



THE WILLIAM DAVIDSON INSTITUTE
AT THE UNIVERSITY OF MICHIGAN BUSINESS SCHOOL

How has Economic Restructuring Affected China's Urban Workers?

By: John Giles, Albert Park and Fang Cai

William Davidson Institute Working Paper Number 628
October 2003

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

John Giles (gilesj@msu.edu)

Department of Economics, Michigan State University
William Davidson Institute, University of Michigan

Albert Park (alpark@umich.edu)

Department of Economics and William Davidson Institute, University of Michigan

Fang Cai (caifang@cass.org.cn)

Institute of Population and Labor Economics, Chinese Academy of Social Sciences

October 2003

Abstract

Using data from the China Urban Labor 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. Unemployment reached double digits in all sample cities and labor force participation declined by 8 percent. Urban residents faced modest levels of wage and pension arrears, and sharp declines in health benefits. Public assistance programs for dislocated workers had limited coverage, with most job-leavers relying upon private assistance to support consumption, mainly from other household members.

Keywords: labor, unemployment, China, restructuring

JEL Codes: J23, J32, J64, J65, O53, P30□

*The authors acknowledge grants to support field research from Michigan State University (Intramural Research Grants Program), the Chinese Academy of Social Sciences, Ford Foundation, and the University of Michigan (Rackham Faculty Research Grant), and support for follow-up research from the Weatherhead Center for International Affairs at Harvard University (Academy Scholars Program) and the W.E. Upjohn Institute for Employment Research. We thank seminar participants at the University of Michigan, Hong Kong University of Science and Technology, the University of Washington, and Stanford University for helpful comments.

How has Economic Restructuring Affected China's Urban Workers?

1. Introduction

Well into the post-Mao reform era, China's socialist government maintained a strong commitment to provide lifetime employment and benefits to urban workers through state-sector employment. In the late 1990s, however, financial insolvency of many state-owned urban enterprises led to aggressive enterprise restructuring that has 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 percent (National Statistical Bureau, 2002). During the same period, employment in the urban collective sector fell by 18.6 million, or nearly 60 percent.¹ Over this same period, 43 million workers were officially registered as laid off, or *xiagang*, including 34 million from the state sector (Ministry of Labor, 2002). The adjustments show no sign of letting up in light of China's recent entry into the World Trade Organization, which many forecast will cause new episodes of labor 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 labor force, there remains a glaring lack of information on even basic labor market outcomes such as

¹Employment 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.

unemployment, labor 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. Part of the problem is the poor quality of China's official labor statistics. The official unemployment rate, for example, is not based on representative sample surveys and includes only registered unemployed workers (less than 4 percent in 2001). Other available survey data have limited spatial or temporal coverage, and often do not measure employment and labor force participation in a consistent manner across regions and time periods.

In this paper, we use newly available survey data from the China Urban Labor Survey (CULS) directed by the authors at year-end 2001 in five large Chinese cities (Fuzhou, Shanghai, Shenyang, Wuhan, and Xian) to provide a detailed description of how recent shocks affected China's workers during the critical adjustment period from 1996 to 2001. The paper 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 by economic shocks. 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 paper is organized as follows. In Section 2, we describe the recent restructuring of urban enterprises, review the existing literature, and raise specific issues of concern. Section 3 describes the CULS survey data. In section 4, we analyze how economic shocks to employment and to benefits have affected different groups of urban workers. In section 5, we describe responses to shocks and evaluate the extent to which workers had access to public and private assistance mechanisms. Section 6 examines subjective welfare assessments to provide further

evidence on the vulnerability of different sub-groups of the population to the consequences of economic restructuring. A final section discusses the implications of our findings.

2. 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 to a majority of urban workers. Despite the onset of economic reform, this commitment to safeguarding the welfare of urban workers persisted well into the mid-1990s. SOEs were not privatized, and unprofitable SOEs were supported by loans from state-owned banks. During the first half of the 1990s, state employment grew by about two percent per year, with 1995 being the first year to see no growth in state sector employment (National Statistical Bureau, 2002).

By the mid-1990s, SOE losses had skyrocketed as productivity gains from decentralization and reform of managerial decision-making authority were exhausted, incentive problems associated with public ownership became increasingly apparent, and competition from the non-state sector intensified. By this time, soft budget constraints and the government's full employment goals had led to substantial redundant labor in SOEs (Dong and Putterman, 2001 and 2003; Li and Xu, 2001). The government finally moved forward with extensive enterprise restructuring as accumulated financial losses of SOEs threatened the solvency of the state-controlled financial system (Lardy, 1998). In 1994, the government began a policy of privatizing small and medium SOEs while protecting larger enterprises, or "seizing the large and letting go of the small" (*zhuada fangxiao*) (Cao, Qian, and Weingast, 1999). With the passage of the

Company Law in 1997, ownership reform began in earnest. The goal was to gradually shift all enterprises to modern forms of corporate governance with clearly defined shareholding and boards of directors, shut down unprofitable enterprises, diversify ownership, and de-link the provision of social services from individual employers by privatizing housing and shifting responsibility for the provision of health insurance and pensions to city or provincial governments.

As in other transition economies in Eastern and Central Europe and the former Soviet Union, restructuring led to widespread labor dislocation, albeit much later in the transition process. As described above, millions of workers in the state and collective sectors were laid off, unemployment rates rose into the double digits (Giles, Park, and Zhang, 2003), and many workers left the labor force. With labor retrenchment inevitable, the least productive workers may have been most vulnerable to employment shocks. Given their poor human capital due to both lower education and outdated job skills, older workers may have been particularly hard hit by the recent changes. Women also may have been targeted for layoff, either because they were viewed as less productive or less dependent on their jobs for survival. New entrants to the labor force may have found it difficult to find gainful employment when most companies were shedding labor. Unfortunately, as noted earlier, there is little information on how different Chinese workers weathered the era of restructuring.

The differing ability of state-owned enterprises to compete in a market environment also led to growing inequality in the employment benefits received by workers in different enterprises as pay, particularly bonuses, and many non-wage benefits became dependent upon the economic resources of the work unit (Benjamin, Brandt and Yuen, 2001). Anecdotal reports of wage and pension arrears leading to active protests became increasingly common, and evidence suggests

that health insurance coverage of the population declined (Liu, 2000).² Lacking ability to enforce high mandated benefit contributions from enterprises, cash-strapped municipal governments have been unable to shoulder the responsibility for benefit provision or to maintain equitable access to benefits.

To ease the pain of labor force adjustment, the government established new social welfare programs. 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 1998. Intended for permanent workers employed before labor 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 (i.e., health care and pension contributions) based on 60 percent of each worker's final wage.³ 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 reemployment centers 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 January 1, 2001.⁴ Official documentation of the implementation and history of the *xiagang* program, summarized in Zhang (2003), portrays something of a success story; most workers received mandated benefits and retraining centers had a high success rate with job referrals. However, our study finds much poorer performance in terms of both benefit coverage and re-employment.

²See Murphy (2002), Roberts (2002) and Wonacott (2002) for anecdotal evidence of protests caught by the foreign news media in the months just following the CULS. A 1997 survey in 4 cities found that 9 percent of pensioners had arrears (Ge, 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 (Drury and Arneberg, 2001).

³Benefits 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.

⁴In practice, many local governments extended benefits to 2003 (Zhang, 2003).

The government also standardized its unemployment insurance program in 1999. The program 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 unemployment insurance program. 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 program (MLSP) 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 apparatus, 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 (Zhang, 2003).

Given that similar structural adjustments occurred in other transition economies, it is of interest to compare China's labor adjustment experience with the far from uniform experiences of countries in Central and Eastern Europe and the former Soviet Union. Many countries in Central and Eastern Europe saw large employment declines along with moderate reductions in real wages, while countries in the former Soviet Union were more likely to witness smaller employment declines and larger wage adjustments (Boeri and Terrell, 2002). Boeri and Terrell (2002) argue that generous non-wage employment benefits in Central and Eastern Europe acted as a wage floor that made employment adjustment inevitable, and that this, in turn, facilitated downsizing of inefficient SOEs but may have led to higher persistent unemployment. Unemployment rates reached double digits in nearly all transition countries. Some transition countries also experienced substantial wage and pension arrears, notably Russia where 34 percent of pensioners reported serious arrears (Jensen and Richter, forthcoming). As in China,

generous benefit programs for dislocated workers were initially established and gradually reduced (Boeri, 2000). Interestingly, a substantial part of the large employment fall in transition countries was in the form of voluntary quits rather than forced departures, which brought labor force participation rates down from their abnormally high rates at the outset of reform (Boeri and Terrell, 2002; Boeri, 2000).

3. The China Urban Labor Survey

The China Urban Labor Survey (CULS) was conducted at year-end 2001 by the Institute for Population and Labor Economics at the Chinese Academy of Social Sciences (CASS-IPS), working with provincial and municipal government statistical bureaus. The authors collaborated in the design and execution of the survey.

The CULS was conducted in five cities: Fuzhou, Shanghai, Shenyang, Wuhan, and Xian. The cities were chosen to provide regional diversity and variation in the size of the state versus private sectors. Fuzhou and Shanghai are coastal cities that have enjoyed outstanding economic performance throughout the reform period, while Shenyang in the northeast, Wuhan in central China, and Xian in northwest China are interior cities with large, struggling state industrial sectors that have experienced more painful restructuring. Summary data on each of the five cities are provided in Table 1. Three of the cities 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 Xian. Summary statistics for the pooled sample employ weights based on the sampling rate in each city as well as the number of adults in each individual's household (the CULS surveyed a representative sample of households, not individuals, 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.

Within each city, a proportional population sampling approach was used to sample an average of 15 registered urban households in each of 70 neighborhood clusters.⁵ Each household head was asked questions about the family, and then all family members above age 16 who were no longer in school were interviewed individually. We conducted surveys in 3499 households (700 in each city), and completed surveys of 8109 adults over age 16. At the time of the survey, 5787 adults were under mandatory retirement age and 4238 were currently employed. The survey had a non-response rate of 16.5 percent, of which 6.5 percent of households could not be found, 4.9 percent had moved, and 5.1 percent refused to be interviewed.⁶

In this paper, we study individuals living in households with local urban permanent residence permits only, and do 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

⁵Local statistical bureau offices assisted in developing sample frames and in providing local enumerators and supervisors who were trained and monitored by the project research team. The sampling had three stages. The November 2000 population census data was used to sample neighborhood clusters. In the first stage, neighborhoods (*jiedao*) in a city were chosen. All neighborhoods were listed with their population size, a sampling distance was calculated by dividing the total population of the city by the number of neighborhoods to be chosen, a starting point was chosen randomly, and each sampled neighborhood was selected based on the sampling distance. Using the same procedures, in stage two, communities (*shequ*), previously known as residents' committees (*juweihu*), were chosen within each neighborhood, and in stage three, registered urban households were selected using sampling frames constructed from household lists provided by community offices at the time of the survey. An average of 10 households in each community were chosen to be interviewed, and an additional 5 were selected to be available for interviews in cases of non-response.

⁶This refusal rate compares favorably with the first round refusal rates of two influential surveys from transition and developing countries: the Russian Longitudinal Monitoring Survey (RLMS) and the Indonesia Family Life Survey (IFLS).

appropriate.⁷ In the 2000 Population Census, registered urban households comprise 76 percent 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 programs since January 1996.⁸ 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.

4. Economic shocks in urban China

A. 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 labor 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.⁹ Individuals in the labor force are those who were working (employed) or not working but looking for work (unemployed). The UR is the share of the labor force that is unemployed, the LFPR is the share of all working-age adults who are in the labor force, and the ER is the share of all working-age adults who are employed. These definitions imply the following identity: $ER = (1-UR) LFPR$. One common measurement challenge is distinguishing whether an individual is unemployed or out of the labor force, which can depend on the

⁷The CULS included a separate survey of migrants, but the data from that survey is not used in this study.

