

Economic Transition and the Labor Market in China

Haizheng Li
School of Economics
Georgia Institute of Technology
Atlanta, GA 30332-0615
Phone (404) 894-3542
Fax (404) 894-1890
E-mail: haizheng.li@econ.gatech.edu

Jeffrey Zax
Department of Economics
University of Colorado-Boulder
Boulder, CO 80309
Phone (303) 492-8268
Fax (303) 492-8960
E-mail: jeffrey.zax@colorado.edu

* The corresponding author. We thank Katherine Sullivan for research assistance

Economic Transition and the Labor Market in China

Abstract

This study investigates the structure and trends of the labor market in China in the economic transition. Based on two large-scale repeated surveys, we cover a variety of rarely explored issues related to the labor market in China. These issues include labor market participation and various employment such as second jobs and post retirement employment, labor supply issues like working hours, work efforts, and wages, and also issues related to jobs, such as job matching mechanisms, job turnover, and job training. Lastly, we also investigate unemployment and layoffs. We find that the market system is playing an increasing role in the labor market, but state-owned sector is the least market oriented in labor demand and supply system. Further reforms are needed in order to move toward a higher degree of labor market. This study provides a fairly complete picture of the Chinese labor market and should be important for further researches in this area.

Key Words: Labor Market, Labor Supply, China

J.E.L Code: J40

I. Introduction

During the economic transition toward a market system, the Chinese labor market is evolving. As an important means to facilitate efficient allocation of labor resources, the development of the labor market will have important implications for the success of the economic reform. This study investigates the Chinese urban labor market and its evolving pattern. We use two micro-level urban surveys to study the characteristics and the trend of the embryonic labor market in China. The focus of this study is to establish facts about the labor market that need to be explained by theoretical reasoning and to yield insights into economic trends. We hope to provide a relative complete picture of the Chinese labor markets to inspire a vigorous future search.

Most existing studies on China's urban labor market focus on a particular aspect, such as labor supply (Li and Zax, 2002), relative wages between the state-owned sector and the private sector (Zhao, 2000), wage discriminations (Yang and Zax, 2001), and urban migrants (Wang and Zou, 1999). While these studies provide in-depth analysis on a particular issue, very few works offer an overall picture for the urban labor market in China. Because each element of a labor market is integrated with the other, a comprehensive description of the labor market would be of great value for policy makers and researchers. This is especially true for the labor market that experiencing a rapid transition.

Before the economic reform, labor allocation in China was under a strict command scheme. For example, jobs were assigned by the government, wages were determined by the government as well, and labor mobility was highly restricted. Lacking of the market mechanism, labor demand and labor supply was distorted. The profound

economic reform has been changing the country's labor allocation system, and the market mechanism is playing an increasing role. Knight and Song (1995) reviews the reforms related to the labor market in China.

How much and to what extent has the economic reform changed the labor market? This study provides a preliminary assessment by charactering the labor market structure, dynamics and trend based on descriptive analysis. Our analysis evaluates the trend based on time pattern and sectoral pattern. Moreover, this study explores many aspects of the Chinese labor market that have not been discussed in the literature, such as second jobs, and employment after retirement, work intensity, job turnover, and job training. Our analysis covers three major parts of the labor market, i.e., labor market participation, working hours and compensations, and jobs and unemployment.

The main data sets are from the Chinese Household Income Project (CHIP) 1988 and 1995. The CHIP is supported by the Ford Foundation, the Asian Development Bank, China's Academy of Social Science, and other agencies. The CHIP-88 survey was conducted in 1989, and CHIP-95 was conducted in 1996. The CHIP-95 data were just released for public use in 2000. Each survey consists of two distinct samples of the urban and rural populations, which were selected from significantly larger samples drawn by China's State Statistical Bureau.¹ Our data is from urban samples. The CHIP-88 covered 9009 urban families and 31,827 individuals, and the CHIP-95 covered 6928 urban families and 21688 individuals.

¹ These surveys were conducted with extraordinary care by economists at the Institute of Economics, Chinese Academy of Social Sciences, led by Zhao Renwei and Li Shi. Western economists led by Keith Griffin and Carl Riskin assisted. Both CHIP-88 and CHIP-95 have been released to the public at the Inter-university Consortium for Political and Social Research (ICPSR).

The rest of the paper is organized as following. Section II studies labor force participation and different employment. Section III discusses working hours and wages. Section IV covers job related issues and unemployment. Section V concludes.

II. Participating in the Labor Market

Issues related to labor force participation is a starting point for any labor market. As China's economy grows, wages and family income continue to increase. On one hand, with higher family income, more individuals, especially women, can withdraw from the labor market. On the other hand, increasing wages may attract more individuals to work. In addition, the one-child policy and the labor-saving technological progress in household will provide individuals especially women more flexibility to engage in employment. We will look at overall labor force participation first, and then investigate participation in the second job and in the labor market after retirement.

