

WHY WOMEN HAVE LONGER UNEMPLOYMENT DURATIONS THAN MEN IN POST-RESTRUCTURING URBAN CHINA?

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Abstract

Using data obtained from a national representative household survey, this paper provides a systematic analysis of the reasons as to why women endure longer unemployment durations than men in post-restructuring urban China. Rejecting the view that women are less earnest than men in their desire for employment, this analysis reveals that women's job search efforts are hindered by 1) their lack of access to social networks, 2) employers' prejudice against married women, 3) unequal access to social reemployment services stemming from sex segregation prior to displacement, and 4) wage discrimination in the post-restructuring labor market.

Key words: unemployment duration, industrial restructuring, gender discrimination, China

JEL Classification Code: J16; J21; J64; J71; R20

1. Introduction

In the late 1990s, China's public enterprises underwent dramatic labor retrenchment. Restructuring of the public sector has brought an end to the era of "cradle-to-grave" socialism and lifetime employment for Chinese state workers. While industrial restructuring is an inevitable feature of market transition, the reform has affected men and women differently. Studies have documented that women were laid off at much higher rates than men and experienced greater difficulty seeking reemployment (Appleton, et. al, 2002; Cai, Giles and Park, 2006). The deterioration of the employment status of women has made the feminization of urban poverty a likely reality in post-restructuring China.

In this paper, we examine the determinants of gender differences in unemployment spells in urban China using a nation-wide household survey undertaken in 2003. While gender differentials in wages and labor force participation have been the focus of much research, studies on gender and unemployment rates are scarce. A handful of researchers documented the gender disparity in unemployment rates in transition countries but none have investigated further the underlying causes for this stylized fact (Ham et al, 1999; Appleton, et. al, 2002; Cai et al, 2006).¹ In this paper, we apply a duration regression model to investigate the main reasons why women's unemployment spells are longer than men's. Our paper provides the first systematic analysis of the gender difference in unemployment durations in transition countries.

2. Labor Market Reforms and Women's Employment

¹ To be sure, Ham, et. al. (1999) use the Oaxaca decomposition method to analyze the extent to which the gender difference in unemployment durations is attributable to observable characteristics and to regression coefficients in the Czech and Slovak Republics. But they do not offer an explanation as to why the effects of observed characteristics differ between men and women.

In the pre-reform period, China's urban labor market was characterized as "iron rice bowl"; as the majority of working-age people were employed by state-owned enterprises (SOEs) with work units providing not only a job for life but a wide range of benefits from subsidized housing, education, healthcare to retirement pensions as well. Under central planning, China had achieved considerable gender equality in the workplace, in terms of a relatively high female labor force participation rate and a lower gender wage gap, compared to other countries (Croll, 1983).

Despite the significant advancements given to Chinese women during the socialist transformation, the position of women in the labor market remained worse than that of men. Sex segregation was prevalent in the workplace. Women were over-represented in collective enterprises, which offered lower wages and fewer benefits than state firms. Moreover, the economy under central planning was dominated by capital-intensive heavy industries, which are traditionally regarded as a male sector. The irrational economy structure further crowded women into the overstaffed clerical and low-level administrative occupations, making unskilled female workers more vulnerable to lay-off.

China began its gradual transition to a market-oriented economy in the late 1970s. Early efforts to reform SOEs focused on restructuring the incentives given to workers and managers, encouraging the development of non-state sectors, fostering market competition, promoting manufacturing exports and attracting foreign investment. The pace of market reforms greatly accelerated after Deng Xiaoping's famous southern tour in 1992. In late 1992, the central government endorsed formally private property rights and initiated ownership reforms to SOEs. As a consequence, a large number of SOEs have either been transformed

into joint-stock companies, gone bankrupt, merged with other enterprises, or been sold to private individuals. In 1994, a new Labor Law was passed sanctioning the right of employers to dismiss workers. In 1997, newly elected Premier Zhu Rongji announced a large-scale labor retrenchment program in an attempt to revitalize SOEs. As a result, the employment of SOEs fell from its peak from 109.6 million in 1995 to 69.2 million in 2002, down by 37 percent (Dong, et. al., 2006: 89). During this period more than 20 million positions in the collectives were also eliminated. Labor retrenchment has dramatically changed the landscape of urban labor markets with the employment share of public firms (state enterprises and collectives combined) falling from 75.6 per cent in 1995 to 33.4 per cent in 2002.

To soften the social impact of public sector downsizing, workers in SOEs who were discharged from their posts were allowed to retain their link to their former enterprise. This practice is described in Chinese by the term *xiagang*, and has emerged as the principal means of labor retrenchment. The SOEs set up re-employment service centers (RSCs) to manage the *xiagang*. RSCs provided the basic living allowance to *xiagang* workers, paid premiums on pension, unemployment, and health insurance for these workers, and also provided them with training and job replacement services. The RSC program targeted primarily displaced state workers, which led to a large disparity in *xiagang* benefits between SOEs and other forms of urban enterprises.² When taken in conjunction with pre-restructuring patterns of sex segregation, unequal access to social assistance is expected to have a gender-differentiated impact on the incentives and ability of displaced workers to find reemployment.

² For instance, in 1999 more than 95% of *xiagang* workers in SOEs entered RSCs with 79% of them receiving the full amount of living subsidies. By contrast, only less than one-third to one-fifth of their counterparts in collectives and other types of enterprises had access to respective programs (Dong, 2003).

The restructuring of the public sector has resulted in a sharp increase in open unemployment in urban centers. Using data from the 2000 National Census and the 2003 Urban Household Survey undertaken by N.B.S, Dong e. al, (2006:97) found that the unemployment rate of women was higher and grew faster than that of men—from 9.0 per cent for women and 7.6 per cent for men in 2000 to 12.7 per cent for women and 8.2 per cent for men in 2003. In the remainder of the paper, we investigate the reasons why it is more difficult for unemployed women to re-enter the labor market than unemployed men.

3. Conceptual framework and related literature

We apply job search theory to analyze the gender disparity in unemployment durations. In accordance with this theory, the probability that an unemployed worker finds reemployment during a given period is determined by two other probabilities--the probability that the worker receives a job offer and the probability that such an offer is accepted (Stigler, 1962; Narendranathan et. al, 1985; McCall, 1988). The likelihood of receiving a job offer is determined primarily by factors such as the worker's human capital endowment, job search efforts, access to social networks, macroeconomic indicators that affect labor demand, and employers' gender preference. The unemployed worker decides whether to accept or reject a job offer by comparing the wage offer with the reservation wage. While the wage offer shares the same determinants of the probability of receiving a job offer, the reservation wage is a function of such factors as pre-displacement wages, income from private sources, unemployment benefits, and demographic characteristics of the household associated with the opportunity cost of employment. How the aforementioned factors influence the reemployment rates of men and women is not entirely self-evident and hence discussed

below.

Human capital endowments

Human capital characteristics serve as a signal of desirable or undesirable worker traits to a new firm (Maxwell, 1989) and thus workers with a higher human capital can get more job offers from the employers, *ceteris paribus*. Since employers are often more skeptical of women's competence and job commitment, the signaling effects of human capital characteristics should be stronger for women than men. Indeed, studies show that education increases rates of reemployment more for women than for men (Ollikainen, 2006).