⁸English language translations of the CULS instruments can be found at: <http://www.msu.edu/~gilesj/>

⁹This definition of the unemployment rate is not fully consistent with ILO standards, which, for example, is 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 (Giles, Park, and Zhang, 2003).

definition of what constitutes job search. Also, some respondents, particularly older workers, may be embarrassed to admit their inability to find work, feel discouraged from job search, or ex-post rationalize their current work status, and so report themselves as out of the labor force rather than unemployed.

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. Our calculations assume that recall is accurate and that those interviewed in 2001 are representative of the labor 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.¹⁰ Also, because the CULS sample frame excludes students in school who have never entered the labor 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.

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 7.2 to 12.9 percent, the LFPR fell from 82.7 to 74.5 percent, and the ER fell from 77.0 to 64.8 percent. Looking at the breakdowns by gender, we find sharper increases in UR and sharper declines in LFPR for women than for men. At the beginning of the recall period, the unemployment rate already was higher for women (8.2 percent) than men (6.3 percent). By

¹⁰We may underestimate earlier unemployment and overestimate the LFPR if non-working adults were more likely than working adults to migrate or die. However, migration of urban residents is sharply circumscribed by China's residential registration system, and it is also possible that migrants are more likely to be those with more skills and job opportunities elsewhere, which would reverse the direction of bias. In any case, migration and mortality rates in urban China do not appear to be high enough to explain the dramatic trends that we observe.

the end of the period, women's UR jumped by 6.7 percent to reach 14.9 percent, while men's UR rose by 5.1 percent to reach 11.4 percent. The scale of female exit from the labor force further underscores the differential impact that transition had on women. Over the recall period, the LFPR of working-age women fell by 10.6 percent, from 73.4 percent to 62.8 percent, while that of men declined by 6.9 percent, to 85.7 percent in November 2001.

Next, we examine trends in work status by demographic group (Figures 2 and 3, Table 2). Employment shocks, as measured by increased unemployment or departures from the labor force, appear to be greatest for older workers approaching mandatory retirement age (60 for men, 55 for women) and for older workers. For men, the rise in UR is greatest for those aged 50 to 55 (from 2.5 percent to 11.5 percent), followed by those aged 40 to 50 (from 3.9 to 10.4 percent). 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 percent. For women, the increase in UR also was largest for older workers, remarkably more than tripling from 4.6 percent to 17.2 percent for those aged 40 to 50. In contrast, the UR actually fell slightly for women aged 16 to 30 (14.3 to 13.2 percent).

Decreases in labor force participation were most pronounced for individuals approaching mandatory retirement age, and likely 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 a remarkable 20 percent, from 76.4 to 56.4 percent, and the decline also was substantial for those aged 40 to 50 (96.9 to 89.0 percent). The LFPR of both young men and women (aged 16 to 30) changed little. The decline in the LFPR of women was greatest for older cohorts, falling from 81.5 to 66.7 percent or (a decline of 14.8 percent) for women aged 40 to 50, and from 42.3 to 33.4 percent for those near mandatory retirement age (aged 50 to 55).

Overall, from January 1996 to November 2001, older workers (those over 40)

experienced the most severe employment shocks. For both men and women, those aged 40 to 50 witnessed the largest increase in the UR and for women, this group also experience the greatest decline in the LFPR. Those near retirement age, especially men, also stopped working in large numbers, mainly through departures from the labor force. Younger men and women aged 16 to 30 experienced relatively high rates of unemployment but not as large increases in the UR as other age groups. In fact, the unemployment rate of younger women actually declined. Also, in contrast to older workers, there was no decline in the labor force participation of younger workers.

Table 2 also provides breakdowns of changes in work status by city, educational attainment, and ownership sector of most recent employment. Wuhan had the highest UR (17.2 percent in November 2001) and greatest increase in the UR (7.9 percent). Shanghai and Fuzhou had the second and third greatest increases in the UR (5.7 and 4.2 percent), but the lowest levels. Xian and Shenyang had the lowest UR increases but in November 2001 still had higher UR levels than the coastal cities. All cities had unemployment rates above 10 percent in November 2001. The largest declines in LFPR occurred in Shanghai (6.9 percent), followed by Wuhan (4.2 percent). 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.

Employment shocks were strongly correlated with educational attainment. College educated workers showed little change in their UR and little appreciable decrease in their LFPR. The UR of high school graduates increased from 6.9 percent to 14.1 percent, while their LFPR changed little. Those with less than high school education showed the highest increases and levels of UR and significant declines in LFPR. The LFPR of individuals with only lower

secondary school education fell from 78.2 percent to 61.8 percent.

Looking at employment status by ownership sector of most recent employment, we not surprisingly see a sharp jump in the unemployment rate of individuals in the state-owned, state-controlled and collective sectors, and a sharp fall in LFPR in these same sectors. On the other hand, for those in the private and foreign-invested sectors, the UR fell and the LFPR increased.

To investigate the determinants of labor outcomes in a multivariate framework, we estimate probit models of unemployment and labor force participation 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 also can see how the importance of different factors changed over time. The independent variables are sets of dummy variables for educational attainment, age group, and city. The dummy variables are defined so that the reference category is workers aged 16 to 30 with “elementary or less” education in Shanghai. We report marginal effects and their standard errors in Table 3.

Conditional on being in the labor force, the marginal probability of being unemployed in comparison to younger workers decreased over time for each male age group, but the differences are not statistically different in either year. The probability of unemployment was more strongly influenced by education. For men, those with post-secondary education were 5.9 percent less likely to be unemployed than those with elementary education or less in 1996, and 6.5 percent less likely in 2001. For women, the importance of education is greater and increasing faster; the comparable marginal probabilities in 1996 and 2001 were -7.1 and -17.4 percent, respectively.¹¹

¹¹This result is consistent with other findings showing rising returns to education in urban China, especially for women (Zhang and Zhao, 2002).

Thus, conditional on being in the labor force, education is more important than age for determining employment outcomes.

Interestingly, unlike for unemployment, age does appear to significantly affect labor force participation even after controlling for education. The marginal probability of men in the 50 to 54 and 55 to 59 age groups remaining in the labor force relative to younger workers fell sharply between January 1996 and November 2001. For women, a significant drop in marginal probabilities of labor force participation compared to younger workers occurs at all age levels, and became significantly negative for those aged 40 to 49, who by year-end 2001 were 20 percent less likely to be in the labor force than younger women. Women aged 50 to 54 were already 42.8 percent less likely than young women to be in the labor force in 1996, but this declined further to 50.3 percent less likely in 2001. Controlling for age, the positive effect of education on the likelihood of labor force participation also became more significant over time for both men and women. Men and women with post-secondary education were 5.6 and 21.6 percent more likely to be in the labor force than the least educated group in 1996, but 14.1 and 30.3 percent more likely in November 2001. Finally, we note that nearly all of the city differences are not statistically different.¹²

To evaluate gender bias, we also estimate pooled regressions including data for men and women and adding a dummy variable for gender. 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 percent more likely in November 2001. Women were 15.8 percent less likely to be in the labor force at the beginning of the period and 22.8 percent less likely at the end. Overall, gender bias in employment status appears to have increased over time.

Are Job Separations Voluntary?

¹²Men in Wuhan and women in Wuhan and Shenyang are more likely to be unemployed or out of the labor force.

One of the concerns about substantial declines in LFPR, especially among older workers, is that such workers may not have left the labor force voluntarily. As noted earlier, they may feel discouraged, incapable of finding suitable new work, or feel better 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 labor market. Thus, it is of interest to understand 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 involuntary dismissals. The remaining reasons for job separations are voluntary departures, mandatory retirement, and “other.” Overall, 60.3 and 64.4 percent of job separations of men and women were involuntary and non-mandatory. These total percentages include 29.0 and 21.8 percent explicitly related to restructuring, 15.6 and 31.1 percent forced early retirements and 15.8 and 11.4 percent other involuntary dismissals (these latter two reasons also could be related to restructuring). Only 25.9 and 19.0 percent 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.

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 percent of job separations for women aged 40 to 49 and 88.1 percent for women aged 50 to 54 were in the form of early

retirement, and the majority of these women reported that retirement was involuntary. 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.

B. Changes in wages and benefits

Changes in wages and benefits are another important dimension of shocks that may have affected large numbers of urban workers, even those fortunate enough to keep their jobs. Information on such shocks is particularly lacking in the existing literature. Wage shocks 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 still working), pension arrears (for retired workers), and changes in housing benefits. In this section, we focus on wage arrears, changes in health insurance coverage, and health expenditure reimbursement arrears of employed working-age individuals, as well as pension and health care 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.¹³

Wage, pension, and health expenditure reimbursement arrears are typically related to temporary cash flow problems of employers, and may reflect the poor financial health of enterprises or signal potential bankruptcy or layoff in the future. Overall, 10.6 percent of working-age adults who worked during the 1996 to 2001 period experienced wage arrears at some point during that period (column 1, Table 5). Less than four percent 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 to ever be paid. There is considerable variation in wage arrears across cities. In Shenyang and Xian, about 23 percent of workers experienced wage arrears (7.8 and 6.4 percent in default), followed by Wuhan (13.6 percent), Fuzhou (5.7 percent), and Shanghai (2.1 percent). Wage arrears are spread relatively evenly across demographic groups, with over 10 percent 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 percent). Wage arrears are much more prevalent among less educated workers (14.6 percent for those with lower secondary school education, 10.8 percent for those with upper secondary education, and 5.7 percent 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

¹³Wage 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 percent 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, mainly because of the potentially explosive social and political repercussions.

the beginning and end of the recall period (columns 2 and 3, Table 5). Overall, coverage fell substantially, from 81.6 percent in January 1996 to 68.7 percent in November 2001. Declines were greater for women (75.7 to 61.0 percent) than men (84.5 to 74.3 percent). They were most dramatic in Shanghai (decline of 17.0 percent) and Xian (16.4 percent), followed by Fuzhou (11.9 percent), Wuhan (8.2 percent), and Shenyang (6.4 percent). However, by the end of the period, Shanghai still had the highest coverage rate (74.6 percent) and Shenyang the lowest (53.5 percent). 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. We found no evidence of large numbers of employees losing insurance outright while working with the same employer. Given that the ER declined over time and non-working individuals were 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.

In column 5 of Table 5, we report health insurance coverage rates for all individuals aged 16 to 60 in November 2001, whether working or not working, based on responses to an independent question on current health insurance status. Overall, 56.1 percent of working age adults in the five city CULS survey had health insurance, of which only 6.1 percent of adults purchased insurance themselves. Shanghai had by far the highest coverage rate (87.4 percent), followed by Xian (57.5 percent), Fuzhou (48.7 percent), Wuhan (46.2 percent), and Shenyang (39.1 percent). 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 percent 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 percent of employed working-age adults had health insurance coverage, compared to only 35.4 percent of those who were not working. In comparing coverage rates of different demographic groups, we find that a higher percentage of men than women in each age category had health insurance coverage. Among older workers, who have much greater potential for health problems, men were much more likely to have health insurance provided by employers. Overall, women closer to retirement age were more likely to have coverage, but the share with employer-provided health insurance declined for the 50-55 cohort approaching mandatory retirement. 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 are even more common than wage or pension arrears. Overall, 22.1 percent of working-age adults with health insurance report health expenditure reimbursement arrears (column 2, Table 5). The variation across cities in health expenditure reimbursement arrears is quite different than for wage and pension arrears, and follows more closely differences in city income per capita. Xian has by far the greatest prevalence, at 38.2 percent, followed by Shenyang (27.7 percent), Wuhan (19.5 percent), Fuzhou (18.9 percent) and Shanghai (18.9 percent). Unlike other types of arrears, we don't see a significant difference in arrears across demographic or education categories conditional on having insurance.

