

China's Urban Labor Market

A Structural Econometric Approach

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1

Purpose, Issues, and Outline of the Study

1.1 Purpose and Issues

In the past two decades, China's urban labor market has experienced a rapidly expanding size, dynamic job creation and destruction, and large-scale rural–urban migration. The market economy, which has gradually developed in the country since the early 1980s, has made great progress in its transition towards a real labor market. However, unlike the experiences in a number of other countries, China's rapidly growing urban GDP was continuously accompanied by a high unemployment rate during this period. Understanding the real reason for urban unemployment, against this background of rural–urban migration and structural changes in the urban labor market, has therefore become one of the most important issues for labor market studies in China.

Traditional analyses of China's unemployment have typically focused on the issues of labor demand and supply. However, dramatic job and worker reallocations owing to the economic transition in China have created considerable frictions in the labor market, making the issue of unemployment more complicated than a mere gap between demand and supply (although this imbalance still has an influence). Search and matching theory (e.g. McCall 1970; Mortensen 1986; Mortensen and Pissarides 1999), which takes into account market frictions and imperfect information, has been the most popular approach in labor market analysis in recent years, but little empirical work has been conducted on issues in China. We aim to fill this gap in our study, starting from the conventional labor supply and demand approach to unemployment, and then proceeding to examine the issue of unemployment in China using the search and matching approach.

In spite of the country's rapid economic growth and active job creation, urban unemployment remains high in China,¹ and this remains an obstacle to attempts to reduce poverty and earnings differentials. Therefore, labor market development and unemployment control have become important issues for China and other developing countries as well.

On the basis of the foregoing, the present study aims to answer the following three research questions:

1. Why does labor supply exceed labor demand for urban residents in China?
2. Does rural–urban migration reduce labor demand for urban residents?
3. Why has unemployment coexisted with a shortage of workers over recent years?

Although an imbalance between labor supply and demand in China has been identified in previous studies, its causes remain unclear, and little effort has been made to examine this phenomenon in the light of economic theories. To understand the real reasons for such imbalance, we apply traditional economic theories. Classical economic theories suggest that ongoing equilibrium between supply and demand in a Walrasian labor market would be achieved through permanent adjustment of real wages, so that there would be no unemployment (Romer 2005). However, in the short and medium run, disequilibrium in supply and demand often exists. This disequilibrium arises from a certain rigidity that hinders permanent adjustment in the labor market, as suggested by Keynesian economists (see Cahuc and Zylberberg 2004), and is the fundamental reason for the imbalance between the labor supply and demand for urban residents in China.

Furthermore, an imbalance can also result from a shift in the labor demand curve of urban residents, which is caused by changes in the prices of other factors and output levels under a conditional demand framework. Therefore, against the background of large-scale rural–urban migration, these changes in China could have been caused by the considerable degree of migration over the past two decades. This issue brings forward the second research question of this book: Does rural–urban migration reduce

1. Although the official unemployment rate reported by the government (i.e., the “registered unemployment rate”) was around 3–4% in the late 1990s and 2000s, there is a common belief that the real unemployment rate is much higher.

labor demand for urban residents? The few previous empirical studies on this topic have typically used reduced-form approaches that have regressed possible factors, leading to contrasting results. As a result, we construct a structural model for this purpose so as to provide a more complete and in-depth analysis of the mechanisms of wages, production, and labor supply and demand suggested by labor economic theories.

While the first two research questions above can be answered within a labor supply and demand framework, the conflicts revealed by the third question mean it can no longer be explained by traditional theories. In this book, we employ the novel approach of search and matching theory to tackle this issue, which provides a theoretical base for modern unemployment analysis. Imperfect information usually exists in the actual labor market, implying that it takes time for workers to find acceptable jobs and for firms to approach suitable workers. Thus, unemployment is determined not only by the numbers of jobseekers and job vacancies, but also by the search and matching process between them. Search theory provides a modeling framework for that and examines unemployment growth by looking into flows in and out of unemployment. Outflows mainly refer to the reduction of unemployment through new hires from unemployed workers based on job–worker matching and job creation, whereas inflows refer to addition to unemployment mainly through job destruction. Unlike classical and Keynesian theories, this approach can tackle directly the puzzle of the coexistence of high unemployment and high job vacancies in China.

As a result, we design this study of China’s urban labor market by examining labor supply and demand, rural–urban immigration, job creation and destruction, and labor market matching, all of which are related to the core item of unemployment determinants in urban China.

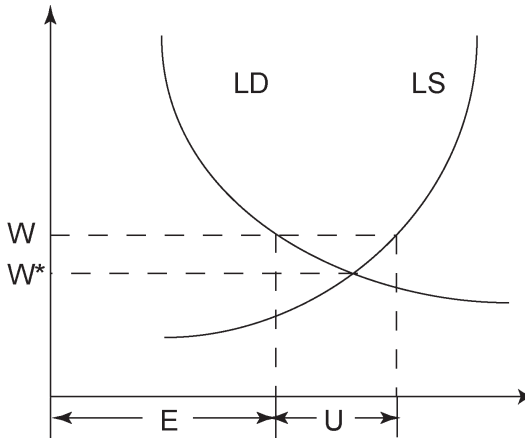
1.2 General Theoretical Background

In this study, we adopt two approaches to examine our three research questions. The traditional approach of classical theory and Keynesian theory concentrates on the balances between labor supply and demand; the search-theoretic approach addresses imperfect information and models the job–worker matching process in the dynamic analysis of unemployment evolution.

1.2.1 The Labor Supply and Demand Approach to Unemployment

Under this approach, unemployment arises when the supply of labor exceeds the demand for labor. If the labor market is in perfect competition and has perfect information, wages will bring about a permanent equilibrium between labor supply and labor demand. Under this approach, as shown in Fig. 1.1, the current wage, W , is flexible and always equals the equilibrium wage, W^* . However, from the perspective of Keynesian economics, the current wage, W , can be rigid and fail to react to the supply and demand of labor. Hence, labor supply exceeds labor demand and unemployment, U , is created (Mankiw 2000).

Fig. 1.1 The labor supply and demand approach to unemployment



As Keynesian economics can provide explanations of the key determinants of unemployment in such a labor supply and demand framework, this enables us to understand some of the possible causes of unemployment, such as the minimum wage policy, inflation, and wage bargaining by unions.

1.2.2 Search and Matching Theory

In a labor market, jobseekers usually take time to apply for acceptable positions, while firms incur expenses in selecting suitable workers. Hence, unlike classical labor supply and demand theories that assume perfect information, search and matching theory takes into account the fact that imperfect information and frictions are prevalent in the labor market.

This simple introduction to search and matching theory is based on Chapter 1 in Pissarides (2000). Assume that only unemployed workers search for jobs. In a decentralized economy, firms and unemployed workers search and trade in the labor market, and they gradually become matched to each other according to the prevailing matching technology. Now, let us assume that U denotes the number of unemployed workers, V the number of job vacancies, M the number of matches, and a the matching technology (also called matching efficiency). The number of job matches is thus given by a matching function, which we assume for analytical simplicity to be in a Cobb–Douglas form with a constant return to scale, as follows:

$$M = aU^\eta V^{1-\eta}, \quad (1.1)$$

where η represents elasticity and $0 < \eta < 1$. This equation of M therefore provides the outflow from employment.

Inflow into unemployment results from job destruction, the rate of which is denoted by λ . Accordingly, the evolution of mean unemployment is given by the difference between the inflow into and outflow from employment, as follows:

$$\dot{U} = \lambda(L - U) - aU^\eta V^{1-\eta}, \quad (1.2)$$

where L represents the total labor force. Therefore, in a comparative static analysis, the growth in unemployment will increase if there are reasons to increase the level of λ , and will decrease if a or V are increased owing to related factors.

In the steady state, $\dot{U} = 0$. We define that $\theta \equiv V/U$, which is a measure of market tightness. The rate of change in the state of job vacancies, M/V , is thus obtained as a function of θ , and we define it as $M/V = q(\theta)$. As a result, we obtain the following relationship between U and V , as follows:

$$U = \frac{\lambda L}{\lambda + \theta q(\theta)}, \quad (1.3)$$

where $\theta \equiv V/U$.

This is the functional form of the Beveridge curve (BC), which is convex to the origin in the space of V and U . A shift in BC reflects structural changes in the labor market, such as a matching technology

change, growth in the labor force, or job destruction shock (the details of which are discussed in Chapter 8).