Job search efforts and family responsibilities

Women are often perceived to be less serious than men about getting wage employment largely because of familial responsibilities. Using a small sample of Israeli workers, Kulik (2000) finds that men were more heavily stigmatized for the state of unemployment and thus spent more time searching for work than women. In contrast, women were more likely to reject job offers when they were in conflict with family duties. Cai, Giles and Park (2006) also find that household demographic characteristics have a significant impact on reemployment rates for *xiagang* women but not for men. Johnson (1983) argues that a part of the gender differential in unemployment rates is attributable to the definition and methodology used in deriving unemployment; which tends to overstate women's unemployment rates by counting the inactive as the unemployed. However, the findings obtained from a large sample for OECD countries by Azmat, Guell and Manning (2006) reject the conventional skepticism of women's desire for employment. This study demonstrates that unemployment and inactivity are distinct labor market states for both men

as well as women and hence the gender differential in unemployment rates reflects true prospects of wage employment.

Access to social networks

It is widely recognized that personal connections facilitate the job search (Krauth, 2004). In post-reform China, people increasingly relied on connections (*guanxi*) to advance their positions in the labor market (Walder 1986; Bian, 1994). Access to social networks is particularly important to workers displaced from public sectors as they had spent their entirely working lives with a single employer and had limited social contact outside work units. Not surprisingly, Cai, Giles and Park (2006) find that reemployment rates are higher for those who have more working-age siblings in post-restructuring urban China. Feminist scholars have long contended that gender segregation and domestic responsibilities have excluded women from powerful social connections, which hinder women's position in the labor market (Timberlake, 2005). In a case study in Nanjing city, Liu (2007) finds that women who had fewer social contacts were more vulnerable to redundancy and experienced more hardship in finding a new job after the displacement.

Marriage is known to be an important channel through which people gain access to social networks. Becker (1973) argues that people tend to mate with those who have similar individual endowments such as education and other labor market characteristics. Theodosius (2002) presents evidence supportive for the Beck's "selective mating" hypothesis, which shows that one partner is jobless then the other partner is likely to jobless too. Thus, the employment status of family members provides a proxy for social connections. However, the gender implication of this "selective mating" pattern to reemployment is not

straightforward.

Economic structural changes

Economic reforms and trade liberalization have shifted the composition of aggregate demand for output away from capital-intensive heavy industries to labor-intensive light industries and services. In China, the employment share of tertiary industry has increased from 21.2% in 1993 to 29.3% in 2003.³ The expansion of the service sector helped dampen the adverse effect of the public sector downsizing on women (Dong, et. al., 2006) and hence should be more beneficial to unemployed female workers than male workers.

Employers' preference

The employers may hesitate to hire women because of their perception that women, especially, married women, are less flexible, less mobile or less competent despite their human capital characteristics. Azmat, Guell and Manning (2006) find a positive correlation between the gender differential in unemployment rates and the proportion of the people who agreed with the statement “when jobs are scarce, men should have more right to a job than women” among OECD countries. They argue that it is less costly for employers to act out their prejudice in recruitment when unemployment is high and there are more suitable job applicants competing for any position.

Pre-displacement wages

The pre-displacement wage is an important determinant of the reservation wage, which has a negative effect on the willingness of a job seeker to accept a job offer. However, the sensitivity of the job seeker to the pre-displacement wage is determined by how it is

³ Source: China Statistical Yearbook (2004).

compared with post-displacement wage offers. Maxwell and D'Amic (1986) analyze the gender implications of displacement from two perspectives. From the human capital model of labor markets, a worker who has general human capital skills endures less wage losses from the lay off than a worker whose skills are heavily weighted with firm-specific human capital; as a result, the former is more likely to accept a job offer and end the state of unemployment sooner than the latter for a given level of pre-displacement wages. It is often argued that women are inclined to invest in general human capital skill due to their periodic participation in the labor force, whereas men, with continuous attachment to the labor market, invest heavily in firm-specific skills. Thus, other things being equal, the pre-displacement wage is expected to have a weaker negative effect on the likelihood of leaving unemployment for women than men because the post-displacement wage relative to the pre-displacement wage is higher for women than for men.

The institutional perspective stresses that workers who are separated from the sector paying economic rents suffer more wage losses than those who are displaced from competitive sectors because the pre-displacement wage overstates market worth for the former. Public sector downsizing hit women the hardest because they, as compared to their male co-workers, not only lost wage premiums paid to state workers but were also more likely to face wage discrimination when seeking employment in the emerging private sector. For a given pre-displacement wage rate, a woman would wait longer and search harder than a man in order to obtain her desired wage offer.

Empirical studies for mature market economies offer little support for the human capital conjecture. Instead, several researchers have found that women suffered greater wage

losses after displacement which is consistent with the prediction of the institutional school (Maxwell, 1986; Madden, 1987; Crossley, 1994). From a firm-level dataset for Chinese industry in the late 1990s, Zhang and Dong (2006) find that women in SOEs received wage subsidies whereas women in private firms suffered wage discrimination. Using the same survey data adopted by this article, Du and Fan (2005) compared the wage structures and employment patterns of laid-off workers before and after displacement and found that the magnitude of wage discrimination has increased and occupational segregation has become more severe.⁴ These results indicate that women were undergoing a larger downward adjustment in remunerations following the labor reshuffling from the state to the private sector. Hence, we expect that women have a stronger negative employment response to the pre-displacement wage relative to men.

Income supports from public and private sources

Social assistance for the unemployed and non-earned household income increase the reservation wage and consequently have a negative effect on the workers' desire to end the state of unemployment. Ham, Svejnar and Terrell (1999) find that unemployment benefits have only a moderate effect on the duration of unemployment of both men and women in Czech and Slovak. Cai, Giles and Park (2006) show that access to social income assistance contributes significantly to reducing reemployment rates of laid off workers in China in the late 1990s. Logically, women would be more sensitive to income supports than men had they

⁴ The results from Du and Fan (2005) show that the proportion of the gender wage gap not explained by observable characteristics—a measure of discrimination—increased from 93 percent in the pre-displacement to more than 100 percent after the reemployment. Based on the estimates of the multilogit regression, about 8 percent of the female reemployed should have held white-collar jobs while taking blue-collar jobs; in contrast, about 10 percent of the male reemployed took white-collar positions while they should have been in blue-collar occupation.

been less committed to the labor market.

Active labor policies and gender segregation

The main obstacles to laid-off public workers' reentry to the labor market are their lack of skills and labor market experience necessary for filling newly created positions. Hence, public reemployment services such as skill training, job search assistance, and employment counseling play a pivotal role in addressing the structural/frictional problems facing laid-off workers. However, as previously mentioned the benefits of active labor policies were accessible primarily by state workers, while women were crowded into the collective sector. Unequal access to reemployment services would create more hardship for female workers displaced from the collective sector.

Based the discussion above, our analysis seeks to test the following hypotheses. Hypothesis 1: women are less serious than men about finding reemployment. We test this hypothesis by comparing the gender patterns of job search efforts and response to domestic responsibilities and income supports from both public and private sources. The absence of behavior dissimilarity between men and women in these areas rejects the skepticism of women's desire for employment and suggests that unemployment be an involuntary state as much to women as to men.

Hypothesis 2: lack of social connections represents a major handicap for women to find reemployment. We test this hypothesis by exploring the male-female difference in party membership, employment status of other adult family members, reemployment response to the two variables, and effectiveness of friends and relatives as job search mechanisms.

Hypothesis 3: women's search efforts are disadvantaged by unequal access to

reemployment services as a result of sex segregation prior to displacement. We test this hypothesis by looking at the effects of ownership type of former employers, holding other factors constant.

