adults, which we define to be "nuclear," while 45 per cent of working individuals lived in nuclear households. This strong correlation between living arrangement and work status may reflect a greater willingness of those living in extended families to leave jobs, or the responsiveness of living arrangements to shocks.

24. Ministry of Labour and Social Security, *Selected Important Documents on Labour and Social Security in the New Period* (Beijing: Document Research Office of the Central Committee of the Communist Party of China, China Labour and Social Security Publishing House and Central Document Publishing House, 2002).

25. This calls into question the findings of Bidani, Goh and O'Leary, which looks at the effectiveness of retraining programmes in Wuhan and Shenyang based on surveys of workers who showed up at retraining centres, since such a sample would clearly suffer from selection bias. See Benu Bidani, Chorching Goh and Christopher O'Leary, "Has training helped employ xiagang in China? A tale from two cities" (mimeo, World Bank, 2002).

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Has Economic Restructuring Got You Down?

Finally, we examine subjective evaluations of well-being based on the answers to two questions. The first measures perceptions about shocks: "How does your economic condition compare with five years ago?" Possible responses are "much better," "better," "the same" and "worse." The second question is: "Are you satisfied with your current standard of living?," a measure of perceived welfare. Possible responses are "very satisfied," "somewhat satisfied," "somewhat dissatisfied" and "very dissatisfied."

Table 11 reports the percentage of respondents who answered "worse" to the first question. For the full sample and separately for working, unemployed and out-of-the-labour-force workers, we break down the subjective shock assessment by city, demographic group, education level and sector of employment. Overall, 25.5 per cent of respondents reported a worsening of their economic condition. The percentage perceiving negative shocks was highest for the unemployed (51.2 per cent), followed by those out of the labour force (28 per cent) and those working (20.8 per cent). The number answering "worse" was highest in Wuhan (31.5 per cent), but also accounted for about 20 per cent in Shanghai and Fuzhou. The worst hit demographic group was older unemployed men aged 40 to 55. In general, older workers were most affected, while younger workers and those very near to retirement were less affected. Men who were unemployed or out of the labour force were more likely to report declines in economic conditions than women. Shocks also hit the less educated harder. Among ownership sectors, worsening economic conditions were widespread, except for those working in the government or Party, or in foreign-invested enterprises. All these results are consistent with earlier findings.

Responses to the question on current standard of living reveal relatively widespread dissatisfaction. Table 12 reports the percentage who felt "unsatisfied" or "very unsatisfied," broken down just as in Table 11. Over half of all respondents (52.3 per cent) reported dissatisfaction with their living standards at the time of the survey. Many patterns in the responses mirror those for the question on change in economic conditions. For instance, Wuhan workers were the most dissatisfied (63.8 per cent), workers aged 40 to 50 were the most dissatisfied. Those near retirement were the most satisfied, those with greater education were more satisfied, and those working for the government or Party, or foreign-invested enterprises were more satisfied. Nearly all of the correlations suggested in Tables 11 and 12 hold up when we estimate the effect of different determinants of subjective assessments in a multivariate framework.

Conclusions

The period 1996 to 2001 was a time of tumultuous change for many of China's urban workers. In this article, we have used new evidence from

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Table 11: **How Does Your Economic Condition Compare with Five Years Ago? Percent of Working Age Adults (16 to 60) Answering "Worse"**