1. Labor force participation Rates

The Labor Force Participation Rate (LFPR) is an important measure of the available labor resources in a country. The LFPR is defined by the percentage of the population (usually aged 16 and over) engaged in or seeking gainful employment. In 1996, the total population above age 16 is 884.70 million, and the labor force (employed and unemployed) is 696.65 million (*China Labor Statistical Yearbook*, 1997). Thus the overall LFPR is 78.74%. This calculation does not count students above age 16 as being in labor force because most full time students do not engage in meaningful employment

in China. If students are included in labor force, like in the U.S., the overall LFPR in China will be 82.77%.

Our survey data provide more details on the LFPR. In 1989, the overall LFPR is 85%, 87% for men and 82% for women; while in 1996, the overall LFPR is 81.6%, 83.4% for male and 79.8% for female.² Clearly, the LFPR in China is much higher than that in other countries. For example, in the United States, the overall LFPR is 65.9%, 75.0% for men and 58.9% for women in 1995 (*The Economic Report to the President-1999*). While in Taiwan, the overall LFPR is only 58.7%, 72.0% for men, and just 45.3% for women in 1995 (*Taiwan Monthly Labor Statistics*).³ The high LFPR in China is probably caused by the relatively low income level, which makes it difficult for one wage earner to support the whole family. Therefore, women generally need to seek job actively. Given the high current level of LFPR, the participation rate especially for women will be likely to move downward. Our data shows that, from 1988 to 1995, the LFPR actually decreased for about three percentage points.

2. Employment Rates

Since the LFPR includes unemployed, both surveys make some attempt to measure unemployment, but little unemployment appears. It's unclear whether what does get reported is what we would ordinarily think of as representing individuals who are in the labor force but not employed. Thus we also calculate employment rate (the

² The CHIP-95 was done in 1996, and the LFPR is calculated based on the individuals' status in 1996, so the LFPR is for 1996. This is also true for CHIP-88. Full-time students and retired are not counted as being in labor force. Thus the LFPR is likely to be underestimated because they may still work part- or full-time.

³ In Taiwan, the LFR is based on population aged 15 and above.

proportion of employed among population aged 16 and above) in Table 1. The employment rate is 78% for men and 69% for women in 1988, and 80% for men and 71% for women in 1995. The employment rates are higher in 1995 than in 1988.

Age profile has shifted dramatically between these two years. Employment rates are lower at earlier ages, 16-20, and higher at older ages, 51 and above, especially higher for over 60 from 1988 to 1995. Youngest are probably staying out of work in order to get more schooling. Are oldest staying in because opportunities are so good? Or because old age security system has deteriorated so much?⁴ This is still unclear. As shown above, the LFPR declined from 1989 to 1996, where the retired individuals are not counted as being in labor force in calculating the LFPR. The employment rate, however, is rising, which is mainly caused by the dramatic increase in employment among retired (we will return to this point later).

The pattern of employment rate for different education attainment is expected, the least educated are the least likely to be employed. The most educated, however, are not the most likely to be employed, e.g., in 1995, for college graduate or above, 84% of men and 79% of women were employed, lower than for professional school graduates.

The employment in state-owned and collectively owned sector is shrinking, and in the private sector is rising rapidly. In our sample, the ownership distribution for 1995 is, state-owned 27.6%, local publicly owned 54.9%, urban collective 15.4%, and private owned 2.2%; while for 1988 it is 39.4%, 39.6%, 20.1%, and 0.9%, respectively.⁵ From 93 to 97, employment at foreign funded and self-employed enterprises is almost doubled,

⁴ There have been substantial changes in the Chinese social security system since 1995, for detail, see Li (2000).

⁵ The state-owned sector is owned by central or provincial government; the local publicly owned sector is owned, for example, by county; and the urban collective is owned by, for example, city district.

and in private enterprises are more than tripled. However, more than half of urban workers are still employed by state-owned sector. (*China Statistical Yearbook*, 1998).

3. Second Job and Other Employment

Second job and employment after retirement represent a different dimension of labor supply. In 1988, 1.2% of employed has second job, 1.5% for men and 0.7% for women. In 1995, second jobs increased dramatically, 7.1% has a second job, where 7.6% for men and 6.4% for women. The large increase in second job reflects, at least in part, a higher flexibility of the Chinese labor market.