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 percent of retirees were below mandatory retirement age at the time of the survey). We find that 10.6 percent of retirees report experiencing 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 percent 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 percent compared to 56.1 percent), but conditional on having insurance, the incidence of health expenditure reimbursement arrears was much greater (29.9 percent compared to 22.1 percent). 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 labor policy reforms was to “socialize” the work benefit system by shifting responsibility for their 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 percent of employed workers with health insurance received socialized benefits, but by November 2001, the share had increased to 55.7 percent.¹⁴ 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 percent in Shanghai, 50.5 percent in Xian, 35.6 percent in Fuzhou, 11.4 percent in Wuhan, and 9.1 percent in Shenyang. Shanghai also led the way in socializing pension benefits.

¹⁴Access to socialized insurance and pensions still requires that firms and employees are making contributions to city-wide insurance pools. For this reason, both the health of firms and the monitoring and enforcement capacity of the local Ministry of Labor and Social Security office are important for determining the coverage of workers under the socialized health insurance and pension programs.

By 2001, 93.9 percent of pensioners in Shanghai received their pension payments from government offices rather than their enterprise, compared to 69.5 percent in Fuzhou, and roughly 60 percent in the other three cities. In all of the cities, the share receiving socialized pension benefits in 1996 was between 15 and 25 percent.

5. 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 programs, turn to family and friends, or draw upon their own savings or other assets. Workers who formally retire may be eligible for pension payments. In this section, we evaluate the extent to which workers adversely affected by recent economic shocks have been able to find support through these various mechanisms.

A. Reemployment

For workers who lose jobs involuntarily, finding new jobs in as short a time as possible may be the best way to avoid large welfare reductions associated with lost pay and benefits. However, even if one finds a new job, the extent to which reemployment cushions the original employment shock depends upon the duration of non-employment and the difference in the wages and benefits provided by the new job in comparison to the old job.¹⁵ 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. Many workers also leave jobs

¹⁵A literature on the long-term effects of worker dislocation in the US suggests that individuals who experience layoffs have persistently lower income and that this is reflected in persistent downward adjustments to household consumption per capita. See Stephens (2001) for an example and a useful review of this literature.

voluntarily in the hopes of finding better jobs or when a better job offer is already in hand. Thus, the dynamics of reemployment may vary considerably depending on the reason for job separation. We are particularly interested in the reemployment of those suffering from employment shocks due to restructuring.

Between January 1996 and November 2001, the CULS documented 2705 job separations of working-age adults. As shown in Table 7, 34.8 percent of individuals experiencing job separations were employed again within 12 months of leaving their jobs, and 44.7 percent were employed again by November 2001. In Shanghai and Fuzhou, cities hit less hard by restructuring, about 42 percent of individuals were employed again within 12 months. In Shenyang, Wuhan, and Xian, only 29 to 30 percent 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 reemployed within 12 months was higher than the share of women. For both men and women, there was a significant decline in the share reemployed within 12 months for those over age 40. Individuals with more education were more likely to be re-employed within a year.¹⁶

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 percent were reemployed within 12 months and 70.7 percent were employed by November 2001. In contrast, of those losing jobs because of restructuring or other involuntary reasons, only 38.0 and 31.7 percent found new jobs within 12 months. The reemployment rate was even lower for those who said they had retired early.

¹⁶When we analyze out of work duration in a multivariate framework using a duration model, we find that these age, gender and education effects remain present and significant.

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

During the late 1990s, China's policymakers hoped that demand for laborers in the non-state sector would absorb laid-off workers from the state sector. Has labor, in fact, shifted from the state to non-state sector? Table 8 displays a transition matrix with ownership sector of previous job 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 percent were still out of work in November 2001. Of the 35.5 percent who found new employment, only 8.5 percent, or less than one fourth of reemployed workers, found work in state-owned enterprises, while 7.0 percent found jobs in collective enterprises. Also, 14.2 percent of former SOE employees (about 40 percent of the employees who found new jobs) found their new job 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 workers actually do better with new employers? Again, the answer to this question depends upon the reason for job separation. Columns 3 to 5 of Table 7 provide summary information on changes in nominal wages when individuals change jobs. The first column reports mean percent changes in wages from previous job to new job for individuals who change jobs. The second and third columns report the share of respondents with lower and higher nominal wages, respectively. Workers under age 40 experienced an increase in mean nominal wages, while those over 40 saw average wages decline. The decrease in nominal wage was largest for those workers in the

cohort five years before mandatory retirement. Given that older workers have less human capital and likely found 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. At first blush, this would suggest a conclusion similar to Appleton et al (1992), which contrasts with findings in many countries that job loss is associated with a permanent decrease in wages. It is important to keep in mind, however, that nearly 60 percent 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 in their nominal wage when changing jobs.

New jobs may also restore employment-related benefits, unless new employers tend to be foreign or private firms that provide fewer benefits than SOEs. Take the case of health insurance. Of the 1120 workers in the CULS who found new jobs after ending job spells, 80 percent did not receive health insurance benefits in their new jobs. For individuals with employer provided health insurance in their previous job, 73 percent did not receive health insurance benefits in their next job. Thus, even when reemployment restored wage income, it often did not reverse lost benefits associated with departures from state-sector employment.

B. Access to Public Support

The three main social insurance programs 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 have had access to these different forms of public support has been an important but poorly understood policy question.

Figure 4 repeats the plots of unemployment rates by demographic groups from Figure 2, but further breaks down the unemployed in each demographic group into three categories: the share with access to *xiagang* subsidies or unemployment insurance (shaded in gray); 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 percent of unemployed workers under age 30 had access to public support, and even for those aged 30 to 40, fewer than 30 percent of unemployed men and 25 percent of women had access to *xiagang* or unemployment subsidies. For men aged 40 to 55 and women aged 40 to 50, coverage was better, with over half of the unemployed receiving public 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 labor force, again broken down by gender and age group (Figure 5). For women over 40 and men over 50, large majorities of workers who were neither working nor looking for work received pensions.

Otherwise the patterns of support are similar to those for the unemployed. Again, among younger workers who were out of the labor force, especially those below age 30, very few received public support. Among those aged 40 to 49, more than half of men received subsidies (similar to the support received by the unemployed) but relatively few women did (most relied on pensions).

Overall, we find that younger workers had very poor access to public support compared to older workers. As workers neared retirement, it was increasingly likely that non-employed workers, especially those out of the labor force, received pensions. Considering all forms of public support, including pensions, we find that the coverage of public support increased monotonically with the age group 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 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 gender and reason for job separation. For those experiencing involuntary job separations, the most frequent main source of support was income from other household members (33.8 percent for men, 54.0 percent for women). Forms of public support were cited by 33.5 percent of men and 26.3 percent of women, the most common choice being *xiagang* subsidies (24.7 percent of men and 21.5 percent of women). For those reporting voluntary separations, only 13.8 percent of men and 12.9 percent of women reported public support as the main source of support while not working. For retired workers,

nearly all reported primary reliance on pensions. Overall, except for those who retired, private forms of support were the main source of support for workers experiencing job separations, even for those whose separations were involuntary. However public support did effectively target a relatively large fraction of those experiencing involuntary job separations.

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;¹⁷ and private transfers from individuals outside the household. Income per capita is listed both with and without lump sum severance payments, followed by household annual consumption per capita.¹⁸ The combined value of public subsidies per capita peaks for households whose oldest member was aged 40 to 50. However, in households with non-working members, public subsidies were only 20 percent of per capita income. With one person not working, earned income per capita, presumably earned by other household members, was still more than twice the value of *xiagang* subsidies, unemployment subsidies, and MLSP payments combined. For households with two or more adults out of work, subsidies were roughly equal to earned income per capita earned by other adults in the household.

¹⁷While there are just over 100 individuals reporting lump sum payments some of them are quite substantial. 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 these large payments reflect an unsanctioned practice known as “buying up of working years” in which workers receive a lump-sum take it or leave it payment to buy them out of their jobs and associated benefits. For more information see Zhang (2003). For these reasons we report income for the most recent year both including and excluding lump-sum severance payments.

¹⁸We do not include expenses on housing or education of children in the consumption measure listed in Table 12.

Further appreciation of the coverage and leakage of the *xiagang* and registered unemployment programs 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 969 workers who reported that they were current or former *xiagang* workers. Of this group, 83.9 percent were still *xiagang* in November 2001. Only 42.3 percent of self-described *xiagang* workers actually received formal *xiagang* registration certificates, and 35.1 percent did not receive any living support subsidies (24.6 percent of registered and 44.4 percent of non-registered *xiagang* workers). Self-reported *xiagang* workers may be un-registered 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 percent 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 percent) and received unemployment benefits (7.7 percent). Some *xiagang* workers were even able to receive both *xiagang* and unemployment subsidies at the same time (3.1 percent). 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 percent received no subsidies. But 18.2 percent of registered unemployed workers received some type of subsidy while working. Those receiving both *xiagang* and unemployment subsidies accounted for 7.1 percent of the registered unemployed.

According to official guidelines (Ministry of Labor and Social Security, 2002), *xiagang*

workers were required to enroll at re-employment centers, and the centers were required to provide a basic living allowance; make contributions on behalf of workers to pension, medical insurance, unemployment insurance and other social security pools; and organize re-training and provide referrals for re-employment. In fact, only 23.8 percent of self-reported *xiagang* workers had medical insurance, and 18.9 percent of those with insurance experienced reimbursements arrears. Moreover, only 39.0 percent of workers with a *xiagang* certificate and 27.5 percent without believed that they would ever receive a pension, let alone benefit from employer pension contributions. Finally, in practice, access to retraining programs was far from complete. Only 12 percent of self-described *xiagang* workers reported that participation in retraining programs was mandatory and an even lower percentage reported actually participating in a training program.¹⁹

B. 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. Overall, most individuals experiencing involuntary job separations reported that the main source of support came from private sources. Aside from income from other household members, the next most frequent source of private support was own savings (23.0 percent for men and 12.4 percent for women). Loans and private transfers were the main source of support for only a tiny fraction of such individuals. Private support was even more important for those voluntarily leaving jobs; for such individuals, other household members were by far the most important source of support when not working. For retirees, very few reported primary reliance on private sources of support; rather, pensions were

¹⁹This calls into question the findings of Bidani, Goh, and O’Leary (2002), which looks at the effectiveness of retraining programs in Wuhan and Shenyang based on surveys of workers who showed up at retraining centers, since such a sample would clearly suffer from selection bias.

nearly always the main source of support.