Hypothesis 4: discrimination against women is an underlying cause of the gender gap in the length of unemployment spells. It is always difficult to test sex discrimination in labor market outcomes. Following the discrimination literature, we introduce a gender indicator and estimate its effect while controlling for endowments and other explanatory variables. We test sex discrimination further by comparing the effects of pre-displacement wages for men and women. A larger *ceteris paribus* effect of the pre-displacement wage for women is indicative of the presence of gender discrimination in the labor market. We also explore the difference in marriage effect between men and women holding constant household demographic characteristics, worker incentives and other factors.

4. Empirical Framework

We use a duration regression model to analyze the determinants of unemployment spells (Nickell, 1979; Lancaster, 1979, Narendranathan et. al., 1985). Let us denote $h(t)dt$ the hazard function of unemployment spell in period t , which is the probability that individual i will leave unemployment during the period $(t, t+dt)$ conditional on the person has been unemployed for t periods. The hazard function of leaving unemployment is written as $h(t) = h(X(t), t)$, where X is a vector of the underlying determinants of the probability of receiving a job offer and the probability of accepting a job offer during $(t, t + dt)$. The variables in X are described below. Human capital characteristics are measured by education, experience, health status, and pre-displacement occupation. Variables for party membership, job search

channels, and the presence of another unemployed adult in the household are used to proxy job search efforts and social networks. Regional rate of growth in GDP, share of tertiary industry in GDP and unemployment rate are introduced to control for aggregate labor demand. The proxy variables for the reservation wage include pre-displacement wages, ownership types of the former employers, unemployment benefits, earnings of other family members, property income, household demographic characteristics, and marital status.

Assuming that the unemployment spell follows the Weibull distribution⁵ and taking into unobserved heterogeneity, we write the regression model of unemployment duration as:

$$h_v[X_i, t] = h[X_i, t | v] = \exp(X_i' \beta) \alpha t^{\alpha-1} v, \alpha > 0 \quad (1)$$

Where β is a vector of regression parameters; α is the indicator of how the hazard function is changing with respect to duration; v is unobserved individual effect.

Using equations (1), we explore empirically the underlying causes of the gender gap in unemployment durations in the remainder of this paper.

5. Data, Variables and Descriptive Statistics

The data used by this paper are derived from the Unemployment and Reemployment Survey conducted by China's National Bureau of Statistics in December 2003, which covers 17 major municipalities and provinces. The sample used by this paper consists of urban residents aged between 16 and 60 for men and 16 and 50 for women who had experienced unemployment in the 3 years prior to 2003. The age difference by gender in this survey takes into account the impact of China's gender differentiated retirement policies. China's official

⁵ We also estimate the Cox's proportional hazards model and present the results in the appendix. The two sets of results are fairly similar.

retirement age for blue collar workers is 55 for women and 60 for men. During the economic restructuring, workers were allowed to take early retirement 5 years earlier than the official retirement age and many public enterprises used mandatory retirement as a means to streamline the workforce. The sample includes women only up to the age of 50 to minimize the possibility of inactive women being counted as the unemployed, while admittedly the 10-year age difference between men and women in the sample may lead to underestimation of the plight of laid-off female workers relative to their male counterparts.

By way of survey design, the sample includes those who had been laid off before 2000 and remained unemployed afterwards but excludes incidentally the unemployed workers who had found reemployment and never been laid off again before 2000; as a result, the full sample is likely to overstate the mean duration of unemployment. To check the sensitivity of estimates to the potential right side censoring, we construct two samples with one including all observations and one including only those who were laid off after 1997, the year when the public sector downsizing was launched, and call the former “the full sample” and the latter “the sample after 1997”. Excluding the observations with missing information on unemployment duration, we have 2,291 observations for the full sample and 2,102 observations for the sample after 1997.⁶

The explanatory variables are defined as follows. Education is measured by years of schooling. The variable for pre-displacement experience is derived by subtracting age by the sum of 6, years of schooling and years of unemployment. Dummy variables for personal

⁶ For those who have experienced unemployment more than once, only the spell of the latest unemployment is recorded. As a result, we have no information on multiple unemployment spells.

characteristics are defined as an indicator for the worker who has communist party membership; is married; is in good health; was a blue-collar worker prior to the lay off; and has more than one adult unemployed in the family. We classify managers, technicians and engineers as white collar employees and clerical staff, service and manufacturing industry workers as blue collar workers. The age distribution of children is measured by a set of binary indicators with the category of having no children as the benchmark. The ownership type of the former employer and employment search channels are also measured by dummy variables with SOE as the benchmark for the former and government job replacement services for the latter. Income of other family members, property income, unemployment benefits and pre-displacement earnings are all measured in *yuan* per month. Unemployment benefits (UB) include unemployment insurance payment and *xiagang* living allowance.⁷ All the variables for personal and household characteristics are obtained from the survey. Variables for annual rates of growth in GDP and share of tertiary industry in GDP by city are obtained from *China Statistics Yearbook, 2003* and *China City Statistics Yearbook, 2003*. Unemployment rates by province are calculated using information obtained from the Urban Household Survey.⁸

Table 1 presents descriptive statistics of the employment status of workers in the sample after 1997.⁹ We note that of the 2,102 unemployed, only 881 (41.8%) are

⁷ The survey provides information on unemployment benefits only for those who remained unemployed. Hence, we derived the value of unemployment benefits for those who were reemployed using the estimates of the regression of this variable for UB on experience, education attainment, pre-displacement occupation, ownership type of the former employer, industry, reasons of unemployment, job search channel and location for the unemployed workers.

⁸ We define those who worked less than 4 hours in November 2003 as unemployed for the UHS data.

⁹ We present the summary statistics for the sample after 1997 only to shorten the presentation. The summary statistics for the full sample is available upon request.

re-employed and the average unemployment durations are about 18 months for the entire sample, 13 months for the re-employed and 21 months for those still unemployed. With respect to gender differences, we find that female workers make up about 59 percent of the unemployed, 18 percentage points higher than the share for men, whereas their share in reemployment is only 56 percent. Moreover, the mean length of unemployment spells for women is 2 months longer than that for men.

Table 2 presents summary statistics of personal and household characteristics of men and women in the sample. The statistics on education, experience and health show no noticeable differences between men and women in years of schooling, health status, and job experience, indicating that gender inequality in human capital investment does not provide a plausible explanation for low reemployment rates of women in the sample. Looking at information on job search efforts, we note that the distribution of job search methods is also fairly similar between men and women; the majority of the workers in the sample (nearly 80 percent) reported that they relied on private mechanisms for job search and the proportion of those who counted on friends and relatives is almost identical—43.8 percent for men and 43.7 for women. In addition, according to the survey, the reemployed male and female workers both spent about 70 percent of the time during the period of unemployment searching for new jobs and the gender difference is statistically insignificant. Thus, we found no evidence that unemployment females were less diligent in their search for reemployment.

There are, however, marked gender differences in other characteristics. Chief among these is that women are less likely to be party members than men, although the proportion of those who have more than one family member unemployed is similar, 5.3 percent for men

and 4.5 percent for women. With respect to the ownership type of former employers, while the majority of the workers were separated from public enterprises (SOEs and collectives), women are over-represented in urban collective enterprises—the sector that provided fewer reemployment services to *xiagang* workers.

In the following sections we will examine how these observed characteristics may influence re-employment outcomes.