	Work status in November 2001			
	Working	*Unemployed*	*Out of labour force*	*All*
Total	20.8	51.2	28.0	25.5
By city				
Shanghai	19.6	50.0	22.9	22.8
Wuhan	26.1	54.4	33.1	31.5
Shenyang	19.5	48.3	31.4	25.6
Fuzhou	15.7	56.2	25.7	20.9
Xi'an	19.7	48.4	32.6	25.1
By demographic group				
Men (16 to 60)	20.3	53.8	39.0	25.9
16 to 30	13.5	33.3	43.8	18.8
30 to 40	14.6	54.5	49.0	19.9
40 to 50	28.5	66.4	55.9	35.1
50 to 55	21.8	60.0	32.9	27.0
55 to 60	8.4	28.6	21.4	14.6
Women (16 to 60)	20.0	49.7	25.0	24.6
16 to 30	6.1	30.8	22.7	11.2
30 to 40	19.1	51.0	33.1	25.6
40 to 50	29.6	57.6	35.8	34.8
50 to 55	13.5	40.0	17.7	16.9
55 to 60	22.0	25.0	13.6	14.9
By education level				
Primary school and below	21.2	50.0	21.6	23.8
Lower secondary school	27.9	52.3	29.1	31.2
Upper secondary school	22.7	53.5	32.6	28.1
Post-secondary education	9.8	40.0	20.9	12.0
By ownership sector				
Government or Party	8.2	–	11.1	8.5
State-owned enterprise	20.3	55.0	30.0	26.7
State-controlled enterprise	22.0	69.6	32.1	29.1
Collective enterprise	13.6	56.7	25.4	21.2
Foreign invested enterprise	9.4	40.0	28.6	14.2
Private or individual enterprise	21.7	51.2	37.4	26.9
Other	32.9	20.0	28.6	31.4

Note:
Ownership sectors are current sectors for currently employed individuals and most recent sector for individuals who are not currently working.

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Table 12: **Are You Satistied with Your Current Standard of Living? Share of Working Age Adults (16 to 60) Answering "Unsatisfied" or "Very Unsatisfied"**

	Work status in November 2001			
	Working	*Unemployed*	*Out of labour force*	*All*
Total	48.0	83.2	51.9	52.3
By city				
Shanghai	41.6	79.2	42.9	44.8
Wuhan	59.8	88.9	61.0	63.8
Shenyang	50.5	82.2	62.1	56.8
Fuzhou	30.7	77.5	42.5	36.7
Xi'an	54.3	83.9	55.9	57.1
By demographic group				
Men (16 to 60)	47.1	84.2	63.5	52.7
16 to 30	46.8	73.9	81.3	53.5
30 to 40	44.8	87.3	71.4	49.9
40 to 50	53.9	90.7	83.1	60.6
50 to 55	41.3	82.9	58.6	47.9
55 to 60	29.2	71.4	40.5	35.2
Women (16 to 60)	47.2	82.3	48.2	50.9
16 to 30	42.9	75.0	51.5	47.7
30 to 40	49.5	83.3	65.6	56.7
40 to 50	51.7	85.6	63.4	59.4
50 to 55	30.1	90.0	37.6	36.5
55 to 60	39.0	25.0	27.1	28.7
By education level				
Primary school and below	54.2	80.8	46.1	52.1
Lower secondary school	54.7	85.1	53.7	57.8
Upper secondary school	49.9	82.4	54.9	54.5
Post-secondary education	36.1	80.0	42.4	38.3
By ownership sector				
Government or Party	26.0	–	37.0	27.4
State-owned enterprise	47.8	86.7	51.7	52.8
State-controlled enterprise	44.3	89.1	51.1	50.3
Collective enterprise	39.4	82.8	52.1	47.3
Foreign invested enterprise	34.4	60.0	57.1	39.2
Private or individual enterprise	54.7	89.3	62.6	59.4
Other	64.5	80.0	57.1	63.7

Note:
Ownership sectors are current sectors for currently employed individuals and most recent sector for individuals who are not currently working.

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surveys of working-age individuals in five large Chinese cities to examine how negative shocks to employment and benefits affected different groups of Chinese workers and how workers coped with these shocks through public and private means.

Employment shocks were large and widespread, with unemployment reaching double figures in all sample cities and labour force participation declining by 8.9 per cent over the period. These changes were similar to those experienced by some of the transition countries in Eastern and Central Europe, where, like China, labour market adjustments were primarily accomplished through changes in employment rather than real wages. China's experience was distinctive in that most job separations were involuntary, which raises the concern that workers may have had difficulty coping with shocks. Older workers and women were particularly likely to lose jobs and become unemployed or leave the labour force.