Table 10 reinforces the point that private transfers from non-household members were unlikely to provide significant relief for those experiencing adverse shocks to employment. Families headed by an adult in the 40 to 49 age group, with one non-working man, had private transfers that accounted for only 3 percent of non-housing consumption, compared to net transfers out in households in which all adults were working. Among some demographic groups, net transfers received were negative (reflecting a transfer out) in spite of the fact that the household had one or more unemployed family members. Assistance in the form of private transfers was not appreciably higher in families with more than one adult out of work. It is possible that unobserved characteristics of families with non-working members and with fully employed members could bias simple comparisons of private transfers. However, few individuals suffering from shocks subjectively report such transfers as being important (Table 9). When we estimate the determinants of net transfers received in 2001 as a function of household employment shocks (and instrument shocks with industry-city employment changes as in Jensen and Richter, forthcoming), we find that the responsiveness of private transfers to shocks, although larger than suggested by Table 10, remains relatively small as a share of consumption.²⁰

Comparisons of income and consumption of households with working and non-working members reveal potential differences in the ability of households to smooth income shocks. For each age group, the income and consumption of households with a man not working relative to

²⁰We estimated a linear version of $T = f(UM, PEN, Z, E, CITY)$, where T is the inverse hyperbolic sign of net transfers received per capita (a log-like transformation amenable to zeros). T is a function of unemployed months per capita experienced by household members (UM), exogenous pension receipts per capita (PEN), a set of family demographic variables (Z) that includes number of adult males, adult females and children, and shares of adults in different age categories; family education variables (E) defined as the share of adults with lower middle school, upper middle school, and post-high school education; and a set of dummy variables for city of residence (CITY). We find that an additional month of unemployment per capita increases private transfers by 55.2 yuan per capita when transfers are close to zero, far from enough to cover an individual's living expenses for one month.

fully employed households was much lower than that of households with a woman not working. These differences also were greatest when household heads were middle-aged (aged 30 to 50). Greater vulnerability of middle-age workers could reflect the fact that younger and older workers were more likely to live in households with two generations of workers. Nonetheless, the effect of non-employment on income per capita was much greater, on average, than its effect on consumption per capita. For households headed by middle-aged workers, those with a non-working male had household earnings per capita equal to one third of households with fully employed members, but non-housing consumption per capita was two thirds of the average for fully employed households.

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 percent of unemployed adults and 32 percent of those out of the labor force lived in households with two or fewer adults, which we define to be “nuclear”, while 45 percent 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.

6. 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. It reads, “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.”

In Table 11, we report the percentage of respondents who answered “worse” to the first question. For the full sample and separately for working, unemployed, and out of the labor force workers, we break down the subjective shock assessment by city, demographic group, education level, and sector of employment. Overall, 24 percent of respondents reported a worsening of their economic condition. The percentage perceiving negative shocks was highest for the unemployed (47.8 percent), followed by those out of the labor force (26.6 percent) and those working (19.4 percent). Those answering “worse” was highest in Wuhan (30.5 percent), but also accounted for about 20 percent of respondents 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 labor 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 of these results are consistent with earlier findings.

Responses to the question on current standard of living bely 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 (51.7 percent) 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 are the least satisfied (63.7 percent), older but not oldest workers are the least satisfied, those near retirement are the most satisfied, those with greater education are more satisfied, and those working for the government or party, or foreign-invested enterprises are 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 by estimating probit models of whether respondents report worse economic conditions over the past five years or dissatisfaction with current living standards (not reported).²¹ The results strongly reinforce the earlier findings that older workers aged 40 to 50 appear to have been hit the hardest and be most vulnerable to shocks.

7. Conclusions

The period 1996 to 2001 was a time of tumultuous change for many of China's urban workers. In this paper, we have used new evidence from 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 digits in all sample cities and labor force participation declining by 8 percent over the period. These changes were similar to those experienced by some of the transition countries in Eastern and Central Europe, where, like China, labor market adjustments were primarily accomplished through changes in employment rather than real wages. China's experience was distinctive in that most job leaving was involuntary, which should also raise 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 labor force.

Benefit shocks were also important. We found evidence of modest amounts of wage and

²¹These were specified in the same way as the probit models for unemployment and labor force participation and shown in Table 3.

pension arrears, spread relatively evenly across demographic groups. The problem was relatively more severe in Shenyang, particularly for pensions, and Xian, but did not reach the same crisis proportions as in 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 percent 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 percent overall and less than 50 percent 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 nonstate sector were much less likely to provide health insurance than SOEs. Difficulty in maintaining benefit coverage is likely related to the mixed success of socializing benefit provision by shifting responsibility for program management from enterprises to municipal governments.

Public assistance programs for dislocated workers achieved mixed success. The *xiagang* subsidy program reached many more people than the nascent unemployment insurance program 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* program as well. Even among the targeted group of older workers, most of the unemployed or out-of-the-labor-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 percent of self-described *xiagang* workers receiving subsidies while working. Most *xiagang*

workers did not receive other benefits (i.e., health insurance, pension contributions) as promised, and most received no help from reemployment centers in learning new skills or finding new jobs.

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 career trajectories, 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 labor market have privileged better educated workers. Those with post-secondary education saw little change in unemployment or labor force participation, limited shocks to benefits, 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.

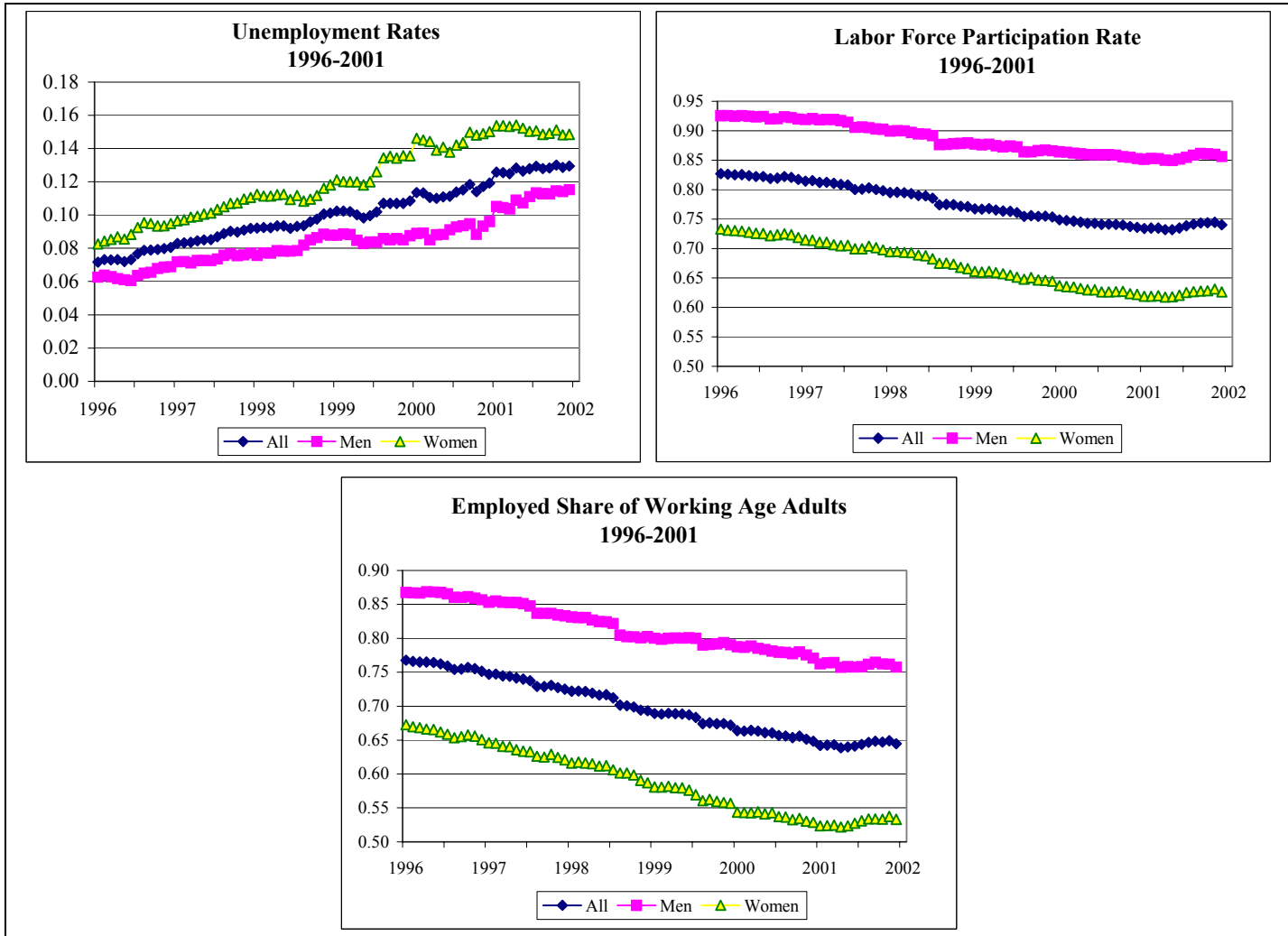
Urban families in China weathered substantial and widespread adversity during the period 1996 to 2001. While it would be hard to describe the situation as having reached crisis proportions, designing appropriate policies will be a serious challenge for China's new leadership for some time, and will require ongoing monitoring and analysis of the nature of economic difficulties and the functioning of public and private support mechanisms.

References

- Appleton, Simon, John Knight, Lina Song, and Qingjie Xia (2002). "Labor Retrenchment in China: Determinants and Consequences," *China Economic Review* 13: 252-275.
- Benjamin, Dwayne, Loren Brandt and Terrence Yuen (2003). "Employment Dynamics in State Owned Enterprises During Economic Transition," mimeo, University of Toronto.
- Bidani, Benu, Chorching Goh, and Christopher O'Leary (2002). *Has Training Helped Employ Xiagang in China?: A Tale from Two Cities*, mimeo, The World Bank.
- Boeri, Tito (2000). "Transition with Labor Supply," William Davidson Institute Working Paper No. 274.
- Boeri, Tito, and Katherine Terrell (2002). "Institutional Determinants of Labor Reallocation in Transition," *Journal of Economic Perspectives* 16(1): 51-76.
- Cao, Yuanzheng, Yingyi Qian, and Barry Weingast (1999). "From Federalism, Chinese Style, to Privatization, Chinese Style," *Economics of Transition* 7(1): 103-131.
- Dong, Xiao-yuan, and Louis Putterman (2003). "Soft Budget Constraints, Social Burdens, and Labor Redundancy in China's State Industry," *Journal of Comparative Economics* (March).
- Dong, Xiao-yuan, and Louis Putterman (2001). "The Emergence of Labor Redundancy in China's State Industry: Findings from a 1980-1994 Data Panel," *Comparative Economic Studies* 43(2): 111-128.
- Drury, David, and Marie W. Arneberg, eds. (2001). *No More Forever: The Chinese Labour Force in a Time of Reform*, Norway: Fafo Institute for Applied Social Science.
- Ge, Yanfeng (1998). *Report on Urban Employment: Survey in Shenyang, Qingdao, Changsha, and Chengdu (Shenyang, Qingdao, Changsha, Chendu si chengshi chengzheng jumin jiuye zhuangkuang chouyang diaocha fenxi baogao)*, Beijing: UNDP.
- Giles, John, Albert Park, and Juwei Zhang (2003). *What is China's True Unemployment Rate?*, mimeo, University of Michigan.
- Jensen, Robert T. and Kaspar Richter (forthcoming). "The Health Implications of Social Security Failure: Evidence from the Russian Pension Crisis," *Journal of Public Economics*.
- Lardy, Nicholas R. (1998). *China's Unfinished Economic Revolution*, Brookings Institution Press, Washington, D.C.
- Li, Guo, and Colin Lixin Xu (2001). "State-Owned Enterprises, Labor Redundancy, and Job Creation: the Experience of the Chinese Provinces," *China Economic Quarterly* 1(1): 97-110.