Those who have second job spend, in average, 10.6 days per month (8 hours per day) on their second job, with a the standard deviation of 9.0 days. And the hourly wage rate is 4.16 yuan with a very large standard deviation of 9.62 yuan. It seems that individuals generally ask for a larger compensation to work on a second job. Thus, the average wage for second job is much higher than for the primary job (wages will be discussed in next section).⁶ In 1995, for those finishing elementary school or below, 9.0% have second job; and for college graduates and above, 7.2% have second job. For those with second job, 44% of the jobs are in the private sector.

Students' participation in the labor market represents a different source of labor supply. The proportions of urban Chinese working age persons who identify themselves as students fell between 1988 and 1995, despite increases in the proportions aged 16 through 25 attending school. The decline might be driven primarily by a decline in the propensity of older individuals to continue in schooling. In contrast, employment rates

⁶ The number should be interpreted with caution because only 71 observations reported both working hours and income from second job.

actually dropped among students. In 1988, student employment rate for men is 4% and for women is 4.7%; while in 1995, the rate is 1.8 for men and 1.7 for women. However, the most important change was the reduction in employment rates among the bulk of students who were children of their household heads. This suggests that families are requiring fewer economic contributions from their children, and instead are investing more in their human capital.

There is an enormous increase in work rates of individuals receiving retirement payments between 1988 and 1995, for both men and women. In 1988, the employment rate for retired men is 1.4% and for retired women is 1.7%; while in 1995, the number increases to 37.7% for men and 35.0% for women (see Table 2). Increase is least among the oldest age categories, but is still huge. Nearly a third of all men and a quarter of all women older than 60 receiving pension payments were also employed in 1995, compared with less than 2% of each group in 1988. Increase in employment among those receiving retirement payments occurred for all levels of educational attainment.

There are two important characteristics of the urban Chinese working age population. First, women who are not working are remarkably less likely than men to receive retirement payments, especially in the oldest cohorts. For example, for age 56 to 60, 94.8% (1988) and 93.2% (1995) unemployed men receive retirement income, the number for women is 73.4% (1988) and 76.6% (1995). For age above 60, 90.2% (1988) and 92.4% (1995) of unemployed men get retirement income, while only 38.7% and 52.3% unemployed women receive retirement income these years. Second, among both men and women who are not employed, the proportions that receive retirement income increased between 1988 and 1995. In 1988, noteworthy numbers of women report

receiving retirement payments as early as ages 46-50. Large numbers of men begin reporting receipt of retirement payments only at ages 56-60.

4. Employment and Family Structure

Three dramatic trends occurred in family structure among working age urban Chinese between 1988 and 1995. First, the proportion of women identifying themselves as household head increased dramatically, from 6.13% to 26.33%, accompanied by a similar increase in the proportion of men identifying themselves as spouses of household heads, from 2.78% to 23.96%. Second, the proportions of individuals identifying themselves as children of household heads declined, in part because there were proportionately fewer children, but perhaps also because children became more likely to establish their own households. Lastly, the proportions identifying themselves as parents of household heads also declined. It is unclear whether this is because they were well enough off to maintain their own households or because their adult children were less willing to have them in theirs.

There was a small drop in the employment rates for male household heads. In the mean time, there was a large increase in the employment rate for males identifying themselves as the spouse of the household head. Female household heads were correspondingly much more numerous in 1995, and much more likely to be employed than in 1988. Fewer household heads had their parents living with them, but more of those parents were at work. Even individuals receiving retirement payments, living in households headed by their children, were more likely to be working.

III. Working Hours and Compensations

Hours of work are the core in labor supply studies. Generally, an individual responds to changing wages and non-labor income by adjusting working hours. Therefore, the key issues related to labor supply, such as wage elasticity and income elasticity, can be estimated using the information on individuals' working hours. The information on work hours is rarely available in any other China data. The CHIP-95 provides such information for the first time. Moreover, with the availability of working hours, we will be able to calculate individuals hourly wage rate. The hourly wage is a more accurate measure than monthly or annual earnings in study human capital returns in China, because earnings generated by simply working long hours can be controlled.

1. Working Hours

Table 3 provides information on working hours. Overall, in 1995, individuals work 42 hours per week with a standard deviation of about 10 hours. The standard deviation measures the variation of labor supply, which is important in assessing labor supply responses to changes in wage, non-wage income, and government policies. In general, men tend to work slightly more than women. The variation of work hours is relatively small, only one fourth of the mean. Young workers work fewer hours with large variation, and so do old workers. Work hour rises at early career and reaches the peak at age 20-40, and then starts to go down.

Based on Table 4, the most educated work less. College graduates or above, in average, work about two hours less per week than upper middle school graduates. The lower middle school graduates works the longest hours, 43.1 per week. Individuals with

the least education have the largest variation in the work hours. Women graduated from lower middle school works 2 more hours per week than men graduated from college or above, and 3 hours more than women graduated from college or above. A dramatic difference is that the least educated women works much more (35.3 per week) than the least educated men (30.6 hours per week).