6. Results

The hazard function of unemployment spells in (1) is estimated by Maximum Likelihood Estimation techniques using the STATA computer software package. The regression is first applied for a pooled sample and then for men and women separately; the estimates are presented in Table 3. To test the gender difference in regression coefficients, we also estimate the hazard function with additional interactive gender dummy variables with all the explanatory variables for the pooled sample. To simplify the presentation, we only report the estimates of gender dummy and its interactive terms in the appendix (see Table a2).

We first take a look at the estimates of pooled regressions.¹⁰ The estimates of gender indicator confirm that there is a significant gender gap in unemployment duration; other things being equal, the probability of leaving unemployment for women is only 58.4 percent of the probability for men using the full sample and 63.3 percent for the sample after 1997. The other estimates of the two pooled regressions are also fairly similar. As expected,

¹⁰ For the convenience of interpretation, we report hazard-ratios instead of regression coefficients. Hazard-ratios are the coefficients relative to the reference group for dummy variables, and for continuous variables, the hazard-ratio for variable X is the coefficient divided by the coefficient of (X-1). As a result, the hazard-ratios are greater than 1 when the coefficients are positive and are less than 1 when the coefficients are negative.

experience, education and good health have significant positive effects on the rate of reemployment. While marriage has a significant negative effect, having young children does not appear to be an impediment for finding reemployment.

Conforming with economic intuitions, pre-displacement wages and unemployment benefits are found to decrease significantly the hazard ratio of re-employment, although the estimates of income from private sources are insignificant. The estimates also indicate that the lay-offs from SOEs or collective enterprises have significantly lower reemployment rates relative to those from the private sector. Looking at the impact of social networks, we find that party membership improves the prospect of reemployment significantly, whereas the probability of reemployment for those whose spouse or other household members are also unemployed is significantly lower. Compared to those who rely on governments for job search, the hazard ratios of employment for those who rely on relatives and friends or themselves are significantly higher. It is evident that private social networks are more effective than public job replacement services in helping laid off workers re-enter the labor market. In summary, most of the estimates are intuitively plausible and statistically significant, which reassures the adequacy of model specifications.

We next turn to examine the estimates by gender. We first take a look at the impact of human capital. The benefits from pre-displacement experience for men and women are quite similar, and there is also no significant gender difference in the effects of health status and pre-displacement occupation. However, education is markedly more important for women than men; one additional year of schooling increases the hazard ratio by 17.6 to 23.9 percent for women but only 4.3 to 6.0 percent for men. For both samples, the gender difference in

education effect is significant at 1% level (see Table a2). This finding supports the conjecture that education has a stronger signaling effect for women than for men.

With respect to domestic responsibilities, the estimates of dummy variables associated with children offer no evidence that reproductive responsibilities represent a greater impediment to women as all the interactive gender dummies are statistically insignificant. While neither women nor men are adversely affected by childcare responsibilities, marital status has no significant effect for men but a significant negative effect for women and the difference between the two estimates is highly significant for the full sample. Quantitatively, marriage reduces women's probability of leaving unemployment by 48 to 69 percent. Given the similarity in job search efforts and response to reproductive responsibilities between men and women, the large negative effect of marriage cannot be attributed to the preference of married women; instead the reluctance of employers to make job offers to them offers a more plausible explanation for the marriage effects.

Turning to reemployment incentives, we find that income from other family members has a negligible negative effect on re-employment for both men and women, while property income has a significant negative effect for men for the sample after 1997 but an insignificant positive effect on women in both cases. Despite the difference in property income, the effects of public income support for unemployment for two sexes are almost identical--one percent increase in unemployment benefits decreases the hazard ratio of re-employment by about 10 percent. There is also no significant gender difference in reemployment response to which sector the workers were employed before the separation except the estimate of collectives for the full sample. The likeness in men's and women's response to income from other family

members and public supports and women's insensitivity to property income offer further evidence that the female unemployed are as serious as their unemployed male counterparts about reemployment.

The contrast between former male and female collective workers is noteworthy. The estimates indicate that the probability of leaving unemployment for women from collectives was significantly lower--by 20 percent relative to their sisters in SOEs and by 47 percent compared to former male collectives' employees. Former female employees of collectives are hardest hit by public sector downsizing, not only being laid off at higher rates but also having lowest rates of reemployment. This result supports the contention that pre-displacement sex segregation continues to penalize women by offering them fewer reemployment services.

Turning to the estimates of pre-displacement wages, we find that while the pre-displacement wage has significant negative effect for both men and women, the effect is significantly larger for women (by 15 to 20 percent). Since the variables of former employers are controlled for, the large disincentive effect of the pre-displacement wage can only be explained by the presence of wage discrimination against women in the post-layoff labor market, which makes women devote more time to job search in order to obtain an offer that meets their expectation.¹¹

¹¹ Using the estimates derived from the sample after 1997, we calculate the elasticities of unemployment durations with respect to incentives. We find that a one-percent increase in pre-displacement wages raises the length of unemployment duration by 0.189 to 0.205 percent for men and 0.335 to 0.454 percent for women. In contrast, the elasticity with respect to unemployment benefits for men is slightly higher than that for women (0.114 to 0.123 for the former versus 0.087 to 0.093 for the latter). Ham, et. al. (1998, 1999) estimate that the point elasticity of unemployment spells is 0.21 for women and 0.34 for men in the Czech Republic. Compared with their estimates, the negative incentive effects of public income

Striking gender differences are also found in marginal effects of access to social networks. Having party membership makes a significant difference in the duration of unemployment for women but has no effect for men. Quantitatively, a woman's probability of leaving unemployment is 68.5 to 70.3 percent higher for a party member than a non-party member. While political affiliation appears to be more important for women, having another unemployed person in the household dramatically reduces the prospect of reemployment for both sexes—by 89 to 93 percent for men and 89 to 90 percent for women. In addition, the estimates of dummy variables for job search channels show that assistance from relatives and friends is significantly more effective for men than for women. These results suggest that access to social networks is particularly important for women and low social capital endowment represents a major handicap for unemployed females to re-entering the labor market.

With respect to macroeconomic indicators, the estimates show that local unemployment rates have a negative impact on both men and women but the effect is significant only for women in the full sample. While the gender difference is statistically insignificant, the stronger unemployment effect for women is consistent with the conjecture that it is easier for employers to act out their prejudice against women when there is a queue for employment. Although the slackness of labor demand may be to women's disadvantage, the emergence of service industries appears to benefit women more than men. Evidently, the share of tertiary industry has a significant negative effect on men's reemployment but an insignificant effect for women's and the gender difference is statistically significant for the

support are weaker in urban China than in the Czech Republic.

sample after 1997.

From the regressions of unemployment durations, we estimate the expected length of unemployment spells. The estimates indicate that the laid-off workers suffer chronic unemployment with the expected length of unemployment duration of 51 to 55 months for women and 45 to 47 months for men and that the predicted unemployment spells for women are 6 to 9 months longer than that for men.¹² Using the Oaxaca decomposition technique, we estimate the extent to which the predicted gender gap in unemployment duration can be attributed to either differences in observable characteristics or differences in regression coefficients. The decomposition results show that all the difference in unemployment duration between women and men is due to differences in coefficients (see Table a3). Specifically, if both men and women faced a male oriented market structure the predicted mean female duration of unemployment would be 4.6 to 6.7 months shorter than that for males. This result confirms further that the gender difference in unemployment durations reflects primarily the economic and institutional constraints faced by laid-off female workers.