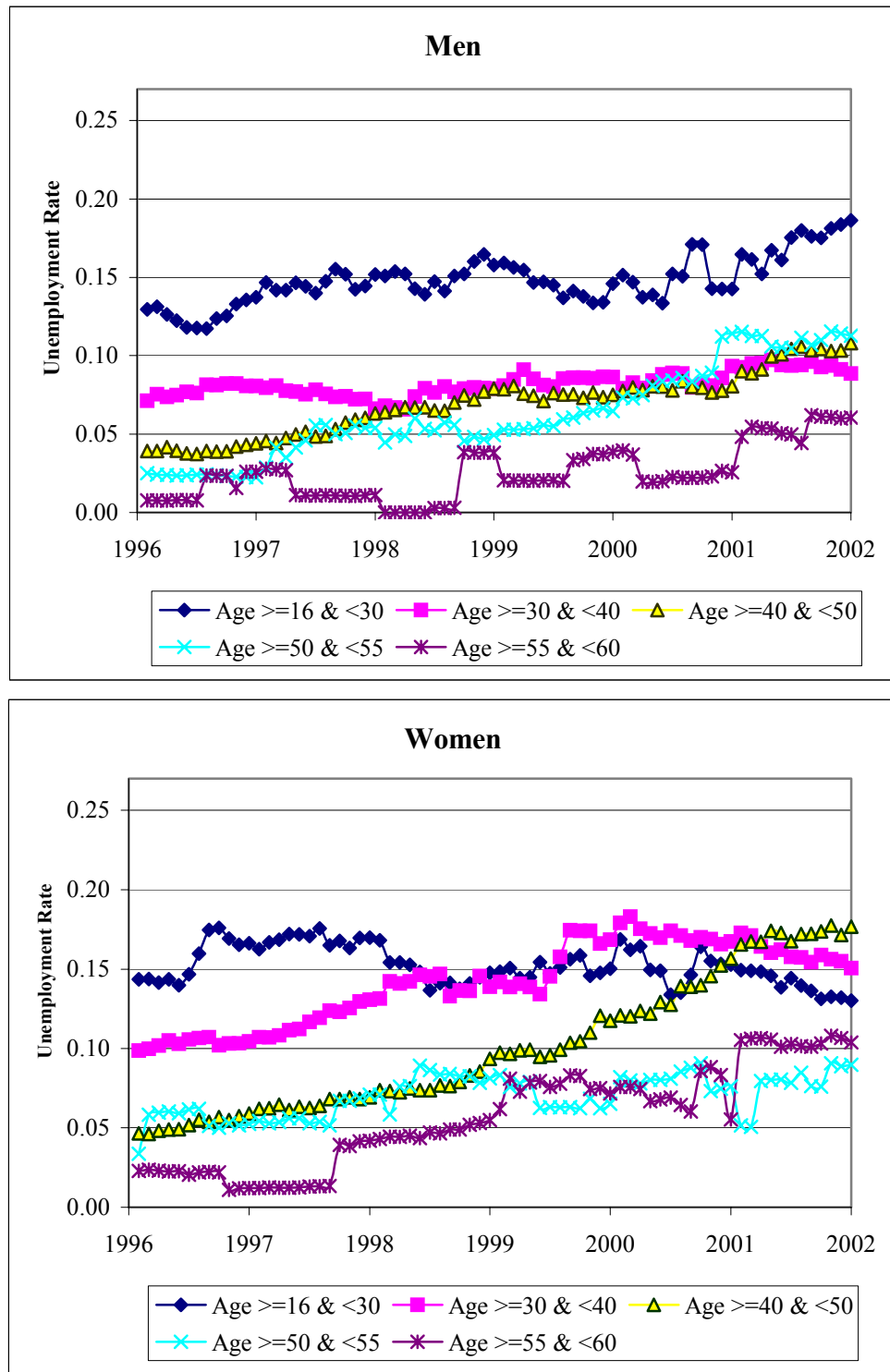
- Liu, Yuanli (2000). *Health Insurance Reform in China*, report to the Asian Development Bank.
- Lokshin, Michael M., and Rurlan Yemtsov (2000). "Household Strategies for Coping with Poverty and Social Exclusion in Post-crisis Russia," World Bank Research Working Paper No. 2556.
- Maurer-Fazio, Margaret (2002). "The Role of Education in Determining Labor Market Outcomes in Urban China," mimeo, Bates College.
- Ministry of Labor (2002). *China Labor and Social Security Yearbook* (Beijing: Ministry of Labor).
- Ministry of Labor and Social Security (2002). *Selected Important Documents on Labor and Social Security in the New Period*. Document Research Office of the Central Committee of the Communist Party of China, China Labor and Social Security Publishing House and Central Document Publishing House, 2002.
- Murphy, David (2002). "China – Urban Poverty – Nothing More to Lose..." in *The Far Eastern Economic Review*, November 7, 2002.
- National Statistical Bureau (2002). *China Statistical Yearbook* (Beijing: China Statistical Press).
- Roberts, Dexter T. (2002). "Days of Rage. Angry Workers Hit the Streets," in *Businessweek* 50 No 3777, April 8, 2002.
- Stephens, Melvin, Jr (2001). "The Long-Run Consumption Effects of Earnings Shocks," *Review of Economics and Statistics* 83(1): 28-36.
- Svejnar, Jan (2002). "Labor Market Flexibility in Central and Eastern Europe," William Davidson Working Paper Number 496.
- Wonacott, Peter (2002). "Laid-Off Workers Besiege Subsidiary of PetroChina – Retirement-Package Battle Signals China's Labor Woes," in *The Wall Street Journal* (European Edition), March 14, 2002.
- Zhang, Juwei (2003). *Urban Xiangang, Unemployment and Social Support Policies: A Literature Review of Labor Market Policies in Transitional China*, Report to the World Bank.
- Zhang, Junsen, and Yaohui Zhao (2002). *Economic Returns to Schooling in Urban China, 1988 to 1999*, mimeo, Peking University.

Figure 1
Trends in Urban Employment Status
In the CULS, 1996-2001



Source: China Urban Labor Survey. Trends reflect respondents with contemporaneous age 16 to 60.

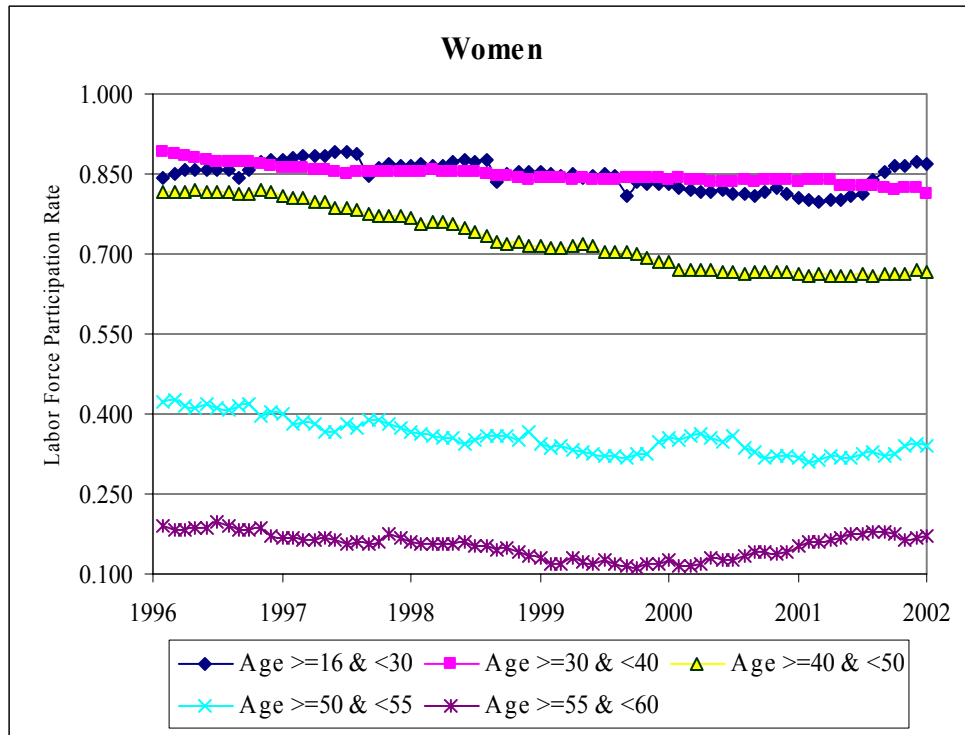
Figure 2
Unemployment Rates



Source: China Urban Labor Survey (Fuzhou, Shanghai, Shenyang, Wuhan, Xian)

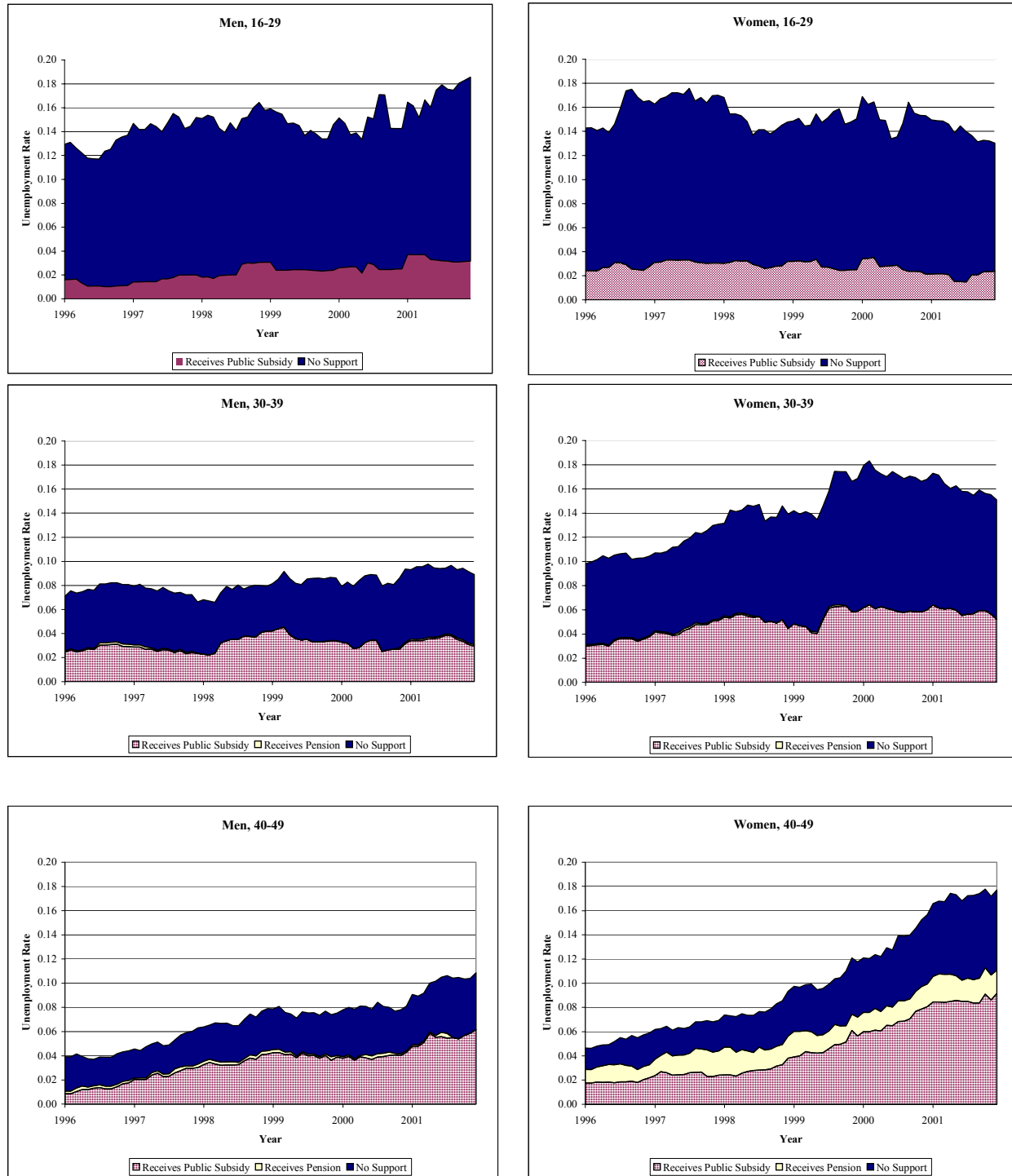
Figure 3
Labor Force Participation Rate

Error! Not a valid link.