There is another relationship between U and V , as indicated by the job creation condition. The rate of job creation to a given number of jobseekers is $\theta \equiv V/U$. θ is determined by firm behavior, and it indicates the number of jobs created in response to the number of jobseekers in the labor market. Note that if jobseekers increased, firms would create more jobs due to profit maximization, and thus θ is not influenced by changes in the number of jobseekers. Within the space of V and U , the job creation curve (JC) is a line through the origin with the slope θ . JC shifts along with changes in the slope θ , which are determined by factors related to production, such as productivity, interest rates and hiring costs.

BC and JC are manifested in Figs. 1.2 and 1.3. Fig. 1.2 shows the situation in which BC shifts outward. If, for instance, the job-worker matching efficiency declined, more time would be required for jobseekers to apply for acceptable positions and for firms to select suitable workers; thus, both unemployment and job vacancies would increase, moving the equilibrium from E to E' . Fig. 1.3 shows the situation in which an increase in job creation, θ , (which could be due to productivity growth, a cut in interest rates, and so on) shifts JC counterclockwise. In this case, unemployment decreases, job vacancies increase, and the equilibrium moves from E to E'' .

Fig. 1.2 BC and JC: the case in which BC shifts

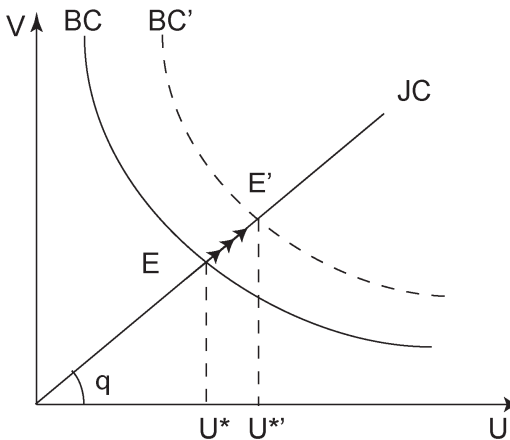
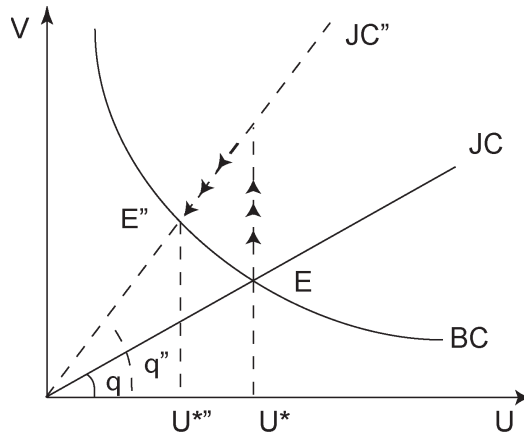


Fig. 1.3 BC and JC: the case in which JC shifts



1.3 Outline of the Study

The design of our study is manifested in the structure of this book. Part I deals with the conventional approach of labor supply and demand in studies of China's labor market. We provide an overview of China's urban labor market in Chapter 2 and focus on the labor market for urban residents in Chapter 3, specifically the disequilibrium unemployment of these residents. We then extend this classical approach to the entire urban labor market in Chapter 4 and examine whether rural–urban migration reduces the labor demand for urban residents based on dual labor market theory, conditional and unconditional factor demand, and the product market. Our model identifies two opposite effects of rural–urban migration: a negative effect of substitution and a positive effect on job creation. The comparable size of these two opposite sub-effects is obtained by a static simulation, and finally, we assess how migration as a whole influences the labor demand for urban residents.

Part II deals with our adoption of the search-theoretic approach to examine the effect of frictions and imperfect information on China's labor market. In Chapter 5, we shed light on job rotation and worker reallocation in urban China by assessing job creation, job destruction, as well as worker inflows and outflows. In Chapter 6, we estimate the matching functions of jobs and workers, quantifying the efficiencies of job–worker matching in the labor market. Further, as an important factor that determines the

outcome of matches, we examine job creation in Chapter 7, highlighting its specific determinants in China. Finally, the issues of labor market matching, job creation, job destruction, rural–urban migration, and on-the-job searches are combined in the unemployment evolution model, which is presented in Chapter 8. The proposed model allows us to clarify the mechanism of urban unemployment and the relationships among various factors. We conclude the study with perspectives on the development of China's urban labor market.

2

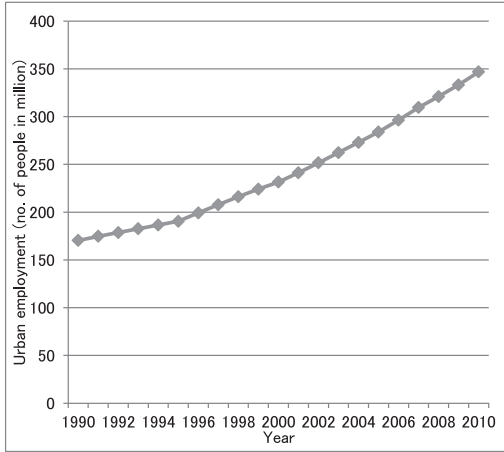
China's Urban Labor Market: An Overview

This chapter sheds light on the situation of China's urban labor market, which is an important background feature of our model. Accompanying economic development and urbanization, the scale of urban employment greatly increased over the past decade¹ owing to rapid population growth and large-scale rural–urban migration. Figs. 2.1 and 2.2 show that the overall employment and population in urban areas in China were more than doubled during the period 1990–2010. Further, rural migrants comprised a growing proportion of all new hires, as shown in Fig. 3.3, which reports annual new hires in terms of *urban units* (*danwei* in Chinese).²

One of the most pressing problems in China's urban labor market is unemployment. Since the official unemployment rate presented by the government has long been questionable, we first adjust the formal unemployment rates of 29 provinces³ in the period 1992–2010 in order to clarify China's real unemployment situation. Given the greatly increasing rural–urban migrant labor force, we then examine the inflows of rural migrant workers, highlighting their characteristics in the labor market. The heterogeneity of migrant and resident workers indicates a dual labor market within the city: a labor market for urban residents and a labor market for rural migrants. Furthermore, there are also vast worker flows within cities, as a result of large-scale economic restructuring, which we examine in the fourth section. Finally, we assess the important role of job agencies in China's labor market.

-
1. No exact data on the labor force in China are available.
 2. Most Chinese statistics refer to *urban units*, which include all state-owned enterprises (SOEs), collective enterprises, foreign enterprises, and large and medium-sized private enterprises, while most self-employed businesses and small private enterprises are excluded (NBS 1993–2010a).
 3. Hong Kong, Macao, Tibet, Xinjiang, and Taiwan are excluded because of data constraints. The 29 provinces are the provincial-level administrative regions, including Beijing, Shanghai, Tianjin, Chongqing, and so on. In this book, all provincial-level analyses refer to these 29 provinces.

Fig. 2.1 Urban employment in China over the past two decades
(Unit: million persons)

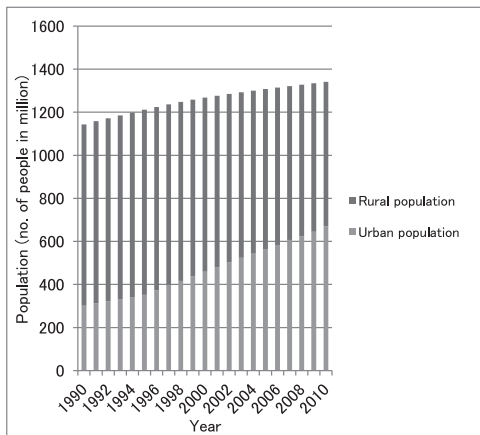


Source: NBS 2011b

Notes:

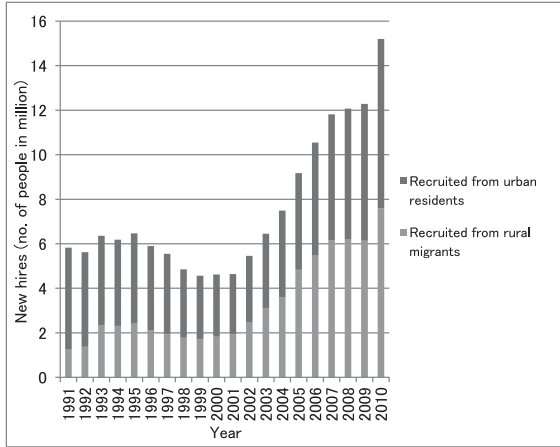
- (1) These data refer to workers who work in urban areas, regardless of whether they have a local household registration (*Hukou* in Chinese) (NBS 2011b).
- (2) These national-level statistics cover employment in *urban units*, and also self-employment and employment in other small and informal enterprises.