Shocks to benefits were also important. We found evidence of modest amounts of wage and pension arrears, spread relatively evenly across demographic groups. The problem was more severe in Shenyang, particularly for pensions, and Xi'an, but did not come close to reaching the same crisis proportions as in places like Russia. Declines in health benefits, which have received little previous attention, probably affected many more individuals. The health insurance coverage rate of employed workers declined by 12.9 per cent over the period. With much poorer coverage among those not working (except the retired), overall health insurance coverage rates for the urban population were surprisingly low by 2001 (56.1 per cent overall and less than 50 per cent in three of the five cities). And among those with insurance, health expenditure reimbursement arrears occurred more frequently than wage or pension arrears. Falling health care benefits were related to but not simply a problem of lost jobs. New employers in the non-state sector were much less likely to provide health insurance than SOEs. Difficulty in maintaining benefit coverage is likely to be related to the mixed success of socializing benefit provision by shifting responsibility for programme management from enterprises to municipal governments.

Public assistance programmes for dislocated workers achieved mixed success. The *xiagang* subsidy programme reached many more people than the nascent unemployment insurance programme or the MLSP. Younger workers received few subsidies despite exhibiting relatively high rates of unemployment. A substantial percentage of older workers out of work received subsidies. Most retirees, including those forced to retire early, received pension payments. But there were numerous problems with the *xiagang* programme as well. Even among the targeted group of older workers, most of the unemployed or out-of-the-labour-force individuals did not receive any subsidies. Most self-described *xiagang* workers were not registered as such, and one-fourth of the registered received no *xiagang* subsidies. There were also problems of leakage, with 20.7 per cent of self-described *xiagang* workers receiving subsidies while working. Most *xiagang* workers did not receive other

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benefits (health insurance, pension contributions) as promised, and most received no help from re-employment centres in learning new skills or finding new jobs. Even for workers lucky enough to receive subsidies, the amounts received were often relatively small.

Not surprisingly, most job-leavers reported that they relied primarily upon private assistance to support consumption when not working. By far the most important form of support was from co-resident family members, followed by own savings. Private transfers from relatives and friends outside the household were relatively unimportant. While these mechanisms reduced the effect of employment shocks on individual consumption, they only partly cushioned the negative shocks. A better understanding of private support mechanisms is an important agenda item for future research.

Overall, older workers who were in their prime earning years and often played key breadwinning roles for their families were most adversely affected by shocks. Often lacking marketable skills, they weathered the largest employment shocks, were least likely to find new jobs, and if they found new jobs the pay was lower. Many received little or no help from public subsidies. In subjective assessments, they were most likely to report declines in living standards and most likely to report being dissatisfied. Younger workers, who typically are less settled in their careers, were not hit as hard in terms of changes in employment, but many were unemployed, few received public benefits, and most were dissatisfied with their standard of living. Retired workers were relatively well-supported by pension payments and reported being most satisfied with their living standards. Women were hit harder by employment shocks, were less likely to find new jobs, but had stronger financial support from other household members. Finally, recent changes in the labour market have privileged better educated workers. Those with post-secondary education saw little change in unemployment or labour force participation, were least likely to be laid off and most likely to find new jobs, often at higher wages, and reported the highest rates of satisfaction.

Urban families in China weathered significant adversity during the period 1996 to 2001. Since the time of this survey in 2001, the number of officially laid-off (*xiagang*) workers from SOEs declined from 5.2 million to 2.6 million in 2003, which suggests that the most painful period of restructuring may be over. However, from 2001 to 2002, the registered unemployed increased from 6.8 million to 8.0 million, and the unemployment rate as measured by survey data continued to increase through 2002.[26] These shifts also reflect government efforts to phase out the *xiagang* subsidy programme and strengthen the unemployment insurance system and the MLSP. Many cities have closed down re-employment centres altogether. Unemployment insurance coverage was expanded to include older workers.[27] Under China's new leadership,

26. See Giles, Park and Zhang, "What is China's true unemployment rate?"

27. The maximum age of coverage increased from 45 to 50 for females and from 50 to 55 for males.

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government spending on the MLSP increased from 5.4 billion *yuan* in 2001 to 15.0 billion *yuan* in 2003. As China's urban workers continue to confront new challenges, effective government policies and programmes will require ongoing monitoring and analysis of the nature of economic difficulties and the functioning of public and private support mechanisms.

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