Table 3 also shows that employees at state-owned sector work the fewest hours and the variation is the smallest. In average, employees at private enterprises work about 30% more hours than those in the state-owned sector, and the variation is much larger too. It is clear that from state ownership to the private ownership, working hours increase and the flexibility in working hours decreases.

Besides work hours, another measure of labor supply is the total amount of efforts brought in when an individual is at work. Obviously this is difficult to measure and is rarely discussed in literature. The CHIP-95 survey asks a question about the intensity on an average working day, which can be used as a proxy for efforts in work (see Table 5). It appears that men are more likely to feel very intensive in for their job than women do. Also, the least educated are most likely to feel the highest intensity, and so are the most educated, probably because these two groups are engaged in heavily physical work and heavily intelligent work, respectively. Among the most educated group, however, women are more likely to feel very intensive. An interesting puzzle is that, based on work hours, the least educated men work fewer hours than the least educated women, but they are more likely to have a very intensive job. A possible reason is that least educated men work on very intensive physical labor, so they cannot work long hours.

Furthermore, jobs at private sector seem to be more intensive. The chance for employees to work very intensively is doubled to that in publicly owned sectors. Therefore, ownership plays a big role in both individuals working hours and working efforts. For instance, in state-owned sector, ownership is ultimately undefined and it is difficult to dismiss workers. As a result, workers generally face less job pressure, and thus work fewer hours and less hard than those in the private sector.

2. Wage and Benefits

The compensation structure in China is very complicated, and can be classified into four categories, regular wages, bonus, government subsidies (including medical subsidies, childcare subsidies, etc.), and the other (including in kind income).⁷ Overall, bonus counts for about 15% of the total wage in 1995 and 22% in 1988.⁸ The subsidies count for about 17% in both years. In average, men earn about 22% more than women in 1988 and 18.5% more in 1995. Men also have higher bonus and subsidies. Yang and Zax (2000) finds that wage discriminations against women do exist in China.

In 1995, the average hourly wage in urban is 2.91yuan (hourly wage is not available for 1988 because no working hours reported) with a standard error 2.11 yuan. If measured by monthly earnings, workers at the private sector seem to earn much more than those in the state-owned sector. This could be misleading, however, because workers at private sector work more hours in a month. Based on hourly wage rate, the

⁷ A big part of the benefits is housing, which could be free or largely subsidized for workers in non-private sectors. Such benefit is not included in calculating the total wage because it is difficult to estimate the money value. Zax (1999) makes some attempts to calculate the money value of housing benefits from a work unit.

⁸ For calculating wages, we restrict our sample to workers aged between 18 to 65.

state-owned sector has the highest total wage rate, which is 3.34yuan/hour compared to 2.95 yuan/hour in the private sector. The state-owned sector pays about 52% higher than urban collective and about 13% higher than the private sector. This is not surprising given the relatively fewer working hours at state-owned sector. Interestingly, although about one third of State-owned enterprises (SOEs) make losses, their hourly bonuses are still higher than other sectors. Adding the fact that housing benefits uncounted in the wage, the state-owned sector pays a much higher hourly compensation than any other sectors. Such excessive compensation in state-owned sector has also been found in other empirical investigations, such as Graves et al. (1994). The consequences and implications of such excessive compensation on the efficiency of SOEs have been discussed in Woo (1999).

Furthermore, in both years, the state-owned sector received the highest subsidies from the government and private sector received the lowest, and the difference seems to rise. For example, in 1988, the subsidy to private sector is about 71% of that to state-owned sector, but it is only about one fourth in 1995. In addition, the wage differential between state-owned sector and other publicly owned sector increased dramatically. One reason is that the state-owned sector receives much higher subsidies relative to other publicly owned sectors. For example, in 1988, the state-owned sector received 29% more in subsidy than urban collective sector, and it increased dramatically to 118% in 1995.

Wage differentials among occupations show some interesting pattern (Table 6). Although the overall average wage for state sector is higher than for private sector, the average wage for professional or technical workers and for office workers is lower than their counterparts in private sector. For state-owned sector, wages for professional and

technical workers are only 12% higher than for skilled workers and 36% higher than for unskilled workers.⁹ While for private sector, the difference is 27% and 60%, respectively, doubling the difference for state sectors. The relatively low wage differential in state-owned sector reflects the fact of old planning system, which emphasizes equality instead of efficiency in designing compensation scheme. Zhao (2000) also shows that the private sector rewards more to high education but SOEs rewards more to low education, in terms of wages. It is unclear how such small wage differentials among different workers will affect the ability of state-owned sector to attract or retain skilled workers.