Fig. 2.2 Chinese population over the past two decades
(Unit: million persons)



Source: NBS (2011b)

Fig. 2.3 Annual urban new hires from urban residents and rural migrants
(Unit: million persons)



Source: NBS (1992–2011a)

Note: These data refer to new hires in *urban units* and thus exclude self-employment and workers in small or informal private enterprises.

2.1 How High is China's Real Unemployment Rate?

2.1.1 Official Unemployment Rate and the Real Situation

Even though China is in the midst of an unprecedented economic boom, the country's urban unemployment rate remains high. In 2006, the official unemployment rate was 4.1%, but the real situation could be much more serious. For example, if the 11.8 million retrenched workers (NBS 2007a) excluded from the official unemployment statistics were taken into account, the figure would increase to 9.8%. Urban unemployment is therefore one of the most serious problems in China.

Retrenched workers are those that are in a contract of employment but do not currently work, such as workers who have been laid-off or forced to retire early. Retrenched workers are a product of the planned economy, in which the government posted workers to jobs but the system was marred by low economic efficiency. The government has been tackling this problem since the economic revolution in 1978. The enterprise reform initiated in 1986 was fully implemented in the mid-1990s. However, being cushioned by the planned economy, most of the retrenched workers had difficulties in finding new jobs and millions remained unemployed (Knight and Song 2005).

A further problem is that the definitions of unemployment in the population census are often imprecise.⁴ Previous studies have adjusted national-level unemployment rates based on regional unemployment surveys and official population data. For example, Knight and Xie (2006) used the official statistics as well as a household sample survey dataset (concerned with 13 cities in six provinces) to estimate national-level unemployment rates from 1993 to 2002 and showed that the figures in urban areas exceeded 11% in 1999 and 2000. Giles et al. (2005) also adjusted national-level unemployment rates using the results of an urban labor survey in five cities as well as population data from China's census, and achieved the real figures of 10%. The findings of these studies suggest that adjusted unemployment rates are much higher than official rates at the national level. Consequently, at the provincial level, it is also important to highlight the real situation of regional unemployment before examining its determinants. In the next section, we thus examine the regional unemployment rate and provide a panel dataset for the adjusted unemployment rate based on a cross-section of 29 provinces and time series of 19 years.

2.1.2 Adjustment for the Provincial-Level Urban Unemployment Rate

In China, the urban unemployment rate is officially referred to as the *urban registered unemployment rate*. This rate is based on the data in the official registers pertaining to urban unemployment (i.e., the local bureaus of labor and social security). It is defined as follows:

$$\text{Urban registered unemployment rate} = \frac{\text{Number of registered urban unemployed residents}}{\text{Total labor force of urban residents}} \times 100\%. \quad (2.1)$$

However, this figure excludes those unemployed workers who have not registered themselves as unemployed. According to Chinese Local Unemployment Registration Regulations, an individual cannot register if he or she does not possess proof of the contract termination. The

4. See Knight and Xie (2006).

unregistered population thus includes the millions of retrenched workers discussed earlier. Although no publicly available data on the number of retrenched workers are available, a World Bank report (1993) stated that 25% of employees in Chinese SOEs in the early 1990s were considered to be surplus labor (see also Knight and Song 2005).

Provincial-level data on retrenched workers for this study were provided by NBS (1993–2011a).⁵ Of the 29 studied provinces, Heilongjiang and Liaoning have the largest numbers of retrenched workers, while the numbers in Zhejiang, Fujian and Guangdong are comparatively low. Heilongjiang and Liaoning are bases of heavy industry and house many large state-owned and collective firms, whereas Zhejiang, Fujian and Guangdong, which lie in eastern and southeastern China, have been wrestling with the issues of reform and openness since 1978.

We adjusted the unemployment rate using year-end data for retrenched workers and registered unemployed persons in the following manner:

$$UR_{it}^{ad} = \frac{U^{Reg}_{it} + U^{Ret}_{it}}{LPO_{it}^{Res}} \times 100\%, \quad (2.2)$$

$$t = 1992, \dots, 2010$$

where t represents the time series 1992–2010, i the 29 provinces, UR_{it}^{ad} the adjusted unemployment rate for urban residents, and U^{Reg}_{it} and U^{Ret}_{it} the numbers of registered unemployed residents and retrenched workers at the end of year t respectively. (Note that U^{Ret}_{it} excludes the retrenched workers re-employed at time t .) LPO_{it}^{Res} is the total number of urban residents in the labor market (excluding migrants).

Since there are no accurate data on the provincial-level urban labor population, LPO_{it}^{Res} is estimated as follows:

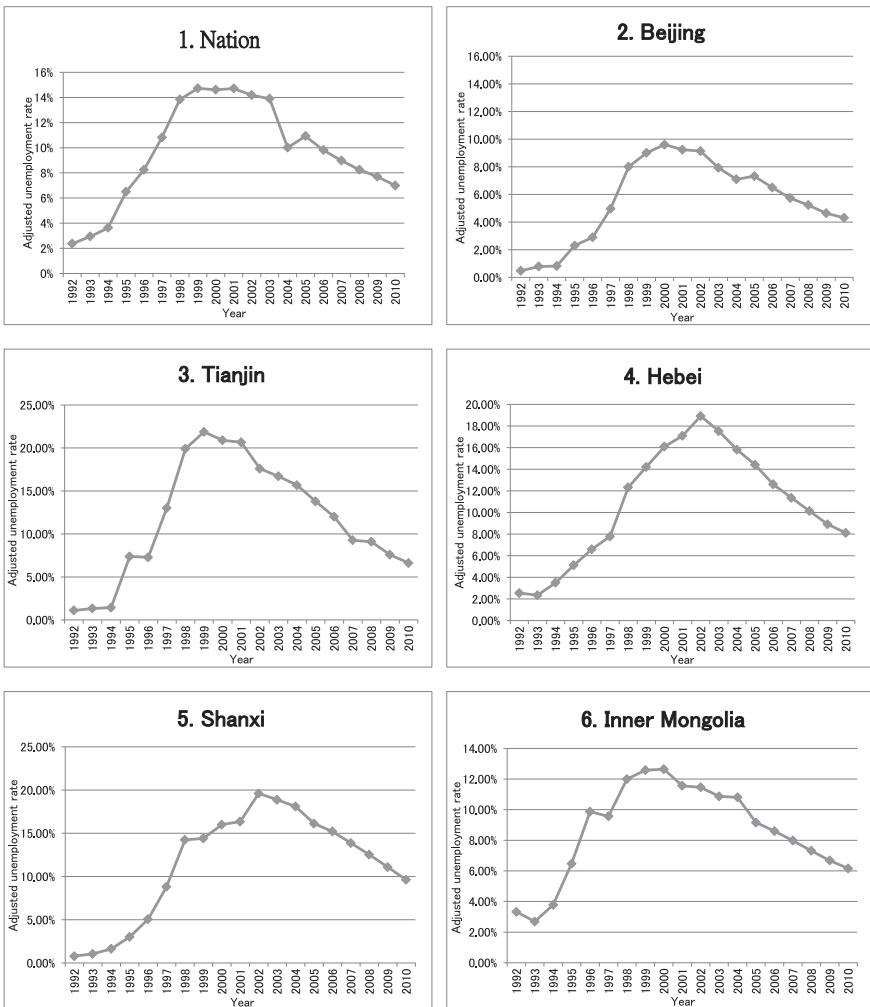
$$LPO_{it}^{Res} = \frac{U^{Reg}_{it}}{UR_{it}^{Reg}}, \quad (2.3)$$