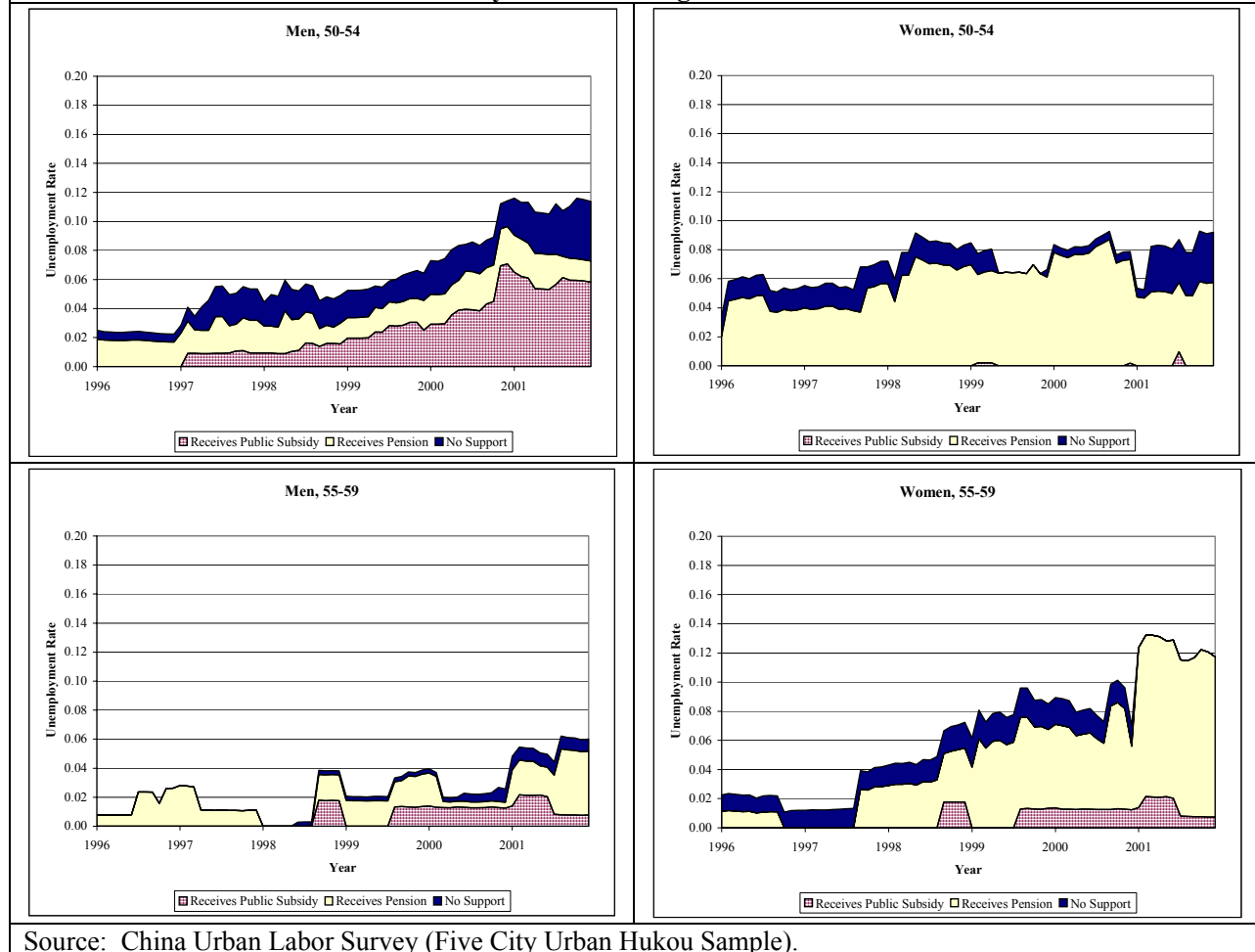
Source: China Urban Labor Survey (Fuzhou, Shanghai, Shenyang, Wuhan, Xian)

Figure 4
Share of Unemployed Receiving Public Subsidies and Pensions
By Gender and Age Cohort



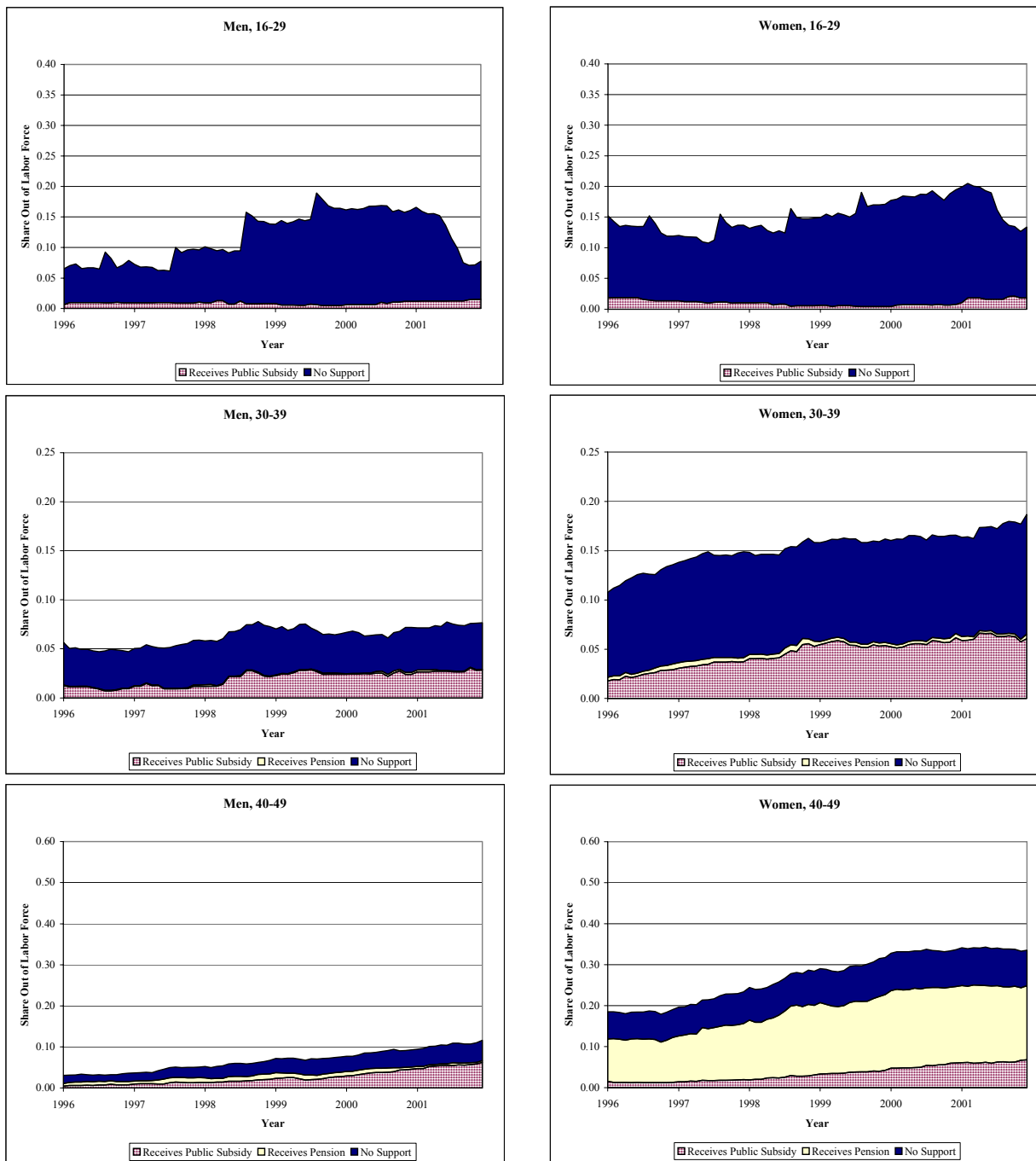
Source: China Urban Labor Survey (Five City Urban Hukou Sample).

Figure 4 (Continued)
Share of Unemployed Receiving Formal Support
By Gender and Age Cohort



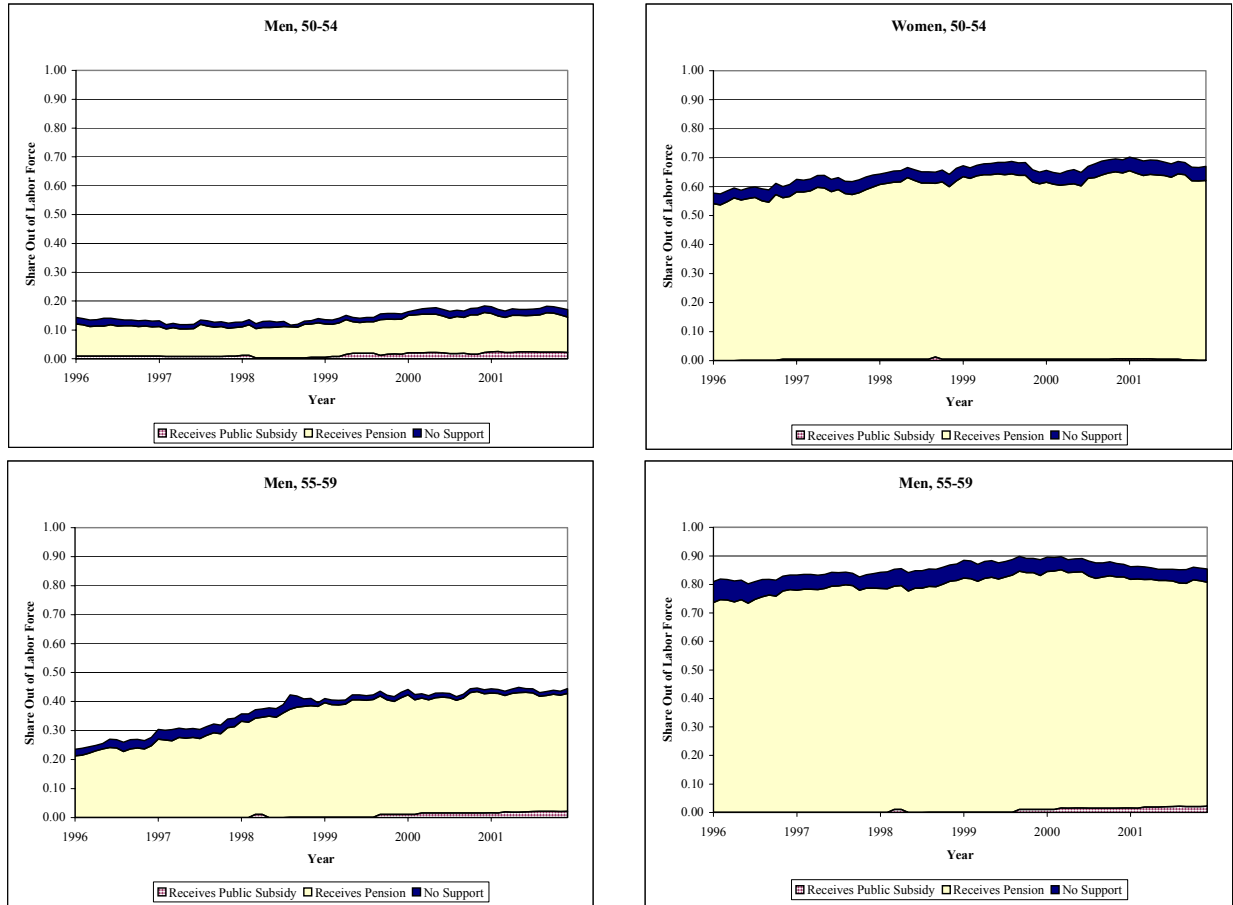
Source: China Urban Labor Survey (Five City Urban Hukou Sample).

Figure 5
Share of Out-of-the-Labor-Force Receiving Public Subsidies and Pensions
By Gender and Age Cohort



Source: China Urban Labor Survey (Five City Urban Hukou Sample).