8. Conclusions

In this paper, we study the gender patterns of unemployment durations in urban China using data derived from a recent, national representative household survey. We estimate the determinants of unemployment spells for men and women and test four hypotheses regarding the reasons as to why women have a longer unemployment spell than men. First, we find no

¹² The predicted unemployment spells from our sample appear to be much longer than those in Czech and Slovak Republics obtained by Ham, et. al.(1999). A part of the difference may stem from the fact that Ham and his coauthors use entitlement based data which exclude those who run out unemployment entitlements but remain unemployed, while our sample does not subject to such downward bias. However, our sample does include those who consider themselves unemployment while taking casual employment to support their family while searching for stable jobs.

evidence that women are less enthusiastic than men towards reemployment. The statistics show that the unemployment male and female workers in our sample display a considerable similarity in job search efforts and response to domestic responsibilities and employment incentives. Secondly, our results support the conjecture that weak social connections represent a major job search handicap to women. While party membership is particularly important for women, fewer women have party membership. Moreover, friends and relatives as a means of job search are markedly more effective for men than for women.

Thirdly, we find that former female employees of the collectives had lowest reemployment rates compared to their male colleagues and sisters in SOEs. This finding suggests that gender inequality in access to reemployment services is partly responsible for the hardship of women. Lastly, our findings are supportive for the hypothesis that employers' prejudice is a major cause of the gender gap in unemployment durations. Specifically, we find that married women are more likely to be the victim of social stereotype that they are less flexible and less unreliable due to family duties. We also find that the pre-displacement wage has significantly larger effect on women than men, indicating that women may suffer a larger downward adjustment in remunerations following the labor reshuffling from the public to the private sector. Methodologically, our analysis shows that the gender indicator for female workers has significant negative effect on reemployment rates, other things being equal. The estimates obtained from the Oaxaca decomposition unveil that the expected length of unemployment duration would be shorter for women than for men if the market response to women's observable characteristics were the same as to men's. The negative effects of market institutions are so strong that women instead have to endure longer unemployment durations

than men in spite of that economic structural changes work to women's advantage.

In addition to the findings on gender disparities, our analysis has also generated several important results regarding the operation of China's urban labor market. Our estimates indicate that the problem of unemployment in post-restructuring urban China is structural and frictional in nature rather than the result of low aggregate demand for labor. Moreover, public income supports for unemployment have a rather moderate disincentive effect on the duration of unemployment for both men and women in urban China. Furthermore, the unemployment of one family member has a significant negative effect on the reemployment rates of other family members.

The results of our analysis have important policy implications. The main message is that to reduce gender inequality in employment, policy measures must be taken to address external constraints and structural features of China's urban labor market. Chief among these are public interventions for reducing gender segmentation in the workplace, narrowing the gender wage gap in the emerging private sector, making active labor policies such as skill-training and job replacement services more widely accessible and more sensitive to the needs of unemployed female workers, and helping women develop connections to social networks. Beyond desire to eliminate gender inequalities, this study calls for public attention to households with multiple unemployed members to ameliorate the increased burden borne by these workers in times of labor market turbulence.

References

- Appleton, Simon, Knight, John, Song, Lina, and Xia, Qingjie, 2002. "Labor Retrenchment in China: Determinants and Consequences." *China Economic Review* 13, pp. 252-275.
- Azmat, Ghazala, Maia Gu'ell, Alan Manning, 2006. "Gender Gaps in Unemployment Rates in OECD Countries." *Journal of Labor Economics*, Vol. 24, No.1, pp. 1-37.
- Becker G.S., 1973. "A theory of Marriage: Part 1." *Journal of Political Economy* 81:813-846.
- Bian, Yanjie, 1994, *Work and inequality in urban China*, Albany: State University of New York.
- Cai, Fang, Giles, John, Park, Albert, 2006, "The Impact of Institutions, Information and Demographics on the Re-Employment of China's Laid-Off Workers." mimeo, RSPAS, Australian National University.
- Croll, Elisabeth. 1983. *Chinese Women since Mao*. London, UK: Zed Books.
- Crossley, Thomas F., Jones, Stephen R. G., and Kuhn, Peter, 1994. "Gender Differences in Displacement Cost, Evidence and Implications." *Journal of Human Resources*, Vol. 29, No. 2, pp.461-480.
- Dong, Xiao-yuan, Yang, Jianchun, Du, Fenglian, Ding Sai, 2005, "Women's Employment and Public-Sector Restructuring: The Case of Urban China." Eds. Grace Lee and Malcolm Warner, Publisher: Routledge Curzon.
- Dong, Xiao-yuan and Louis Putterman, 2003. 'Soft Budget Constraints, Social Burdens, and Labor Redundancy in China's State Industry', *Journal of Comparative Economics*, Vol.31: 110-133.
- Du, Fenglian, Fan, Xingli, 2005. "Does Unemployment Matter to the Earning Differentials by Gender"? *Journal of Nan Kai Economic Research*, No.2,
- Ham, John C., Jan Svejnar and Katherine Terrell, 1998. "Unemployment and the Social Safety Net during Transitions to a Market Economy: Evidence from the Czech and Slovak Republics." *American Economic Review*, Vol.88, No.5 (Dec.), pp1117-1142.
- Ham, John C., Jan Svejnar and Katherine Terrell, 1999. "Women's unemployment during transition, Evidence from Czech and Slovak Micro-Data." *Economics of Transition*, Vol. 7, No.1, pp47-78.
- Johnson, Janet L, 1983, Sex Differentials in Unemployment Rates: A case for No Concern." *Journal of Political Economy*, Vol. 91, No.21, pp. 293-303.
- Kulik, Liat, 2000. "Jobless Men and Women: A Comparative Analysis of Job Search Intensity,

- Attitudes toward Unemployment, and Related Responses, *Journal of Occupational and Organizational Psychology*, Vol. 73, pp. 487-500.
- Liu, Jieyu, 2007. "Gender Dynamics and Redundancy in Urban China." forthcoming in *Feminist Economics*. Vol. 13, No. 3, (July).
- McCall, J. J., 1988. "Economics of Information and Job Search." *Quarterly Journal of Economics*, Vol. 26, No. 2 (June), pp.646-679.
- Madden, Janice Fanning, 1987. "Gender Differences in the Cost of Displacement: An Empirical Test of Discrimination in the Labor Market." *American Economic Review*, Vol. 77, No.2 (May), pp.246-252.
- Maxwell, Nan L., 1989. "Labor Market Effects from Involuntary Job Losses in Layoffs, Plant Closings: The Role of Human Capital in Facilitating Reemployment and Reduced Wage Losses." *American Journal of Economics & Sociology*, Vol. 48, No. 2 (April), pp.129-142.
- Maxwell, Nan L. and D'Amico, Ronald J., 1986, "Employment and Wage Effects of Involuntary Job Separation: Male-Female Differences." *American Economic Review*, Vol. 76, No.2 (May), pp373-378.
- Narendranathan, W., S. Nickell, J. Stern, 1985, "Unemployment Benefits Revisited." *Economic Journal*, Vol. 95, No.378, (Jan.), pp.308-329.
- Nickell, Stephen, 1979. "Estimating the Probability of Leaving Unemployment," *Econometrica*, Vol.47, No.5(Sep), pp.1249-1266.
- Ollikainen, Virve, 2006. "Gender Differences in Transitions from Unemployment: Micro Evidence from Finland." *Llabor*, Vol. 20, No. 1, (Jan.), pp. 159–198.
- Stigler, J., 1962, "Information in the Labor Market." *Journal of Political Economics*, Vol.70, No.5, (Oct.), pp. 94-105.
- Theodossiou, 2002. "Factors Affecting the Job-to Joblessness Turnover and Gender." *Labour*, Vol. 16, No. 4, pp. 729-746.
- Timberlake, Sharon, 2005. "Social Capital and Gender in the Workplace." *Journal of Management Development*, Vol. 24, No. 1, pp.34-44.
- Walder, Andrew G., 1986. *Communist Neo-Traditionalism: Work and Authority in Chinese Industry*. Berkley, Los Angeles and London: University of California Press.
- Zhang and Dong, 2006. "Male-Female Wage Discrimination Chinese Industry: Investigation Using Firm-Level Data" *GEM-IWG Working Paper Series*, 06-11.