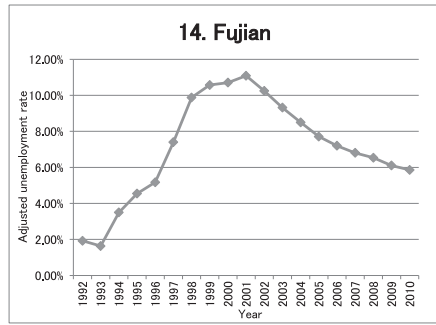
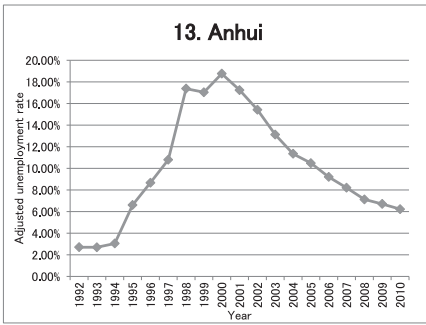
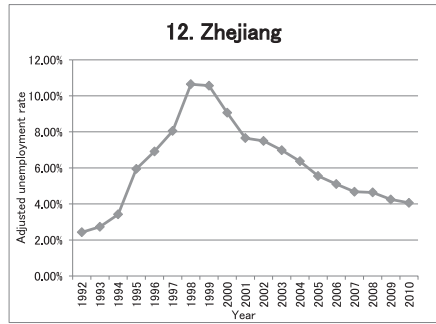
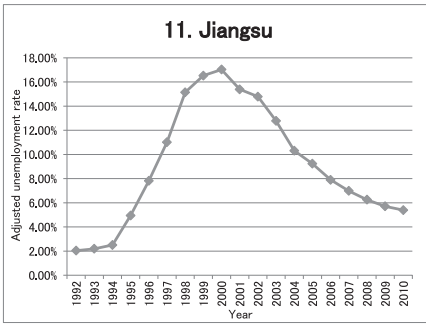
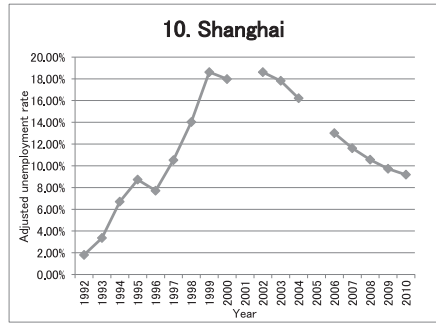
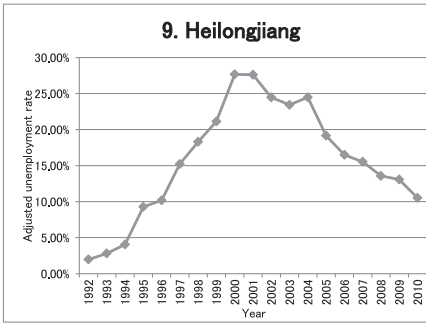
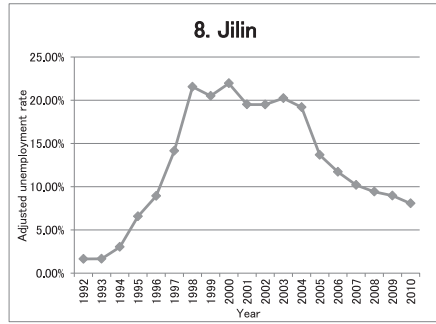
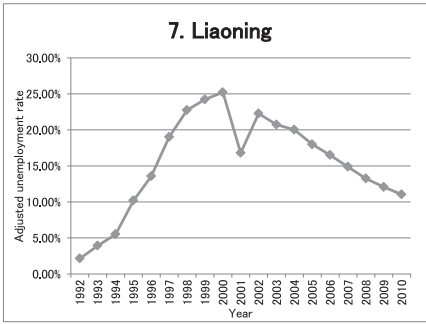
where UR_{it}^{Reg} is the registered unemployment rate for urban residents.

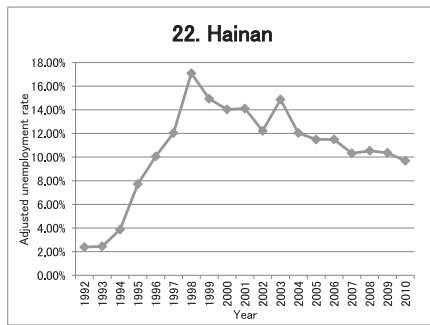
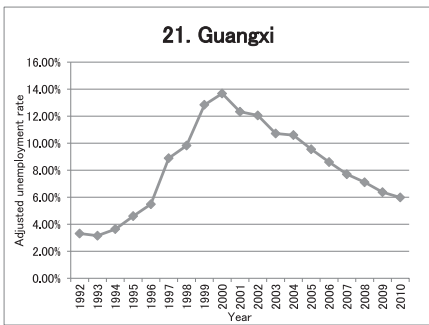
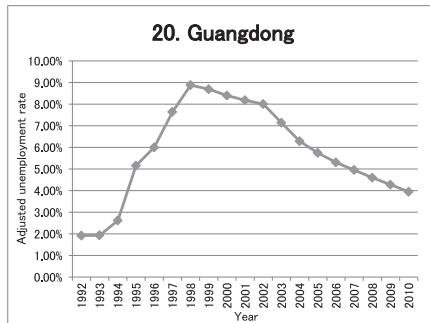
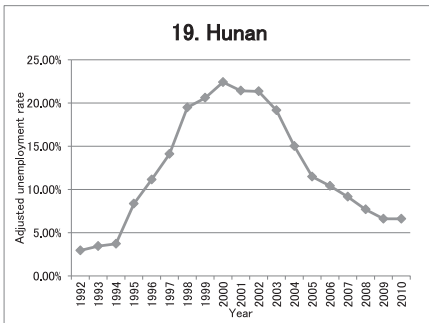
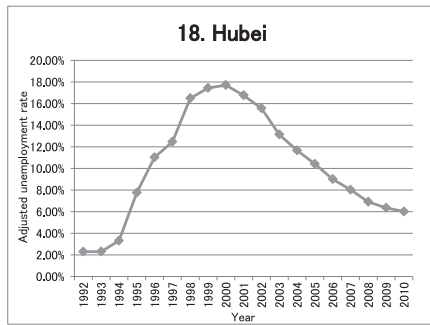
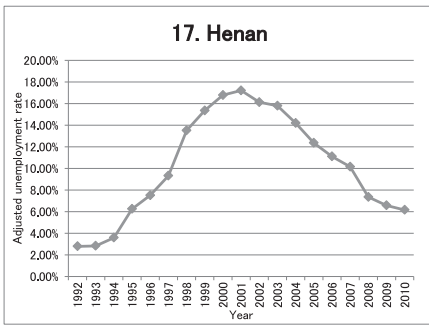
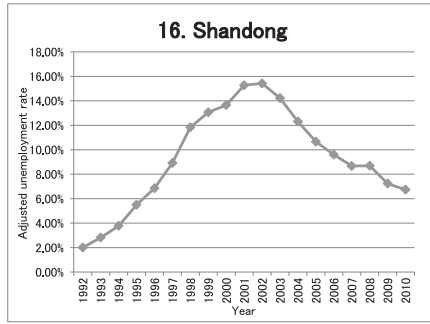
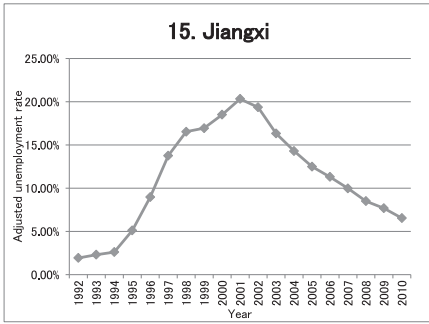
5. In this dataset, retrenched workers until 1997 are called *Fuyuren yuan* (surplus workers) and those afterwards *Buzhaigangzhigong* (non-posted workers). This category includes workers who have been laid off and currently do not work, but excludes those who have been re-employed.