Figure 5 (Continued)
“Out of the Labor Force”
By Type of Formal Support



Source: China Urban Labor Survey (Five City Urban Hukou Sample).

Table 1
Summary Statistics for CULS Sample Cities (2001)

	Unit	Shanghai	Wuhan	Shenyang	Xian	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	percent	52	63	67	78	33
SOE profitability ^b	Yuan	16	11	7	6	17
Mean annual wage	Yuan	26169	11314	11615	11164	13511

Unless otherwise noted, data are for residents of urban districts only.

^aProvincial aggregate for industrial enterprises with annual sale of over 5 million yuan in 2000; ^b1991-1997 provincial average profits per 100 yuan assets.

Sources: SSB, *China Urban Yearbook 2002*; SSB, *China Statistical Yearbook 2002*.

Table 2
Unemployment Rate and Labor Force Participation Rate, January 1996 and November 2001
 (All Individuals Age 16 to 60)

	Unemployment Rate (Percent)			Labor Force Participation Rate (Percent)		
	Jan-96	Nov-01	Change	Jan-96	Nov-01	Change
Full Sample	7.2	12.9	5.7	82.7	74.5	-8.2
<i>By City:</i>						
Shanghai	5.1	10.7	5.7	81.0	74.1	-6.9
Wuhan	9.2	17.2	7.9	78.2	74.0	-4.2
Shenyang	11.4	14.5	3.1	75.9	75.5	-0.5
Fuzhou	5.8	10.0	4.2	77.6	78.1	0.5
Xian	7.6	11.3	3.7	77.6	76.6	-1.0
<i>By Demographic Group:</i>						
Men (16 to 60)	6.3	11.4	5.2	92.6	85.7	-6.9
<30	12.9	18.3	5.4	93.5	92.8	-0.7
30 to 40	7.1	9.2	2.0	94.4	92.4	-2.0
40 to 50	3.9	10.4	6.5	96.9	89.0	-8.0
50 to 55	2.5	11.5	9.0	85.7	82.5	-3.2
55 to 60	0.8	6.0	5.2	76.4	56.4	-20.0
Women (16 to 60)	8.2	14.9	6.6	73.4	62.8	-10.6
<30	14.3	13.2	-1.1	84.6	87.3	2.7
30 to 40	9.8	15.5	5.7	89.2	82.3	-6.9
40 to 50	4.6	17.2	12.5	81.5	66.7	-14.8
50 to 55	3.4	9.1	5.7	42.3	33.4	-8.9
55 to 60	2.3	11.3	9.0	19.1	15.8	-3.2
<i>By Education Level:</i>						
Primary school	6.8	17.5	10.6	49.6	44.9	-4.7
Lower secondary school	10.9	18.5	7.6	78.2	61.8	-16.4
Upper secondary school	6.9	14.1	7.1	88.2	78.8	-9.4
Post-secondary education	1.7	5.0	3.3	92.4	90.0	-2.4
<i>By Ownership Sector:¹</i>						
Government or Party	3.9	0.0	-3.9	96.0	89.4	-6.6
Wholly state-owned	1.6	10.0	8.4	99.6	73.6	-26.0
Majority state-owned	1.5	9.8	8.2	98.6	81.8	-16.8
Collective	2.3	7.4	5.1	96.0	80.8	-15.2
Foreign-invested	6.3	6.6	0.3	95.5	92.5	-3.1
Private	19.5	8.4	-11.0	91.1	91.2	0.1
Other	5.3	1.9	-3.4	96.7	86.1	-10.6

¹For individuals who are not currently working we use sector of most recent job.

Table 3
Determinants of Unemployment and Labor Force Participation by Gender,
January 1996 and November 2001
(Marginal Effects)

Gender Model Month-Year DepVar	Men				Women			
	1 Jan-96 In LF?	2 Nov-01 In LF?	3 Jan-96 Unemp?	4 Nov-01 Unemp?	5 Jan-96 In LF?	6 Nov-01 In LF?	7 Jan-96 Unemp?	8 Nov-01 Unemp?
30≤Age<40	0.011 (0.014)	0.011 (0.026)	-0.032 (0.009)	-0.079 (0.016)	0.067 (0.028)	-0.039 (0.042)	-0.030 (0.013)	0.004 (0.027)
40≤Age<50	0.041 (0.013)	-0.023 (0.024)	-0.060 (0.010)	-0.082 (0.018)	-0.006 (0.031)	-0.190 (0.039)	-0.076 (0.014)	0.001 (0.026)
50≤Age<55	-0.070 (0.030)	-0.089 (0.036)	-0.046 (0.008)	-0.062 (0.018)	-0.428 (0.045)	-0.503 (0.038)	-0.054 (0.012)	-0.061 (0.035)
55≤Age<60	-0.159 (0.042)	-0.378 (0.050)	-0.051 (0.006)	-0.079 (0.020)	-0.618 (0.037)	-0.647 (0.027)	-0.058 (0.009)	-0.045 (0.054)
Lower Secondary School	0.005 (0.018)	0.035 (0.031)	0.005 (0.022)	0.065 (0.044)	0.069 (0.036)	0.003 (0.060)	0.025 (0.028)	-0.046 (0.047)
Upper Secondary School	0.028 (0.017)	0.088 (0.031)	-0.026 (0.019)	0.015 (0.037)	0.184 (0.034)	0.159 (0.057)	-0.018 (0.025)	-0.087 (0.050)
Post-Secondary School	0.056 (0.012)	0.141 (0.022)	-0.059 (0.013)	-0.065 (0.031)	0.216 (0.023)	0.303 (0.041)	-0.071 (0.014)	-0.174 (0.031)
Wuhan	-0.056 (0.018)	-0.064 (0.022)	0.001 (0.012)	0.056 (0.022)	-0.075 (0.030)	-0.011 (0.031)	0.060 (0.021)	0.059 (0.028)
Shenyang	-0.049 (0.019)	-0.020 (0.022)	0.019 (0.014)	0.002 (0.021)	-0.090 (0.030)	-0.020 (0.033)	0.055 (0.023)	0.065 (0.031)
Fuzhou	-0.013 (0.017)	0.046 (0.017)	-0.011 (0.012)	-0.009 (0.020)	-0.131 (0.033)	-0.011 (0.033)	0.004 (0.018)	-0.028 (0.025)
Xian	-0.008 (0.016)	-0.002 (0.020)	-0.001 (0.013)	0.019 (0.022)	-0.080 (0.031)	0.003 (0.033)	0.042 (0.022)	-0.019 (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

Table 4
Are Job Separations Voluntary?

Reason for Job Separation		Reasons for Job Separation by Gender and Age (in Percent)					Total
		GTE 16 & LT 30	GTE 30 & LT 40	GTE 40 & LT 50	GTE 50 & LT 55	GTE 55 & LT 60	
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
<i>Non-Voluntary Non-Mandatory Job Separation</i>		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
<i>Non-Voluntary Non-Mandatory Job Separation</i>		30.8	72.1	75.2	78.7	25.5	64.4

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 program 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.

Table 5
Wage and Health Arrears of Employed Workers Age 16 to 60
 (as a Percent of Workers in Each Category)

	Wage Arrears	Health Insurance Arrears	Employer Provided Health Insurance		Percent of All Individuals Age 16 to 60 w/Health Insurance in 2001
			in Jan 96	in Nov 01	
Total	10.6	22.1	81.6	68.7	56.1
<i>By City</i>					
Shanghai	2.1	18.9	91.6	74.6	87.4
Wuhan	13.6	19.5	76.9	68.7	46.2
Shenyang	23.1	27.7	59.9	53.5	39.1
Fuzhou	5.7	18.9	79.5	67.6	48.7
Xian	23.3	38.2	81.0	64.6	57.5
<i>Men</i>					
Men (16 to 60)	11.1	20.3	84.5	74.3	46.4
<30	10.1	16.0	77.8	66.3	57.4
30 to 40	10.0	21.1	81.7	76.3	59.9
40 to 50	13.3	22.8	87.0	72.7	73.2
50 to 55	11.2	17.3	92.3	82.2	73.1
55 to 60	7.5	24.4	90.1	79.0	60.3
<i>Women</i>					
Women (16 to 60)	12.3	26.2	75.7	61.0	45.3
<30	11.0	21.1	64.0	64.7	45.6
30 to 40	14.3	25.7	77.0	67.8	54.5
40 to 50	12.0	30.9	82.4	61.4	59.7
50 to 55	10.7	24.6	75.6	42.2	61.4
55 to 60	1.7	21.1	55.8	24.8	52.2
<i>By Education Level:</i>					
Primary school	11.8	24.5	70.3	49.0	28.3
Lower secondary school	14.6	26.6	76.1	54.0	45.8
Upper secondary school	10.4	22.4	81.6	68.3	58.0
Post-secondary education	5.7	18.1	90.8	82.3	79.4
<i>By Ownership Sector:¹</i>					
Government or Party	1.9	22.8	89.7	78.9	82.3
Wholly state-owned	13.8	23.8	88.3	82.2	77.5
Majority state-owned	9.2	31.1	87.6	80.8	68.5
Collective	11.7	22.9	78.5	66.7	67.0
Foreign-invested	1.3	14.0	72.2	73.0	52.5
Private	6.3	11.3	35.1	25.1	19.2
Other	17.2	24.3	75.5	42.4	27.6

Note: In the first two columns we report the percent of individuals employed between 1996 and 2001 who report wage arrears and the percent of individuals who have ever had health insurance who report health insurance arrears. For those individuals whose

Table 6
Benefits Shocks Experienced by Retired Workers

	Number Who are Formal Retirees	Individuals Not Working Who Are Formally Retired (Percent)	Retired Experiencing Positive Pension Arrears (Percent)	Health Insurance Coverage Rate (Percent of Formally Retired)	Of Which, Percent Experiencing Health Expenditure Reimbursement Arrears
Full Sample	2532	74.7	10.6	73.9	29.9
<i>By City</i>					
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
Xian	500	73.9	15.9	71.6	34.8
<i>Total Men (Retired and Over 40)</i>					
Age GTE 40 & LT 50	9	4.1	5.0	50.4	29.0
Age GTE 50 & LT 55	53	51.5	15.3	66.4	38.1
Age GTE 55 & LT 60	110	82.1	15.3	70.9	18.6
Age GTE 60 & LT 70	469	97.9	10.2	79.7	26.6
Age GTE 70	379	97.9	7.8	78.0	26.5
<i>Total Women (Retired and Over 40)</i>					
Age GTE 40 & LT 50	169	34.8	6.3	80.5	21.9
Age GTE 50 & LT 55	254	87.9	11.1	73.6	26.0
Age GTE 55 & LT 60	242	92.7	13.3	74.9	34.7
Age GTE 60 & LT 70	545	89.2	12.7	66.5	40.8
Age GTE 70	302	71.7	8.5	71.2	35.0
<i>By Education Level</i>					
Primary school	529	80.5	12.6	67.6	38.2
Lower secondary school	1078	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

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 a Percent of All Job Separations		As a Percent of Re-Employed Nominal Wage Comparison		
	Employed Within 12 Months	Employed by Nov. 2001	Mean Percent Change	Percent Lower	Percent Higher
Total	34.8	44.7	2.1	39.2	55.0
<i>By City</i>					
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
Xian	30.2	42.8	3.6	40.9	52.8
<i>By Demographic Group:</i>					
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
<i>By Reason for Job Separation</i>					
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
<i>By Education Level:</i>					
Primary school	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
<i>By Ownership Sector:¹</i>					
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

Table 8
Mobility Across Ownership Sectors Among Job Changers (January 1996 to November 2001)

		New Sector (As a Percent of Separations from Previous Sector)							
Previous Sector	Number of Job Separations (percent employed in sector)	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
Wholly-State-Owned Enterprise	944 (50)	1.8	8.5	1.2	7.0	1.8	14.1	1.2	64.5
Majority-State-Owned Enterprise	247 (51)	0.8	2.0	11.7	6.9	2.4	14.2	0.4	61.5
Collective Enterprises	673 (45)	1.3	1.2	0.4	14.7	1.3	16.9	1.8	62.3
Foreign Invested Enterprise	66 (71)	0.0	4.5	0.0	6.1	33.3	16.7	0.0	39.4
Individual or Private Enterprise	427 (72)	0.9	3.5	0.9	4.7	1.9	41.2	0.9	45.9
Other	45 (34)	0.0	0.0	4.4	4.4	0.0	17.8	20.0	53.3
Total	2470 (50)	2.0	4.6	2.1	8.7	2.6	19.6	1.5	58.9

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

Share Using Each Type of Support for Each Job Separation Reason	Involuntary	Voluntary	Retired	Total
<i>Men</i>				
Total Job Separations	368	128	231	727
Pension	0.8	0.0	93.5	30.1
Xiagan 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 HH 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
<i>Women</i>				
Total Job Separations	387	154	584	1125
Pension	1.0	0.0	92.1	42.7
Xiagan 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 HH 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: We show results for adults who have not yet reached mandatory retirement age. We only report information on individuals who had non-work spells of greater than one month.