IV. Job and Unemployment

A number of important issues related to jobs have rarely been discussed in literature. These issues include job matching mechanism, job turnover, and job training. The CHIP-95 provides such information directly or indirectly. We will briefly discuss these job issues first. Then we will discuss job terminations in China, including unemployment and layoffs.

1. Job Matching

Under the old command system, most jobs are assigned by the government and market mechanism played very little role. How has the job matching mechanism changed during the economic transition? Such change can measure the extent of labor market development. Table 7 shows that, among current employees, most of them got

⁹ Because 1988 data have different occupation categories, they are not completely comparable with 1995 data.

their job through non-market means, 75% assigned by the government and 5% through inheritance, and only 14% find their job by themselves.

The government plays a big role in overall job matching because many current workers got their job in the old allocation system. In order to evaluate the change in job matching mechanism, we will look at workers who started their job recently. Clearly, the role of non-market means in job matching has dropped substantially in recent years. For those who have been with current job for less than six years, 57% get their job through the government, while 31% by themselves. For those who got their present job in the previous year, 46.7% received the job from the government and 42.1% find the job themselves. Therefore, individuals rely more on themselves instead of the government to find a job, and the market mechanism is playing an increasing role in job matching. The role of employment agency is increasing, but still very small.

Interestingly, new employed women are more likely to rely on themselves and employment agency to find a job. In addition, for well-educated individuals, most of them (above 70 percent) were assigned a job by the government, which is probably because of the job assignment system in colleges and universities. As education level decreases, government gets less involved in job allocation and individuals rely more on themselves to find a job.

2. Job turnover

Job turnover measures labor mobility on a labor market. Generally, the flexibility in labor mobility is important for a mature labor market. Job turnover, however, will also result in transitional costs. For example, it takes time for an employee to get back to the

productivity level in the new job. The CHIP-95 provides indirect information that can be used to track labor turnover in China. Table 8 shows that 42.8% of employed changed their job at least once. Very few people change their job in their first 5 years, but in the second five years, about one fifth employees change jobs. Still, over half workers stay with one employer throughout lifetime.

Interestingly, young women change job more frequently than young men, probably because women are more likely to move to their spouses' work place. Over lifetime, however, more men change job than women do. Men are more likely to change job after they work for an employer for more than ten years, while women are more likely to do so within ten years. In addition, job turnover rate is low for least educated people, and is high for most educated people. Graduates from professional school turn out to change job more often than any other groups, and this is true for both male and female. Male job turnover rate is higher than female in very education category.

3. Job Training and Skill Distribution

Education and job training provides part of human capital brought to the job. Educational standard increased noticeably between 1988 and 1995 for both men and women. In 1988, 51.2% men and 60.2% women have education level at lower middle school and below, while in 1995, the number reduced to 36.1% for men and 47.6% for men. For skill distribution, between 1988 and 1995, the proportions of male professional and technical workers increased from 15.5% to 21.7%, and women from 15.6% to 22.4%. Noticeably, the proportion of professional and technical workers among women is higher than that among men, and the difference seems to rise. There is also a larger decline in

the proportion of laborers, from 46.5% to 36.8% for men and 59.1% to 40.5% for women. It appears that the skill distribution for workers in the urban Chinese economy improved between 1988 and 1995. Improvements occurred for most age categories. For example, in 1995, more young workers were in the professional and technical category, and fewer in the laborer category than in 1988.

Table 9 gives percentage of employees who received job training based on their work experience. Young workers receive more job training than old ones, especially on full-time pre-job training. Also, more workers receive full time on-the-job training than part-time on-the-job-training. Men appear to have more full-time training (on-job and pre-job), and women receive more part-time job training. For those with five years or less job experience, the average length of full-time pre-job training is 5.0 months, of full-time on the job training is 4.8 months, and of part-time training is 5.5 months.

College graduates or above receive much less full-time job training but more part-time on the job training. Graduates from professional school have the most training in all categories. In addition, state-owned sector provides more full-time job training than any other sectors. The private sector provides relatively more on-the-job training but the least pre-job training.

3. Unemployment

The official urban unemployment rate in China is registered unemployment rate, which is based on the number of registered unemployed persons in urban areas. However, not all unemployed will register with the government, and thus the registered rate will under-estimate unemployment. Another measure of unemployment is based on

surveyed data. Based on surveyed data published in *China Labor Statistical Yearbook*, we can calculate surveyed unemployment rate. The difference is quite large. For example, in 1996, the registered unemployment rate (year-end) is 2.6%, while the surveyed unemployment rate is 4.0%. In addition, 60% unemployed are unemployed for more than half year. And 52% unemployed are female. Surprisingly, about 5% of unemployed are college graduates and above, given that college graduates and above is only 2.7% of the total population for age at six and above in China.