Table 1: Unemployment durations in urban China by gender, 2003

	Unemployed in past 3 years (1)		Re-employed (2)		Remain unemployed (3)	
Overall						
No. Observations	2,102		881		1,221	
%	100		41.91		58.09	
Unemployment duration (month)	17.67 (15.82)		13.29 (12.42)		20.82 (17.21)	
By gender	Male	Female	Male	Female	Male	Female
No. Observations	865	1,236	386	495	479	741
%	41.17	58.83	43.81	56.19	39.26	60.74
Unemployment Duration (month)	16.22 (15.42)	18.68 (16.03)	11.88 (11.89)	14.39 (12.72)	19.72 (16.98)	21.55 (17.33)

Source: The Urban Unemployment and Reemployment Survey.

Notes: Statistics presented in this table are derived from the sample after 1997. Standard deviations are in parentheses.

Table 2: Summary statistics of individual characteristics of the sample, by Gender

	Male		Female		Female /Male
	Mean	Std. Dev.	Mean	Std. Dev.	
Continuous variables					
Years of schooling ¹	11.16	2.32	11.26	2.10	1.01
Experience ³	21.65	11.27	19.72	8.34	0.91
Pre-displacement Earnings (<i>yuan</i> /month)	702.33	496.44	541.50	260.92	0.77
Income of other members (<i>yuan</i> /month)	632.05	677.62	981.84	775.42	1.55
Property income (<i>yuan</i> /month)	360.77	642.14	250.57	696.04	0.69
Unemployment benefits (<i>yuan</i> /month)	82.22	82.42	77.62	78.07	0.94
Percentage of having access to unemployment benefits	45.32	0.50	42.64	0.49	0.94
Discrete variables (%)					
Party member ⁴	14.2	0.350	8.9	0.285	0.83
Married	77.6	0.418	88.4	0.320	1.14
Health status	87.7	0.328	88.9	0.314	1.01
More than 1 unemployed in the household	5.32	0.225	4.45	0.206	0.84
Household demographics					
No children	10.9	0.451	12.9	0.490	1.18
Child aged 0—6 ⁵	3.4	0.312	7.8	0.335	2.29
Child aged 7—18	28.4	0.180	39.9	0.268	1.40
Child aged 19—22	18.3	0.387	18.4	0.387	1.00
Child aged over 22	39.1	0.488	21.1	0.408	0.54
Ownership of the firm employed prior to lay off⁶					
SOE	46.59	0.466	39.11	0.391	0.83
Collective	12.60	0.332	22.11	0.415	1.75
Private and self-employed	14.45	0.352	15.30	0.360	1.06
Foreign investment and joint venture	7.98	0.271	6.07	0.240	0.76
Others	18.38	0.388	17.41	0.379	0.95
Pre-displacement occupation⁷					
White collar ⁸	26.54	0.424	18.18	0.366	0.69
Blue collar	73.46	0.424	81.82	0.366	1.11
Job search channels					
Government	0.376	0.376	0.377	0.377	1.01

Labor Market	0.161	0.161	0.166	0.166	1.04
Relatives and friends	0.496	0.496	0.496	0.496	0.99
Themselves	0.463	0.463	0.466	0.466	1.022
Other	0.227	0.227	0.208	0.208	0.833

Source: The Urban Unemployment and Reemployment Survey. Notes: Statistics presented in this table are derived from the sample after 1997.

Table 3: Weibull regression estimates of unemployment duration

	All observations			Unemployed after 1997		
	Pooled regression	Male	Female	Pooled regression ³	Male	Female
	Haz.Ratio (t-statistics)	Haz.Ratio (t-statistics)	Haz.Ratio (t-statistics)	Haz.Ratio (t-statistics)	Haz.Ratio (t-statistics)	Haz.Ratio (t-statistics)
Female	0.5836 (-5.36)***			0.6331 (-4.74)***		
Human capital endowment						
Experience (pre-displacement)	1.1389 (5.29)***	1.0781 (2.37)**	1.1112 (2.92)***	1.1167 (4.61)***	1.1023 (3.73)***	1.0776 (2.09)**
Experience squared	0.9978 (-3.90)***	0.9985 (-2.12)**	0.9989 (-1.20)	0.9979 (-3.83)***	0.9980 (-3.42)***	0.9991 (-1.01)
Education	1.1585 (6.04)***	1.0601 (1.89)*	1.2385 (6.02)***	1.1152 (4.72)***	1.0425 (1.50)	1.1760 (4.86)***
Health status	2.2199 (5.17)***	2.1834 (3.62)***	2.1436 (3.86)***	1.8027 (3.81)***	1.9990 (3.44)***	1.6324 (2.43)**
Blue-collar worker (pre-displacement)	0.9616 (-0.35)	1.0257 (0.18)	0.8764 (-0.89)	0.9159 (-0.85)	0.9603 (-0.34)	0.8250 (-1.31)
Marital status and household responsibilities						
Married	0.6992 (-2.02)**	1.2962 (1.08)	0.4815 (-3.10)***	0.8210 (-1.17)	1.0536 (0.24)	0.6916 (-1.61)*
Child aged 0-6	1.9316 (2.91)***	1.4283 (1.05)	2.3641 (3.07)***	0.8452 (-1.19)	0.7508 (-1.45)	0.8937 (-0.61)
Child aged 7-18	1.2842 (1.68)*	1.4974 (1.93)*	1.2721 (1.29)	1.2393 (1.16)	0.8988 (-0.34)	1.4037 (1.55)
Child aged 19-22	1.1761 (1.01)	1.2279 (0.89)	1.1623 (0.77)	0.8424 (-1.36)	0.7273 (-1.89)*	0.9156 (-0.53)
Child aged over 22	0.8851 (-0.78)	1.1449 (0.66)	0.8177 (-0.96)	0.6793 (-3.09)***	0.7469 (-1.88)*	0.6328 (-2.50)**
Reemployment incentives						
Log(Income of other members)	0.9867 (-0.78)	0.9850 (-0.71)	0.9865 (-0.55)	0.9687 (-1.90)	0.9767 (-1.21)	0.9671 (-1.30)
Log(Property income)	1.0000 (-0.00)	0.9832 (-0.96)	1.0125 (0.74)	0.9863 (-0.92)	0.9626 (-1.87)*	1.0123 (0.62)
Log(UB)	0.9051 (-4.75)***	0.8908 (-3.89)***	0.9143 (-3.31)***	0.9010 (-5.16)***	0.9007 (-4.12)***	0.9043 (-3.71)***
Log(Pre-displacement earnings)	0.7312 (-5.77)***	0.8246 (-3.29)***	0.6255 (-5.53)***	0.7652 (-5.49)***	0.8410 (-3.70)***	0.6957 (-4.80)***
Ownership type of the former employer						
Collective	0.9084 (-0.83)	1.2682 (1.32)	0.7986 (-1.62)*	1.1065 (0.91)	1.3276 (1.70)*	0.9994 (-0.00)