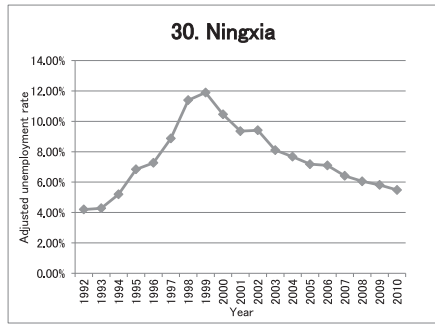
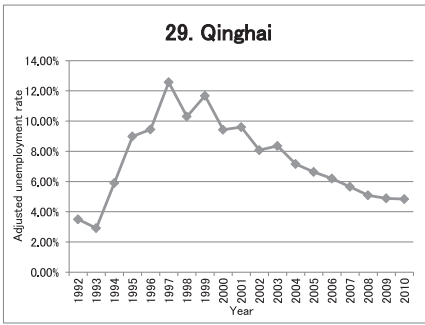
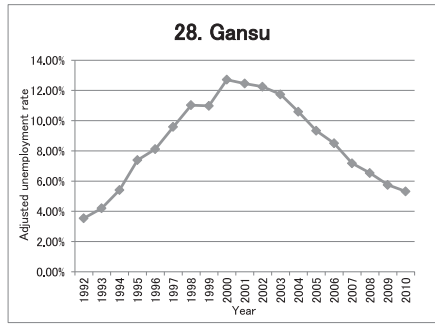
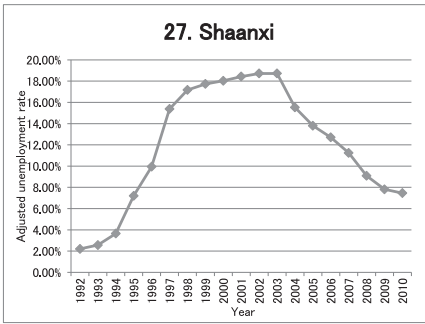
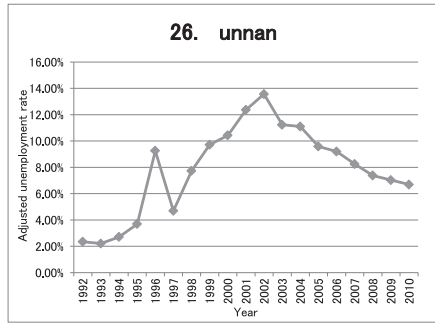
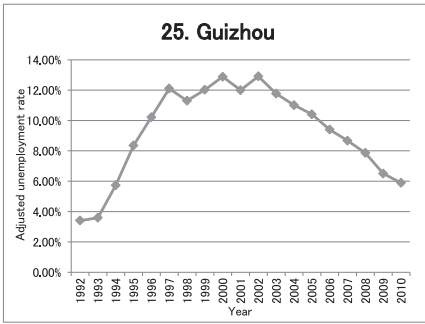
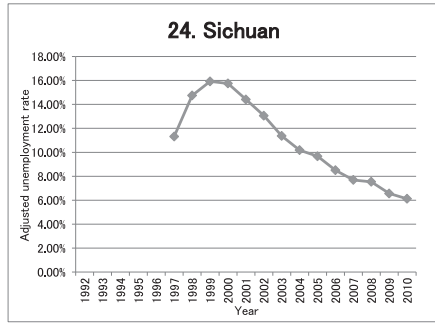
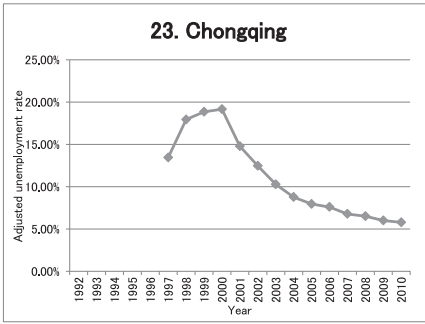
This adjustment enables us to derive a closer estimation of the real unemployment situation in China (see Figure 2.4). In most provinces, the adjusted rate started increasing in 1994 and peaked in 2000 before declining gradually. By contrast, the registered unemployment rate increased continuously during this period at the national level and the provincial level (except the provinces of Gansu, Qinghai, Yunnan, and Guizhou in western China, which had unusually large numbers of registered unemployed workers in 1994–1997) (Fig. 2.5).

Fig. 2.4 Adjusted unemployment rate



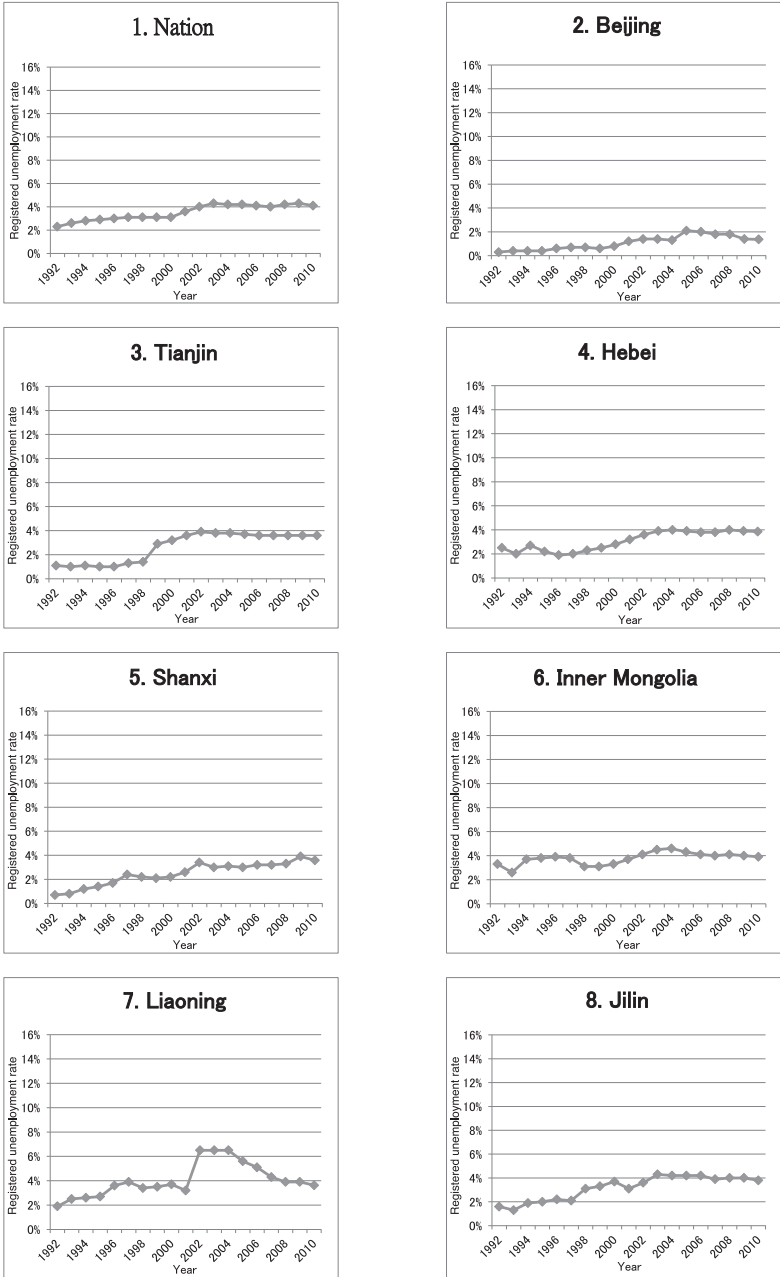


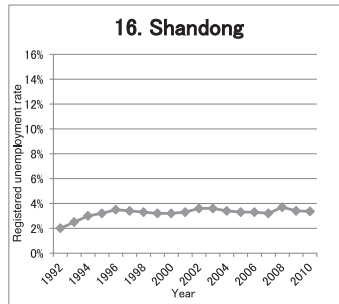
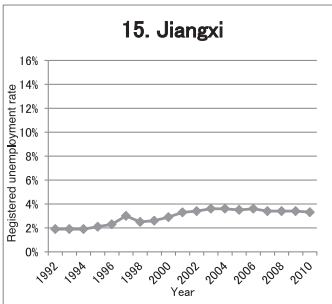
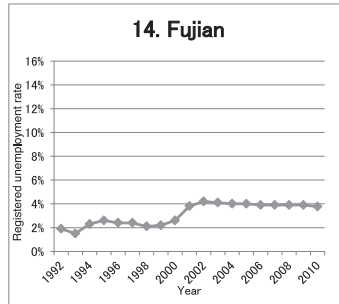
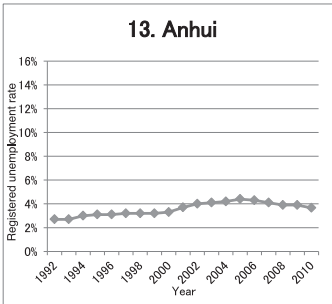
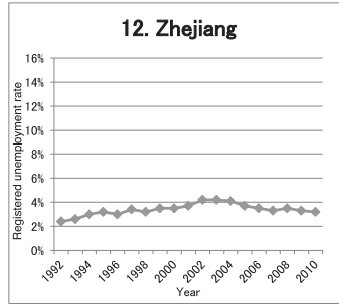
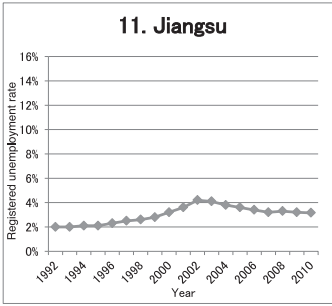
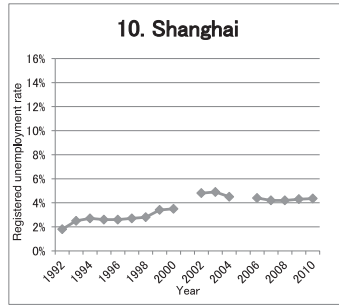
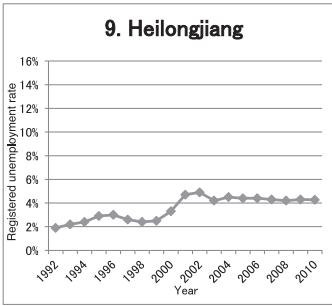