The CHIP-95 data provide some additional information on unemployment. In 1995, 8.3% of those aged 16 and above was unemployed at least sometime, and the number is 7.1% for men and 9.6% for women. Among unemployed, about 12.9% were unemployed throughout the year, in which 15.5% unemployed women and 9.8% unemployed men have no job for the whole year. It appears that women are more likely to be unemployed, and are more likely to stay unemployed longer.

In addition, for those who were unemployed sometime in 1995, the average unemployed time is 107 days, where 98 days for men and 115 days for women. The higher education, the less likely to be unemployed. The chance for lower middle school graduates to get unemployed is four times higher than for college graduates. Women are more likely to be unemployed than men at every education level.

4. Massive Layoffs

In China, redundant workers are traditionally kept in their work unites instead of being laid off. However, starting in 1994, a massive layoff has occurred in China. In 1998, the central government laid off 50% of its personnel, and reduced the number of

ministries (bureaus) from 40 to 29. Total numbers of layoffs for 1996 is 8.9 million with 5.74 million from state-owned sector in the country (*China Labor Statistical Yearbook*, 1997, page 213).

Although the total number of layoffs seems to be large, redundant workers still exist. In 1996, overall 1.6 million redundant workers still existed after the layoff, where 1.2 million are in the state-owned enterprises (calculated from *China Labor Statistical Yearbook*, 1997, page 405). Interestingly, for state-owned enterprises, 3.3% layoffs have college degree and above, 6.9% are professionals, technicians, and management personnel.

In China, layoff does equal to unemployment. There is a so-called three-line security system for laid off workers. For the first 3 years after being laid off, the workers will still keep their employment relation with their firms and their basic salary (funded by both the government and the firms). After three years, if those workers do not find a job, they need to terminate their employment relation with their firms, and will receive unemployment compensation (from government) for two years. Thereafter, the workers will stop getting unemployment compensation and will receive income assistance from the government to maintain a minimum living standard. Therefore, the government takes the direct responsibilities to the laid off workers. This is still a progress because the layoffs moved the redundant workers out of the SOEs from hidden unemployment, where redundant workers were kept in SOEs.

The large-scale layoff increases substantially potential labor supply on the market. What would be the effect on wages? A detailed empirical investigation is needed for this question. Nevertheless, the data show some interesting facts. Calculated from the *China*

Statistical Yearbook, 1999 (page 159), before the massive layoff, from 1990 to 93, the average annual wage growth rate for SOEs was 6.4%, and for private enterprises was 8.2%. Since the layoff, from 1994 to 97, however, the average annual wage growth rate for SOEs is 4.0% but for private enterprises is only 2.0%. It appears that wage growth has slowed down substantially since 1994. The wage growth is affected by many economic factors and further study is needed to assess the effect of massive layoffs. Still, the change in the difference of wage growth rate between SOEs and private enterprises shows that it is possible that private enterprises has benefited from the layoffs and thus raise wages much slower.

V. Conclusions

This study investigates the characteristics and trends of the labor market in China in the economic transition based on two household surveys. The focus is to establish facts about the transitional Chinese labor market using descriptive analysis. Our goal is to cover most important issues on the labor market to inspire more vigorous researches in the future. We have discussed labor force participation and various employments such as second jobs and post retirement employment, labor supply issues like working hours and wages, issues related to jobs such as job matching mechanisms, job turnover, and job training, and lastly layoffs and unemployment. We characterize the labor market dynamics and trend based on sectoral difference and time pattern. These discussions provide a fairly complete picture of the evolving Chinese labor market, and should be important for further studies.

Based on the findings, we have the following conclusions. First, the Chinese labor market is moving toward a market mechanism. The employment in state-owned sector is declining and the private sector is rising rapidly. More people find their job through non-government channels. People increasingly work on second job and seek employment after retirement. And state-owned enterprises are in the process to layoff redundant workers. The transition, however, is still far away from complete and more reforms are needed to reduce the government's involvement in the labor market. In particular, state-owned sector still employs more than half urban workers. And the government still largely gets involved in job assignments, in wages structure, and in layoffs. A large portion of workers still get their job through government assignment, and the subsidy from the government does not appear to decrease rapidly. Moreover, the layoff at the state-owned sector was mainly initiated by the government.

Second, substantial changes are needed to reform the state-owned sector. Workers at the state-owned sector work fewer hours and less intensively. They still, however, get higher compensations. State-owned sector shows excessive compensations to workers despite of the performance. Also, wage differentials among different occupations in state-owned sector are smaller than that in the private sector. Therefore, the old command system still has strong influence in the state-owned sector. Further reforms are needed to change the system of state-owned sector so that its labor demand and supply movements can follow the market rules.