Table 10
Household Annual Per Capita Income and Consumption By Demographic Group of
Oldest Working Age Adult and Number 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
Age>=16 & Age<30					
Earned Income (Salaries + Bonus)	7564	1468	5450	1836	6511
Pension and Disability Income (Monthly)	2939	2731	1683	896	2587
Public Subsidies	51	221	284	282	118
Lump Sum Severance	176	347	53	197	163
Net Private Transfers Received	148	-71	210	-7	140
IPC (Excluding Lump Sum Severance)	10702	4349	7628	3007	9357
IPC (Including Lump Sum Severance)	10878	4695	7680	3204	9520
Non-Housing Consumption	8503	6457	6471	3564	7756
Age>=30 & Age<40					
Earned Income (Salaries + Bonus)	7918	2199	3687	373	5821
Pension and Disability Income (Monthly)	1863	2820	1333	991	1770
Public Subsidies	103	447	298	449	207
Lump Sum Severance	107	404	468	469	247
Net Private Transfers Received	-32	-51	-119	13	-51
IPC (Excluding Lump Sum Severance)	9852	5416	5199	1826	7747
IPC (Including Lump Sum Severance)	9959	5819	5667	2296	7994
Non-Housing Consumption	6675	4424	5267	3431	5892
Age>=40 & Age<50					
Earned Income (Salaries + Bonus)	7499	2618	4618	1005	5320
Pension and Disability Income (Monthly)	1085	953	1178	1088	1098
Public subsidies	239	699	401	735	398
Lump Sum Severance	249	661	270	1551	455
Net Private Transfers Received	-50	167	-131	56	-37
IPC (Excluding Lump Sum Severance)	8774	4437	6066	2884	6779
IPC (Including Lump Sum Severance)	9023	5098	6336	4435	7234
Non-Housing Consumption	7478	5497	6974	3986	6691
Age>=50 & Age<60					
Earned Income (Salaries + Bonus)	10593	5069	9351	2808	7155
Pension and Disability Income (Monthly)	2408	3270	2771	3451	2940
Public Subsidies	164	352	133	399	252
Lump Sum Severance	151	73	303	195	194
Net Private Transfers Received	-171	-116	-208	1	-123
IPC (Excluding Lump Sum Severance)	12994	8575	12047	6659	10225
IPC (Including Lump Sum Severance)	13145	8648	12351	6854	10419
Non-Housing Consumption	8727	6111	7659	5636	7143

Note: Households are broken into separate groups based on the demographic category of the oldest working-age adult in the household.

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	All
<i>Total</i>	19.4	47.8	26.6	24.0
<i>By City</i>				
Shanghai	17.4	45.5	20.9	20.6
Wuhan	25.1	52.2	32.5	30.5
Shenyang	18.8	44.8	31.3	24.7
Fuzhou	15.2	50.2	23.5	19.7
Xian	19.1	45.6	31.4	24.2
<i>By Demographic Group:</i>				
Men (16 to 60)	19.5	51.6	36.7	25.0
<30	12.1	34.7	37.0	17.8
30 to 40	13.3	59.6	46.7	19.6
40 to 50	28.8	62.1	60.6	35.1
50 to 55	20.2	63.0	33.3	26.4
55 to 60	7.5	10.1	16.3	11.5
Women (16 to 60)	19.4	44.1	22.9	23.0
<30	6.3	21.5	26.3	10.5
30 to 40	19.7	47.3	35.6	26.0
40 to 50	29.7	54.0	33.3	33.7
50 to 55	11.7	48.3	15.6	15.5
55 to 60	20.9	8.4	10.8	12.2
<i>By Education Level:</i>				
Primary school	23.4	37.6	22.2	23.8
Lower secondary school	27.4	50.3	26.6	29.8
Upper secondary school	20.6	46.8	29.8	25.3
Post-secondary education	7.9	37.4	21.8	10.0
<i>By Ownership Sector:¹</i>				
Government or Party	8.1	-	10.7	8.4
Wholly state-owned	19.9	51.9	25.5	23.9
Majority state-owned	18.0	64.5	32.8	24.7
Collective	16.4	51.6	24.9	20.2
Foreign-invested	9.6	50.3	25.9	12.9
Private	25.4	43.4	36.8	27.5
Other	31.5	33.3	60.5	35.5

Sectors of employment are current sectors for currently employed individuals and most recent sector for individuals who are not currently working.

Table 12
Are You Satisfied 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	All
<i>Total</i>	47.5	83.0	50.3	51.7
<i>By City</i>				
Shanghai	40.5	78.5	41.4	43.7
Wuhan	60.4	89.3	58.7	63.7
Shenyang	50.0	82.4	61.1	56.3
Fuzhou	30.4	75.7	42.6	36.6
Xian	54.7	83.0	55.0	57.3
<i>By Demographic Group:</i>				
Men (16 to 60)	47.8	83.1	61.1	53.1
<30	46.8	73.8	74.4	53.4
30 to 40	45.9	92.3	68.7	51.5
40 to 50	55.9	89.9	89.3	62.5
50 to 55	41.2	81.9	59.6	48.1
55 to 60	28.3	55.8	33.4	31.5
Women (16 to 60)	47.1	82.9	46.2	50.3
<30	41.4	71.6	59.9	47.1
30 to 40	52.0	87.2	70.8	59.8
40 to 50	53.6	87.4	62.4	60.5
50 to 55	25.0	93.0	33.9	33.1
55 to 60	36.1	30.3	24.7	26.5
<i>By Education Level:</i>				
Primary school	59.0	75.8	49.5	55.1
Lower secondary school	55.0	84.0	51.1	57.1
Upper secondary school	49.9	83.3	51.1	53.8
Post-secondary education	33.0	79.1	40.3	35.1
<i>By Ownership Sector:¹</i>				
Government or Party	30.1	-	46.6	31.6
Wholly state-owned	47.3	85.2	48.0	50.5
Majority state-owned	42.6	92.4	52.0	48.5
Collective	44.3	79.6	51.4	47.9
Foreign-invested	32.5	72.1	30.7	34.5
Private	56.8	87.8	60.5	59.2
Other	71.5	100.0	76.4	72.5

Sectors of employment are current sectors for currently employed individuals and most recent sector for individuals who are not currently working.

DAVIDSON INSTITUTE WORKING PAPER SERIES - Most Recent Papers

The entire Working Paper Series may be downloaded free of charge at: www.wdi.bus.umich.edu

CURRENT AS OF 10/31/03

Publication	Authors	Date
No. 628: How has Economic Restructuring Affected China's Urban Workers?	John Giles, Albert Park, Feng Cai	Oct. 2003
No. 627: The Life Cycle of Government Ownership	Jiahua Che	Oct. 2003
No. 626: Blocked Transition And Post-Socialist Transformation: Serbia in the Nineties	Silvano Bolcic	Oct. 2003
No. 625: Generalizing the Causal Effect of Fertility on Female Labor Supply	Guillermo Cruces and Sebastian Galiani	Oct. 2003
No. 624: The Allocation and Monitoring Role of Capital Markets: Theory and International Evidence	Solomon Tadesse	Oct. 2003
No. 623: Firm-Specific Variation and Openness in Emerging Markets	Kan Li, Randall Morck, Fan Yang and Bernard Yeung	Oct. 2003
No. 622: Exchange Rate Regimes and Volatility: Comparison of the Snake and Visegrad	Juraj Valachy and Evžen Kočenda	Oct. 2003
No. 621: Do Market Pressures Induce Economic Efficiency?: The Case of Slovenian Manufacturing, 1994-2001	Peter F. Orazem and Milan Vodopivec	Oct. 2003
No. 620: Compensating Differentials in Emerging Labor and Housing Markets: Estimates of Quality of Life in Russian Cities	Mark C. Berger, Glenn C. Blomquist and Klara Sabirianova Peter	Oct. 2003
No. 619: Are Foreign Banks Bad for Development Even If They Are Efficient? Evidence from the Indian Banking Sector	Sumon Bhaumik and Jenifer Piesse	Oct. 2003
No. 618: The Echo of Job Displacement	Marcus Eliason and Donald Storrie	Oct. 2003
No. 617: Deposit Insurance During Accession EU Accession	Nikolay Nenovsky and Kalina Dimitrova	Oct. 2003
No. 616: Skill-Biased Transition: The Role of Markets, Institutions, and Technological Change	Klara Sabirianova Peter	Oct. 2003
No. 615: Initial Conditions, Institutional Dynamics and Economic Performance: Evidence from the American States	Daniel Berkowitz and Karen Clay	Sept. 2003
No. 614: Labor Market Dynamics and Wage Losses of Displaced Workers in France and the United States	Arnaud Lefranc	Sept. 2003
No. 613: Firm Size Distribution and EPL in Italy	Fabiano Schivardi and Roberto Torrini	Sept. 2003
No. 612: The Effect of Employee Involvement on Firm Performance: Evidence from an Econometric Case Study	Derek C. Jones and Takao Kato	Sept. 2003
No. 611: Working Inflow, Outflow, and Churning	Pekka Ilmakunnas and Mika Maliranta	Sept. 2003
No. 610: Signaling in The Labor Market: New Evidence On Layoffs, and Plant Closings	Nuria Rodriguez-Planas	Sept. 2003
No. 609: Job Flows and Establishment Characteristics: Variations Across U.S. Metropolitan Areas	R. Jason Faberman	Sept. 2003
No. 608: Dowry and Intrahousehold Bargaining: Evidence from China	Philip H. Brown	Sept. 2003
No. 607: Policy Regime Change and Corporate Credit in Bulgaria: Asymmetric Supply and Demand Responses	Rumen Dobrinsky and Nikola Markov	Sept. 2003
No. 606: Corporate Performance and Market Structure During Transition in Hungary	László Halpern and Gábor Kőrösi	Aug. 2003
No. 605: Culture Rules: The Foundations of the Rule of Law and Other Norms of Governance	Amir N. Licht, Chanan Goldschmidt, and Shalom H. Schwartz	Aug. 2003
No. 604: Institutional Subversion: Evidence from Russian Regions	Irina Slinko, Evgeny Yakovlev, and Ekaterina Zhuravskaya	Aug. 2003
No. 603: The Effects of Privatization and International Competitive Pressure on Firms' Price-Cost Margins: Micro Evidence from Emerging Economics	Jozef Konings, Patrick Van Cayseele and Frederic Warzynski	Aug. 2003