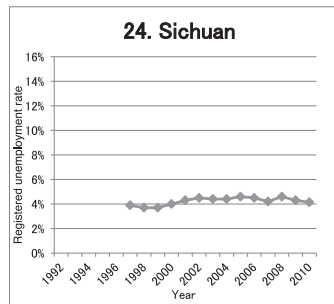
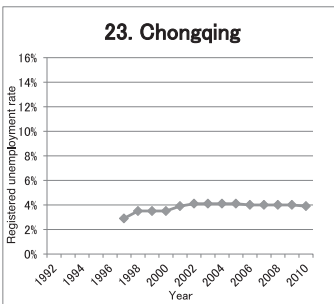
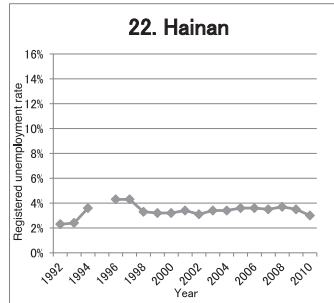
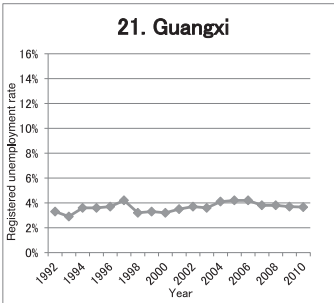
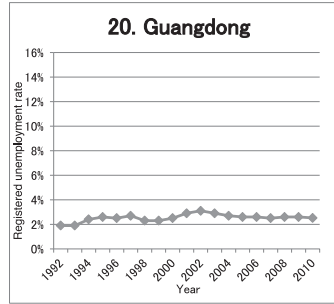
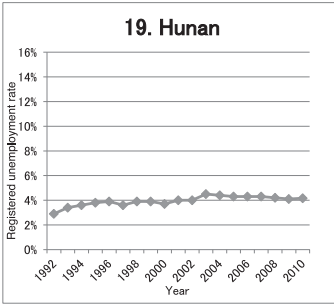
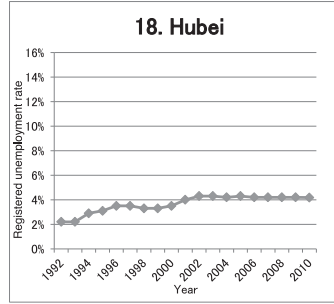
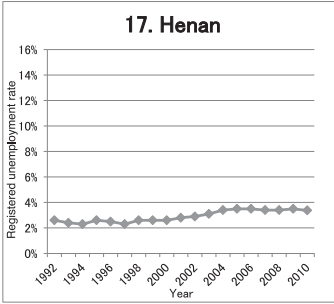


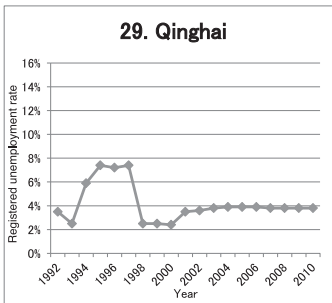
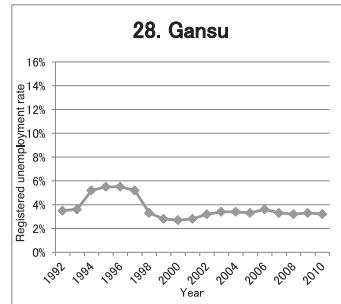
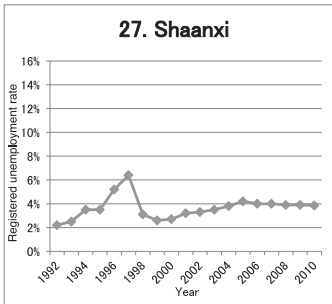
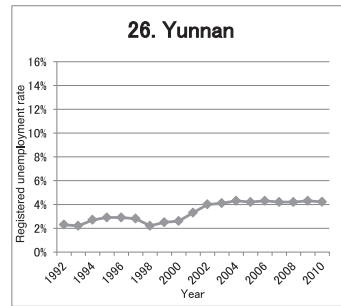
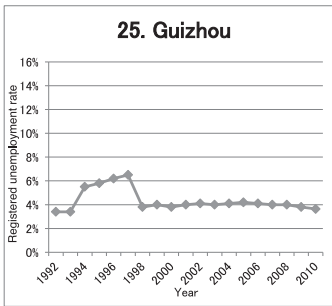
Note: The rates for Sichuan and Chongqing before 1997 were not reported because Chongqing was part of Sichuan at that time.

Fig. 2.5 Registered unemployment rate









Note: Data derived from the *China Statistical Yearbook 1993–2011*.

The changes observed in the adjusted unemployment rate were concurrent with the process of China's economic revolution. The most effective policies pertaining to the reform of SOEs were implemented in 1993, which were soon followed by the implementation of China's *Company Law*. The economic reform that started in 1994 was accompanied by a rapidly developing market economy; however, this stage was also characterized by redundancies that led to millions of unemployment. From 1997 to 2000, most state-owned and collective enterprises experienced full effects of this reform and the accumulated number of redundant workers peaked. Although the number of surplus workers was declining throughout

the 2000s, the decrease was slow, and the adjusted unemployment rate in 2010 was still as high as 7%. Thus, the causes of the unemployment problem could include not only the worker retrenchment project but also other factors, which will be discussed in depth in this book.

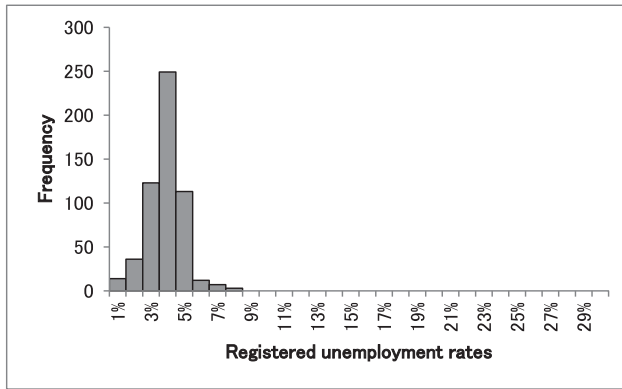
Further, as shown in Fig. 2.6, the histograms of both registered and adjusted unemployment rates studied are basically normal distributions. The registered rates range from 3% to 5%, while our adjusted rates range from 7% to 12%. Also, the mean, median, and maximum values of the adjusted unemployment rates are approximately three times those of the registered rates.

It is not surprising that the adjusted unemployment rates in some regions were as high as 20%. Indeed, by the end of 2006, the gross accumulated number of retrenched workers across China had exceeded 40 million, approximately 30% of the urban labor force in 1992 (NBS 1993–2007a). Further, our national-level adjusted unemployment rate in 2002 (14.2%) was similar to the 2002 estimate by Giles et al. (2005), namely 14%. Unavoidably, a number of factors may influence the calculation. For instance, some unemployed people might not register at a government office, while some retrenched workers could have found part-time jobs in addition to receiving livelihood subsidies from their original companies. Nevertheless, our adjustment certainly reveals the real unemployment situation in China more accurately than the official statistics.

In addition, there are also rural migrants in urban areas, which will be discussed in detail in Section 2.2. These workers migrate to cities for higher incomes, but do not lose their rights in land use and farm work in their areas of origin. Rural migrants are thus not recognized in official urban unemployment figures and are not protected by unemployment insurance if they lose their jobs in the city.⁶ As rural migrants have the option of returning to farm work should they lose their urban jobs, they are not included in the scope of unemployment in our study.