Table 3: Weibull regression estimates of unemployment duration (continued)

Private firm or self-employed	1.8542 (4.37)***	1.6825 (2.65)***	1.8412 (3.38)***	1.7138 (4.05)***	1.5850 (2.65)**	1.7280 (3.07)***
Foreign investment or Joint venture	1.6953 (2.86)***	2.0801 (2.97)***	1.4125 (1.39)	1.5696 (2.69)***	1.6043 (2.34)*	1.5242 (1.79)*
Other ownership	1.4401 (2.83)***	1.2537 (1.27)	1.4187 (2.16)**	1.4255 (2.93)***	1.2699 (1.49)	1.4770 (2.48)**
Access to social networks						
Party member	1.6234 (3.53)***	1.3322 (1.55)	1.7026 (3.06)***	1.5325 (3.37)***	1.2715 (1.44)	1.6847 (3.11)***
More than 1 adult unemployed	0.0927 (-5.01)***	0.0726 (-3.52)***	0.1047 (-3.72)***	0.1016 (-4.90)***	0.1152 (-2.93)***	0.0940 (-3.91)***
Job search channels						
Labor Market	1.0207 (0.07)	1.2412 (0.51)	0.9405 (-0.17)	1.2657 (0.82)	1.6703 (1.41)	1.0627 (0.16)
Relatives& friends	1.8361 (4.35)***	2.7009 (4.71)***	1.4158 (1.99)**	1.8528 (4.57)***	2.3102 (3.98)***	1.4780 (2.23)**
Themselves	2.0542 (4.96)***	2.1146 (3.42)***	1.8344 (3.34)***	2.1132 (5.32)***	1.9471 (3.05)***	1.9970 (3.74)***
Others	1.2068 (0.81)	1.5967 (1.47)	0.8772 (-0.44)	1.2754 (1.07)	1.4994 (1.25)	0.9634 (-0.12)
Macroeconomic indicators						
Local unemployment rates	0.9673 (-1.88)*	0.9879 (-0.51)	0.9562 (-1.92)*	0.9802 (-1.19)	0.9868 (-0.58)	0.9771 (-1.01)
Share of tertiary	0.9875 (-1.70)*	0.9759 (-2.38)**	0.9938 (-0.66)	0.9946 (-0.77)	0.9791 (-2.22)**	1.0026 (0.28)
Local economic growth	1.0154 (0.61)	1.0081 (0.24)	1.0207 (0.65)	1.0043 (0.18)	1.0007 (0.03)	1.0097 (0.30)
α	1.0346	0.9402	1.0373	1.0438	0.9148	1.0840
(Std. Err.)	(0.0509)***	(0.0703)***	(0.0746)***	(0.0529)***	(0.0318)***	(.0729)***
Log likelihood	-2265.9408	-949.3419	-1279.8837	-2127.3297	-912.5322	-1187.7316
Likelihood ratio test for zero slopes						
χ^2	379.00	167.48	258.08	345.27	171.34	211.81
P value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Likelihood-ratio test of unobserved heterogeneity						
χ^2	16.57	1.67	2.19	5.04	0.47	1.68
P value	0.000	0.098	0.069	0.012	0.246	0.097
No. of observations	2134	851	1283	2071	850	1221

Notes: T statistics of the estimates are presented in parentheses. ***,** and* indicate 1, 5 and 10% level of significance, respectively. For dummies variables, reference groups are male, poor healthy, non- communist party member, not married, no children, only one unemployed in one family, employed in SOEs pre-displacement, white-collar workers, and relying on publicly provided job replacement services for job search.

Appendix:

Table a1: Cox Regression Estimates of Unemployment Duration

	From 1993 ¹			From 1998 ²		
	Pooled regression	Male	Female	Pooled regression ³	Male	Female
	Haz.Ratio (t-statistics)	Haz.Ratio (t-statistics)	Haz.Ratio (t-statistics)	Haz.Ratio (t-statistics)	Haz.Ratio (t-statistics)	Haz.Ratio (t-statistics)
Female	0.6792 (-5.19)***			0.6915 (-5.01)***		
Human capital endowment						
Experience (pre-displacement)	1.0944 (5.16)***	1.0667 (2.71)*	1.0902 (2.95)***	1.0915 (4.89)***	1.0982 (3.79)***	1.0694 (2.20)**
Experience squared	0.9984 (-3.71)***	0.9987 (-2.39)**	0.9990 (-1.25)	0.9983 (-3.99)***	0.9981 (-3.49)***	0.9990 (-1.17)
Education	1.1079 (5.85)***	1.0395 (1.52)	1.1899 (6.97)***	1.0868 (4.68)***	1.0362 (1.38)	1.1438 (5.21)***
Health status	1.8218 (5.03)***	1.9862 (3.57)***	1.8965 (3.94)***	1.6282 (3.85)***	1.9619 (3.52)***	1.5413 (2.45)**
Blue-collar worker (pre-displacement)	1.0019 (0.02)	1.0247 (0.21)	0.9255 (-0.63)	0.9264 (-0.90)	0.9569 (-0.40)	0.8784 (-1.03)
Marital status and household responsibilities						
Married	0.7963 (-1.67)*	1.2769 (1.28)	0.5680 (-2.96)***	0.8791 (-0.93)	1.0972 (0.45)	0.7437 (-1.57)
Child aged 0-6	1.5572 (2.57)***	1.3238 (1.04)	1.9221 (2.74)***	0.8492 (-1.41)	0.8039 (-1.18)	0.9031 (-0.62)
Child aged 7-18	1.2422 (1.89)*	1.3928 (1.85)	1.2413 (1.37)	1.1225 (0.76)	0.9625 (-0.13)	1.2960 (1.35)
Child aged 19-22	1.1370 (1.03)	1.1308 (0.62)	1.1673 (0.94)	0.8573 (-1.50)	0.7425 (-1.88)*	0.9487 (-0.37)
Child aged over 22	0.8858 (-0.94)	1.0788 (0.42)	0.8357 (-0.95)	0.7060 (-3.31)***	0.7786 (-1.72)*	0.6852 (-2.37)**
Reemployment incentives						
Log(Income of other members)	0.9805 (-1.55)	0.9844 (-0.89)	0.9820 (-0.98)	0.9670 (-2.61)***	0.9812 (-1.05)	0.9669 (-1.70)*
Log(Property income)	0.9928 (-0.76)	0.9822 (-1.31)	1.0093 (0.71)	0.9842 (-1.25)	0.9646 (-1.89)*	1.0088 (0.52)
Log(UB)	0.9246 (-4.81)***	0.9062 (-4.30)***	0.9231 (-3.54)***	0.9149 (-5.37)***	0.9028 (-4.34)***	0.9152 (-3.83)***
Log(Pre-displacement earnings)	0.7856 (-7.07)***	0.8405 (-4.23)***	0.6796 (-7.71)***	0.8001 (-6.96)***	0.8451 (-3.83)***	0.7392 (-6.34)***
Ownership type of the former employer						