Third, private sector represents the highest degree of the market mechanism. Workers at the private sector work much longer hours and much more intensively than any other sectors. The private sector pays the highest regular wage but get the least

subsidies from the government. There is a clear pattern in the Chinese labor market that the higher the level of public ownership, the lower degree of the market mechanism. The private sector, however, is relatively too small. In order to move to a complete labor market, further reforms should increase the share of the private economy in order to increase the role of the market mechanism in the labor market.

Although there appear to have improvements in many aspects of China's labor market, problems still remain. Clearly, labor market reforms will be inevitably associated with other reforms, and the transition toward a labor market will depend on the success other reforms. The biggest challenge for moving toward to a complete labor market, as well as for other economic reforms, is still the large share of publicly owned sectors in the economy. It is important for the Chinese government to further reforms on ownership structure, on state-owned sectors, and to gradually withdraw from the labor market interactions.

Reference

- Byron, Raymond P. & Evelyn Q. Manaloto (1990), "Returns to Education in China," *Economic Development and Cultural Change*, 783-796.
- Chai, Joseph C.H., B. Karin Chai (1997), "China's Floating Population and Its Implications," *International Journal of Social Economics*, Vol. 24, No. 7/8/9, pp. 1038-1051.
- China Labor Statistical Year Book*, 1997, China Statistical Publishing House.
- China Statistical Year Book*, 1999, China Statistical Publishing House.
- Fu, Gangzhan, Athar Hussein, Stephen Pudney and Limin Wang (1993) "Unemployment in urban China: An analysis of survey data from Shanghai", *Labour*, Vol. 7, No. 1, Spring, 93-123.
- Groves, T., Y., Hong, J. McMillan, and B. Naughton, "Autonomy and Incentives in Chinese State Enterprises," *Quarterly Journal of Economics*, 109(1), (1994), 183-209.
- Griffin, K., and R. Zhao (1993), *The Distribution of Income in China*, London, Macmillan.
- Hu, Teh-wei, Ming Li and Shuzhong Shi (1988) "Analysis of wages and bonus payments among Tianjin urban workers", *The China Quarterly*, No. 113, March, 77-93.
- Johnson, Emily N. & Gregory C. Chow (1997), "Rates of Return to Schooling in China," *Pacific Economic Review*, 2: 2, 101-113.
- Knight, John and Lina Song (1995), "Towards A Labor Market in China," *Oxford Review of Economic Policy*, Vol. 11, No. 4, pp. 97-117.
- Li, Haizheng (2000), "Economic Efficiency and Social Insurance Reforms in China," *Contemporary Economic Policy*, Vol. 18, No.2, pp. 194-204.
- Li, Haizheng and Jeffrey Zax (2002), "Labor Supply in Urban China," working paper, School of Economics, Georgia Institute of Technology.
- Li, W., "The Impact of Economic Reform on the Performance of Chinese State Enterprises, 1980-89," *Journal of Political Economy*, 105(5), (1997), 1080-1107.
- Liang Zai and Michael J. White (1997), "Market Transition, Government Policies, and Interprovincial Migration in China: 1983-1988," *Economic Development and Cultural Change*, Vol. 45, No.2, pp. 321-339.

- Liu, Minquan (1991) "Intersectoral labor allocation on China's communes: A temporal priority analysis", *Journal of Comparative Economics*, Vol. 15, No. 4, 602-626.
- Liu, Zhiqiang (1998), "Earnings, Education, and Economic Reforms in Urban China," *Economic Development and Cultural Change*, 697-725.
- Naughton, B., "Chinese Institutional Innovation and Privatization from below," *American Economic Review*, 84(2), (1994), 266-70.
- Rawski, T., "Chinese Industrial Reform: Accomplishments, Prospects, and Implications," *American Economic Review*, Vol. 84 (1994), No. 2, 271-275.
- Shen, J. and N. A. Spence (1995) "Trends in labour supply and the future of employment in China", *Environment and Planning C: Government and Policy*, Vol. 13, No. 3, August, 361-377.
- Wang, Feng and Xuejing Zuo (1999), "Inside China's Cities: Institutional Barriers and Opportunities for Urban Migrants," *American Economic Review Papers and Proceedings*, May 1999, pp. 276-280.
- Woo, Wing T. (1999), "The Real Reason for China's Growth," *The China Journal*, Vol. 41, January 1999, pp115-137.
- Yang, Dennis Tao and Hao Zhou (1999) "Rural-urban disparity and sectoral labour allocation in China", *Journal of Development Studies*, Vol. 35, No. 3, February, 105-133.
- Yang, Guifang and Jeffrey S. Zax (2000), "Wage Differential between Men and Women and Wage Discrimination in Urban China in the Economic Transition," *China's Labor Market and Problems of Employment*, edited by Y. Wang and A. Chen, Southwest University of Economics and Finance Press, 2000, page 566-584.
- Zax, Jeffrey S. (1995) "Human capital in a workers' paradise", working paper, University of Colorado at Boulder.
- Zhao, R., "Some Special Phenomena in Income Distribution during China's Transition Period," *Economic Research (Jingji Yanjiu)*, Issues 1, (1992), 53-63.
- Zhao, Yaohui (1999) "Leaving the countryside: Rural-to-urban migration decisions in China", *The American Economic Review*, Vol. 89, No. 2, May, 281-286.
- Zhao, Yaohui (2000), "Foreign Direct Investment and Relative Wages: The Case of China," Working paper, China Center for Economic Research, Beijing University.