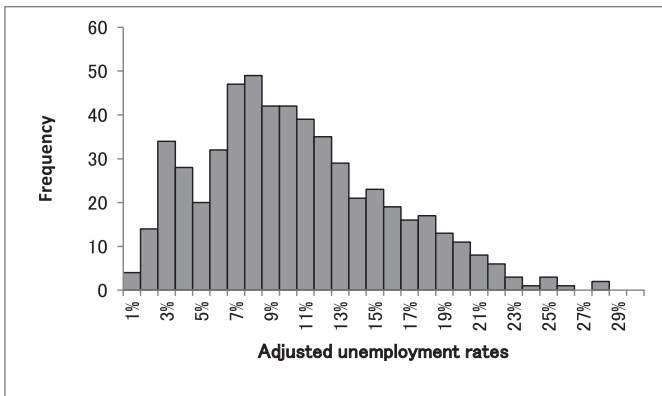
6. This was the situation in our sample period of 1991–2011. Starting from 2011, rural migrants have been allowed to join the unemployment insurance schemes in some cities.

Fig. 2.6 Provincial-level samples of the studied unemployment rates
(a) Registered unemployment rates



Source: NBS (1993–2011a)

(b) Adjusted unemployment rates



Source: Author's estimation

Note: The horizontal axis is the unemployment rate and the vertical axis is frequency.

2.2 Rural Migrant Workers in Urban Areas

China's rural–urban migration has led to a large number of migrant laborers (*nongmingong* in Chinese) in urban areas since the introduction of rural–urban migration in the mid-1980s. A national household survey in 2010 reported that there were 108.9 million, 117.9 million, 132.3 million, and 146.9 million rural–urban migrant workers in China in 2003, 2005, 2007, and 2009, respectively (Cai et al. 2010).

Rural migrant workers leave their rural homes in search of temporary jobs in urban areas. They primarily include those who were originally engaged in farm work in rural areas, as well as those who are newly graduates from rural schools. A survey by the central bank of China⁷ (Cai et al. 2010) found that, in 2009, 59.3% of the rural labor force had moved to urban areas to take up temporary jobs.⁸ Furthermore, the ratio of workers who migrated with their families is increasing, but only one-fifth of this kind of new migrant workers have family members working or studying in the city (Cai et al. 2010).

Among all rural–urban migrants, more than half originated from central and western China. For example, in 2008, 57% of rural migrants originated from the central and western regions of China, compared with 43% with origins in the eastern regions (data from Cai et al. 2010). Furthermore, rural migrants with origins in eastern China typically move within their home provinces. For example, in 2008, almost 80% of migrants with origins in eastern China moved to cities within their home provinces. By contrast, the majority of rural migrants with origins in central and western China (71% from central regions and 63% from western regions) moved to other provinces. The destinations of such inter-provincial migration are generally along the eastern coast of China, including regions such as Guangdong, Zhejiang, and Shanghai. These statistics come from the Rural Survey of the China's National Bureau of Statistics (Cai et al. 2010).

The general determinants for migration include income disparity, gender, education level, age, marriage status, and land allocation (Zhao 2005; Knight and Song 2005; Bodvarsson and Hou 2010; Xing 2010). Although such migration determinants imply that the human capital of rural–urban migrants is higher than that of most other rural residents, such migrants still have low education levels and skills (Cai et al. 2010). For instance, 83.3% of the rural migrant workers have an education below

7. Statistics and Analysis Department, the People's Bank of China.

8. In this survey, the sampling covered 4405 rural households in nine provinces. Of the 11,790 workers questioned, 7001 (59.4%) had left rural homes and worked as *nongmingong* in urban areas.

junior middle school level (NBS 2006d). A survey of six large cities in 1999 and 2000⁹ also reported that the number of years of education and work experience of the migrants was much lower than that of urban residents. Education quality and skill training in rural areas have long been behind those in urban areas. Furthermore, most rural migrants are young. For instance, the national survey reported that, in 2009, 61.6% of them were below the age of 30 and 83.9% were below 40 (Cai et al. 2010). Also, many of them are used to physical work and tend to work harder than urban residents (Zhao 2009; ROSC 2006).

These characteristics provide evidence of the heterogeneity of migrant and resident workers in China. However, the most important reason for this heterogeneity is the discrimination arisen from the household registration system (*hukou*) (Xu 2006; Liu, Yi 2010; Sun and Fan 2011). Public benefits, access to good quality housing, schools, and health care, and also attractive employment opportunities are available only to those who have urban household registration (Bao et al. 2009). Furthermore, urban governments protect registered residents by providing them with social insurance and unemployment benefits. By contrast, there is little government protection for migrants. As rural migrants do not have permanent urban household registration, they often receive lower wages for the same work and do not have unions to negotiate wage increases (Meng 2010). For instance, in 2005, the average per-capita wage for rural migrants was 10,332 *yuan*, approximately 60% of the average per-capita wage for urban residents (NBS 2006d). Furthermore, they can neither permanently reside in cities nor enjoy social insurance like official residents (Rupelle et al. 2009; Lin and Zhang 2011); and in particular, they do not receive unemployment benefits, which are limited to urban residents. Moreover, jobless rural migrants are not recognized as involuntarily unemployed persons because they own land-use rights in rural areas and can return to farm work at any time. Even in recent years, the discrimination in the labor market based on the household registration system is “not in the trend of diminishing but the trend of expanding” (Tian 2010). These forms of

9. *China's Urban Labor Market Research Program*, supported by the Ford Foundation, Hansheng Wang; sourced from Xie (2008).

heterogeneity of migrant labor and resident labor provide evidence for the model presented in Chapter 4, in which migrant labor and resident labor are treated as two separate production factors. Also, such heterogeneity is an important consideration in the matching function estimation discussed in Chapter 6.

On the other hand, both government and other studies done previously have recognized that rural–urban migration considerably contributes to urban economic growth (ROSC 2006; Gong et al. 2008). The most important reason for this is the substantial reduction in labor costs for enterprises through employment of rural migrants, which enlarges production scales and reinforces international competitiveness (Yan 2008; Zhao 2009). In addition, according to the search-theoretic approach, migration also encourages job creation by firms through their profit maximization. We thus incorporate these effects into our analysis.

2.3 The Dual Labor Market in Urban China

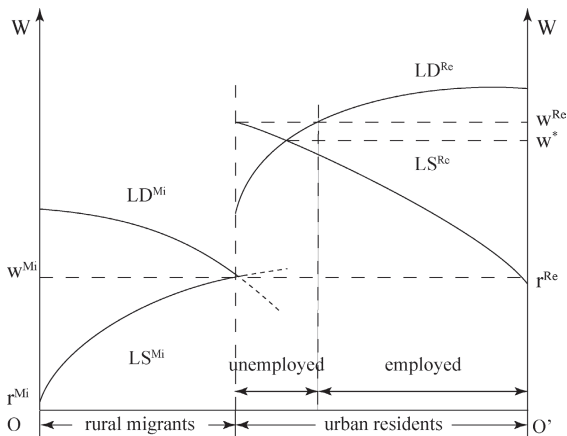
In this section, we shed light on the structure of the Chinese urban labor market. Previous studies have considered the labor market in China to be segmented into the labor markets of urban and rural areas (Knight and Song 2005). However, as the inflow of rural migrants into urban areas has increased greatly, the dual labor market within urban areas has enlarged, based on the heterogeneity of migrant and resident workers discussed in Section 2.2. This dual labor market comprises a labor market for urban residents that offers high wages, permanent jobs and government protection, and a labor market for rural migrants that provides low wages, temporary jobs, works involving less skills and limited social welfare.

The urban residents' labor market is characterized by high unemployment, as described in Section 2.1. Under the supply and demand approach discussed in Chapter 1, labor supply exceeds labor demand and thus the current wages of urban residents should be higher than the market-clearing wage, which will be estimated in detail in Chapter 3. On the contrary, rural migrants are often offered market-clearing wages because they lack government protection and union wage bargaining power. Moreover, as rural migrants possess land-use rights, jobless ones cannot be recognized as involuntarily unemployed.

This fact is consistent with the dual labor market theory demonstrated in many empirical studies, as well as similar dualisms observed outside China. Bulow and Summers (1986) explained dualism as the presence of two sectors: one sector pays wages above the market-clearing rate to discourage workers from shirking, while the other sector has no such monitoring difficulties and pays market-clearing wages. According to Piore (1980), a dual labor market can even arise within a firm that uses “a core of primary workers along with a periphery of secondary workers who were released during a slump” (Saint-Paul 1996, 3–4).