Collective	0.9054 (-1.08)	1.2043 (1.23)	0.8335 (-1.61)	1.0978 (1.01)	1.3097 (1.77)	1.0257 (0.22)
Private and self-employed	1.5400 (3.95)***	1.4818 (2.400)	1.6122 (3.20)***	1.5042 (3.59)***	1.4423 (2.23)**	1.5469 (2.77)***
Foreign investment and Joint venture	1.4254 (2.41)**	1.7687 (2.97)	1.3078 (1.24)	1.4282 (2.61)***	1.5304 (2.27)**	1.4420 (1.84)*
Other ownership	1.2409 (2.17)**	1.1560 (0.96)	1.2785 (1.90)*	1.3183 (2.81)***	1.2401 (1.45)	1.3739 (2.41)**
Access to social networks						
Party member	1.5117 (3.99)***	1.2918 (1.61)	1.5854 (3.49)***	1.4538 (3.63)***	1.2199 (1.27)	1.6085 (3.56)***
More than 1 adult unemployed	0.1190 (-4.59)***	0.0912 (-3.13)***	0.1249 (-3.47)***	0.1175 (-4.65)***	0.1161 (-2.95)***	0.1106 (-3.69)***
Job search channels						
Labor Market	1.1141 (0.48)	1.2503 (0.59)	1.0118 (0.04)	1.2928 (1.07)	1.5869 (1.33)	1.0755 (0.23)
Relatives& friends	1.7158 (4.57)***	2.4257 (4.42)***	1.3579 (2.12)**	1.7619 (4.67)***	2.2295 (3.98)***	1.4284 (2.36)**
Themselves	1.8636 (5.13)***	1.9510 (3.24)***	1.7046 (3.74)***	1.9566 (5.40)***	1.8837 (3.04)***	1.8298 (3.99)***
Others	1.2659 (1.27)	1.5483 (1.52)	0.9237 (-0.31)	1.2800 (1.21)	1.4906 (1.29)	0.9894 (-0.04)
Macroeconomic indicators						
Local unemployment rates	0.9751 (-1.80)*	0.9847 (-0.74)	0.9651 (-1.88)*	0.9846 (-1.10)	0.9865 (-0.64)	0.9838 (-0.85)
Share of tertiary	0.9910 (-1.54)	0.9788 (-2.49)**	0.9969 (-0.39)	0.9961 (-0.65)	0.9803 (-2.24)**	1.0038 (0.46)
Local economic growth	1.0140 (0.73)	1.0061 (0.23)	1.0175 (0.65)	1.0014 (0.07)	1.0003 (0.01)	1.0036 (0.13)
Log likelihood	-6168.021	-2303.453	-3207.803	-5921.995	-2246.283	-3055.994
Wald test for zero slopes						
χ^2	352.55	159.15	317.67	344.33	175.31	248.96
P value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
No. observations	2134	851	1283	2071	850	1221

Notes: T statistics of the estimates are presented in parentheses. ***, ** and * indicate 1, 5 and 10% level of significance, respectively. For dummies variables, reference groups are male, poor healthy, non-communist party member, not married, no children, only one unemployed in one family, employed in SOEs pre-displacement, white-collar workers, and relying on publicly provided job replacement services for job search.

Table a2: Weibull regression estimates of gender indicator and its interactive terms

	All observations			Unemployed after 1997		
	Pooled regression			Pooled Regression		
	Coef.	t-statistic	p-value	Coef.	t-statistic	p-value
Female	0.7054	-0.29	0.769	0.5245	-0.55	0.579
Human capital endowment						
Experience	1.0243	0.53	0.599	0.9627	-0.82	0.411
Experience squared	1.0004	0.38	0.703	1.0013	1.15	0.252
Education	1.1548	3.38	0.001	1.1067	2.41	0.016
Health status	0.9381	-0.22	0.824	0.7369	-1.03	0.305
Blue-collar worker (pre-displacement)	0.8553	-0.76	0.444	0.8440	-0.84	0.402
Marital status and household responsibilities						
Married	0.3813	-2.85	0.004	0.6728	-1.18	0.239
Child aged 0-6	1.5683	1.03	0.304	1.1864	0.61	0.545
Child aged 7-18	0.8328	-0.64	0.519	1.4040	0.87	0.382
Child aged 19-22	0.9326	-0.23	0.820	1.2930	1.02	0.308
Child aged over 22	0.7063	-1.17	0.242	0.8526	-0.63	0.527
Reemployment incentives						
Log(income of other members)	1.0004	0.01	0.990	0.9881	-0.36	0.721
Log(property income)	1.0290	1.16	0.248	1.0539	1.78	0.075
Log(UB)	1.0331	0.85	0.398	1.0217	0.57	0.570
Log(pre-displacement earnings)	0.7693	-2.70	0.007	0.8485	-1.81	0.070
Sector employed prior to displacement						
Collective	0.6228	-2.05	0.041	0.7117	-1.47	0.141
Private firm or self-employed	1.0315	0.12	0.906	1.0060	0.02	0.981
Foreign investment and joint venture	0.6367	-1.30	0.194	0.8592	-0.46	0.646
Other ownership	1.0902	0.37	0.715	1.1031	0.42	0.673
Access to social networks						
Party member	1.2581	0.90	0.369	1.3196	1.13	0.261
More than 1 adult unemployed	1.5728	0.47	0.635	0.9305	-0.08	0.939
Job search channel						
Labor market	0.7659	-0.47	0.639	0.6575	-0.74	0.462
Relatives& friends	0.5098	-2.47	0.014	0.5998	-1.89	0.059

Self	0.8456	-0.60	0.552	0.9829	-0.06	0.951
Others	0.5536	-1.34	0.180	0.6277	-1.03	0.301
Macroeconomic indicators						
Local unemployment rates	0.9690	-0.94	0.350	0.9923	-0.23	0.815
Share of tertiary	1.0198	1.41	0.158	1.0266	1.90	0.058
Local economic growth	1.0110	0.23	0.816	1.0037	0.08	0.936
α		0.9963			1.0311	
(Std. Err.)		(0.0507)***			(0.0525)***	
Log likelihood		-2230.059			-2101.421	
Likelihood ratio test for zero slopes						
χ^2		450.76			397.09	
P value		0.0000			0.0000	
Likelihood-ratio test of unobserved heterogeneity						
χ^2		4.70			2.52	
P value		0.015			0.056	
No. observations		2134			2071	

Notes: The estimates of non-interactive terms are omitted to streamline the exposition. Statistics presented in parentheses are t scores except for α . ***,** and* indicate 1, 5 and 10% level of significance, respectively. For dummies variables, reference groups are male, poor healthy, non-communist party member, not married, no children, only one unemployed in one family, employed in SOEs pre-displacement, white-collar workers, and relying on publicly provided job replacement services for job search.

Table a3: Oaxaca Decomposition in Unemployment Duration by Gender

	All observations	Unemployed after 1997
Expected duration	Month	Month
Female	55.1480 ¹	51.5414
Male	45.4252	47.5146
Males' β , females' X	36.0764	36.9658
Females' β , males' X	54.9748	54.3538
Gender disparities in expected duration	9.7228	4.0268
Difference due to		
Coefficients	14.3106	10.7074
Explanatory variables	-4.5878	-6.6806

Notes: The decomposition results are derived from the estimates obtained from the sample after 1997 presented in Table 3