Table 1 Employment Rate

Age	% employed Men in 1988	% employed Men in 1995	% employed women in 1995	% employed women in 1988
16-20	28.13	17.37	19.56	32.50
21-25	89.00	80.62	82.37	89.27
26-30	98.31	96.38	92.90	96.89
31-35	99.53	98.90	97.64	97.79
36-40	99.74	99.23	96.77	97.79
41-45	99.31	99.17	97.06	94.07
46-50	97.41	97.40	83.99	80.63
51-55	91.75	93.91	54.99	39.29
56-60	67.03	79.67	38.16	11.88
>60	11.06	32.37	17.30	3.10
Total	78.01	79.74	71.36	68.88

Table 2 Employment after Retirement

Age	% Retired Men employed in 1988	% Retired Men employed in 1995	% Retired Women employed in 1988	% Retired Women employed in 1995
46-50	0	43.75	2.78	50
51-55	1.12	59.77	3.08	34.66
56-60	1.16	50.59	0.74	37.25
>60	1.47	31.26	0.91	25.34
Total	1.42	37.67	1.74	35

Table 3 Work hours per week-1995

	Average	Standard errors
Overall	42.0	10.1
Male	42.3	10.2
Female	41.6	9.9
State-owned	41.4	7.5
Local publicly-owned	42.2	8.3
Urban collective	43.2	9.9
Non-publicly owned	53.7	15.4

note: non-public owned includes private enterprise, self-employed, sino-foreign joint venture, foreign owned.

Table 4 Work Hours and Education Level-1995

	Mean for All	Standard Deviation for All	Mean for Males	Standard Deviation for Males	Mean for Females	Standard Deviation for Females
College graduate and above	40.5	9.4	40.8	9.4	39.9	9.3
Professional school	41.4	7.1	41.9	7.4	40.6	6.5
Middle level professional	41.4	8.4	41.8	9.0	41.0	7.7
Upper middle school	42.4	9.5	42.7	10.0	42.0	8.9
lower middle school	43.1	10.1	43.3	10.4	42.8	9.8
Elementary school	41.3	15.6	42.1	16.0	40.8	15.2
below elementary school	34.0	23.3	30.6	26.6	35.3	21.9

Table 5 Intensity of A Work Day-1995

	Not intensive	very intensive
Overall	7.2%	11.5%
Men	7.3%	12.7%
Women	7.1%	10.2%
State-owned	7.1%	12.0%
Local publicly-owned	7.5%	10.6%
Urban collective	6.6%	11.9%
Non-publicly owned	6.2%	21.6%

Table 6 Hourly Wage Differentials-1995

	State-owned	Local public	Urban collective	Private
Professional or technical	3.60	3.34	2.81	4.18
Office worker	3.33	2.77	2.49	3.51
Skilled worker	3.22	2.57	2.08	3.29
Unskilled worker	2.64	2.27	1.89	2.61

Table 7 How Did Individuals Get the Current Job?-1995
(based on tenure with the current job)

	All	6-10 years	1-5 years	1 year
The government	75.0%	70.9%	57.0%	46.8%
Employment agency	1.5%	1.4%	3.0%	2.9%
Inherited	5.0%	4.5%	2.2%	2.1%
Self	14.0%	17.1%	31.0%	42.1%
Other	4.5%	6.1%	6.9%	6.2%

Table 8 Job Turnover Rate

	All	Men	Women
All employed	42.8%	44.8%	40.7%
Work for 1-5 years	6.9%	6.4%	7.4%
Work for 6-10 years	21.7%	20.7%	22.6%
Life-time	46.4%	51.5%	42.0%

note: life-time is based on current retired individuals.

Table 9 Job Training for Workers with 1-5 Years Work Experience

	Full-time pre-job	full-time on-job	part-time on-job
State-owned	26.6	11.7	7.1
Local public	20.4	8.0	8.0
Urban collective	19.6	8.7	6.5
Non-publicly owned	17.1	10.5	7.9