Fig. 2.7 illustrates the dual labor market in urban China. The labor market for rural migrants is measured rightward from the origin O and the labor market for urban residents is measured leftward from the origin O'. LD^{Mi} , LS^{Mi} , w^{Mi} , and r^{Mi} represent the labor demand, labor supply, current wage, and reservation wage of rural migrants respectively, whereas LD^{Re} , LS^{Re} , w^{Re} , r^{Re} and are the labor demand, labor supply, current wage, and reservation wage of urban residents respectively. In the horizontal interval of rural migrants, the labor market is in equilibrium because their current wage w^{Mi} equals the intersection point of the labor demand curve and the labor supply curve, while in the horizontal interval of urban residents, the current wage is above the market-clearing wage w^* and thus unemployment arises.

Fig. 2.7 The dual labor market in urban China

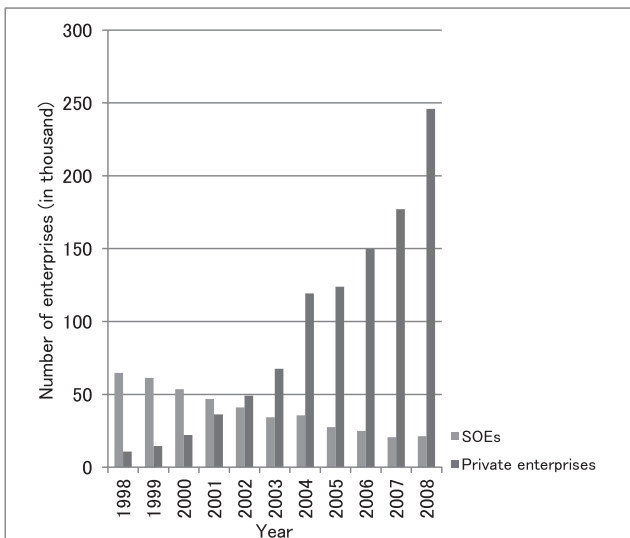


Although this model does not segment the formal and informal sectors in urban areas, we do not think that the sector segmentation, which was mentioned in some previous studies, reflects labor segmentation. In other words, there is no strong evidence to suggest that migrants are unable to work in formal settings. Indeed, 44.1% of the workers in formal construction sectors in China in 2007 were rural migrants, who also accounted for 31.2% of the workers in formal manufacturing sectors (calculated from NBS 2008a).

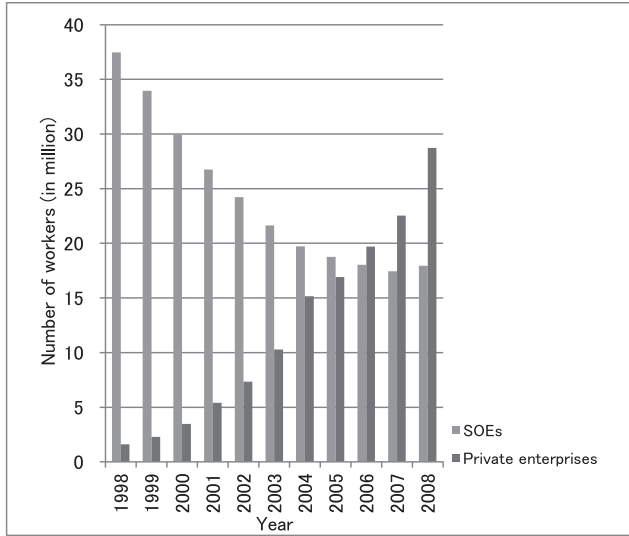
2.4 Job and Worker Flows

The dynamics of China's urban labor market are revealed not only by large-scale rural–urban migration but also by high job and worker flows within urban areas. The past two decades have seen dramatic job rotations and worker reallocations in urban China. Under recent economic reforms, millions of jobs in the country's SOEs have been destroyed (Wu 2005) and a large number of new jobs have been created in the private sector, especially for retrenched workers (as discussed in Sub-section 2.1.2). Such large-scale job reallocations have driven up worker mobility, leading to massive worker flows (Fig. 2.8).

Fig. 2.8 Numbers of SOEs, private enterprises and workers in these enterprise
 (a) Numbers of SOEs and private enterprises (industrial enterprises)
 (Unit: thousands)



(b) Numbers of workers in SOEs and private enterprises (industrial enterprises)
(Unit: million persons)



Source: NBS (1997–2009a)

Changes in the number of jobs reflect the scale of job and worker flows to some extent.¹⁰ Fig. 2.8 shows the changes in the numbers of SOEs and private enterprises and their respective workers (note that only the industrial enterprises of *urban units*¹¹ are included). As shown in Fig. 2.8(a), the number of industrial enterprises in the SOE sector was 64,700 in 1998, compared with 20,700 in 2007. During the same period, the number of industrial enterprises in the private sector increased from 10,700 to 177,100. As a consequence of these job reallocations, employment in SOEs decreased by approximately 50%, while that in the private sector increased almost 20-fold. Further analysis of job and worker reallocations would need a careful measurement of job creation, destruction, and worker inflows and outflows. This will be done in Chapter 5.

10. These are net employment growth, and actual job and worker flows are usually larger than that (Cahuc and Zylberberg 2004).

11. For a definition of *urban units*, see footnote 2.

2.5 Job Agencies in China

Although there are many ways to undertake job recruitment, such as through social networks, company webpages, and advertisements on newspapers or TV, job agencies can often gather the most complete information on the Chinese labor market. They match jobseekers with job vacancies and thus play a key role in the delivery of labor market information.

Job agencies are easily accessible to local workers and firms in China. Each city has its own government-operated agencies as well as some private job agencies, both of which are monitored by labor bureaus. Further, unemployed residents are free to use most services provided by job agencies, and most enterprises are satisfied with the current charges for recruitment services (see Wang 2008).

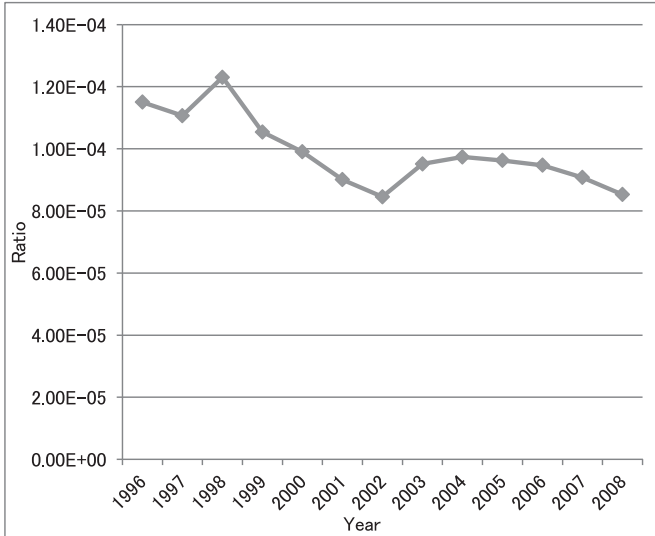
China's job agencies began to develop in the early 1980s, and by 1983, they had stationed in most cities across China. In 2008, the number of job agencies was 37,208, including those run by central and local government (24,410), private job agencies (10,009), and others (2789). In 2008, 55.3 million jobseekers (including unemployed, on-the-job searchers, rural-urban migrants, and others) and 55.1 million vacant jobs were registered at job agencies, and 9.3 million unemployed workers found work through this channel, a similar number to total worker flows from registered unemployment to employment (NBS 2009a). Wang (2008) also reported that approximately 87% of enterprises used job agencies to recruit workers, including unemployed workers and rural-urban migrants.

Job agencies are the most important channel for unemployed workers to search for jobs, because such workers are outside the workplace and thus their social networks and access to information are limited. The survey by Zeng and Cui (2008) found that visiting job agencies is the most widely used and most effective approach for unemployed workers. Furthermore, job agencies are also an important channel for rural migrants, compared with obtaining job information through relatives or neighbors.

A problem for job agencies is the efficiency and quality of job-search services. Most job agencies in China still mismanage job-search information, and only a few professional staff provide a consulting service for job searches and worker recruitment. Some studies have also pointed out the blemished credit, incomplete functions, and poor regulation of job agencies in China

(Wang 2008; Li 2003). Indeed, as shown in Fig. 2.9, the ratio of job agencies to urban employment had actually decreased in the past two decades, which could cause congestion and further reduce their efficiency.

Fig. 2.9 Ratio of job agencies to urban employment



Source: NBS (1997–2009a)

In this chapter, we discussed the important characteristics of China's labor market, namely the high unemployment rate, the large number of rural migrants, the heterogeneity of migrant and resident workers, and considerable job and worker reallocations. These provide evidence for the econometric models of our study, which are constructed and estimated in Parts I and II.

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