

# **Impacts of Internal Migration on Economic Growth and Urban Development in China**

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## **Abstract**

*This paper assesses the impacts of China's internal migration on its economic growth and urban development in the reform era. Reform of the household registration system (hukou system), a remnant of the prior planned economy, plays a vital role in China's labor mobility and has largely contributed to its economic growth and urbanization. The unfinished hukou system reform and institutional barriers, however, still exclude rural migrants from enjoying equal employment opportunities, wage payment, social security coverage, and public services as urban residents, which challenges the healthy urban development and sustained economic growth in China.*

## I. Introduction

The massive population flow from rural to urban areas in post-reform China is the result of both institutional and structural changes caused by economic growth. In the planned economy, China had implemented a household registration system (*hukou* system), which is not a simple registration management, but a man-made institutional design to strictly control population migration and labor mobility both between rural and urban areas and across regions. The issuing of Regulations on Household Registration of People's Republic of China in 1958 marked the beginning of the formal establishment of *hukou* system. Public security bureaus controlled place-to-place migration and it was almost impossible to make any rural-urban migration without authoritative plans or official agreement. Departments of labor and personnel administration controlled sectoral transfer of labor force. There was no free labor market at all.

The design of *hukou* system was totally aimed to serve the priority strategy of heavy industrial development and speed up industrialization. In order to accomplish the original accumulation of capital, this system kept rural labor forces staying at agricultural sectors and limited the number of people enjoying low priced food, guaranteed non-agricultural employment and urban social welfares, including basic social security, subsidized public services (education, health care, transportation, and so on), and subsidized housing in urban areas.

Since the market-oriented reform, the control of labor mobility has been gradually relaxed. The introduction of Household Responsibility System (HRS) in early 1980s allowed farmers to claim their revenues based on their efforts, thus solving the long-standing incentive problems associated with the egalitarian compensation rules inherent in the commune system (Meng, 2000). At the same time, the price system of agricultural products was altered, which stimulated the increase in agricultural productivity, thus releasing surplus laborers from agriculture. The higher returns to labor in non-agricultural sectors motivated farmers to migrate out of agriculture (Cook, 1999), producing an increasing pressure to reform the *hukou* system. As the result of labor mobility from agricultural to non-agricultural sectors and from rural to urban areas, labor markets began to develop.

The gradual abolition of institutional obstacles has been the key to increase labor mobility

since 1980s. In 1983, observing the diminishing capacity for absorbing surplus labor in rural sectors, the government began allowing farmers to engage in long distance transport and marketing of their products beyond local market places, the first time that Chinese farmers obtained the legal rights of doing business outside their hometowns. In 1984, regulations were further relaxed and farmers were encouraged by the state to work in nearby small towns where emerging TVEs demanded for labor. A major policy reform took place in 1988, when the central government allowed farmers to work in enterprises and/or run their own business in cities provided that they were self-sufficient in staple foods.

In the earlier 1990s, the central and local governments have adopted various measures to encourage labor mobility between rural and urban areas and among regions, gradually relaxing the *hukou* system. For example, cities of various scales have issued blue-stamp *hukou* identities to those who migrated to the cities and paid for certain amount of money (or invested in local business or bought expensive house in the cities). Despite the reluctance to implement these new regulations in some of larger cities, the central government did legitimize the *hukou* system reform as part of the marketization efforts. But this reform was retrenched in the late 1990s. A few of cities like Beijing, Shanghai and Wuhan had enacted employment protection policies and set up hundreds of industries and positions for laid-off and unemployed urban workers, in which rural migrants were not allowed to be hired. However, a new-round economic growth and export expansion has created more job opportunities, and even caused a local shortage of rural migrants in coastal areas since 2003 (Wang, et al., 2005), providing a loose employment environment for cities to further deepen the *hukou* system reform.

The gradual reform of the *hukou* system can be characterized as a bottom-up process since the beginning of the 21<sup>th</sup> century - that is, relaxation of *hukou* control started from small towns and gradually extended to medium-sized and big cities. The *hukou* reform in over 20 thousand small towns is characterized as “minimum conditions and complete opening-up”. After years of experiments in some regions, in 2001, the Ministry of Public Security initiated actions to reform *hukou* system in small towns. In most small towns the minimum requirement for obtaining local *hukou* is that the applicants have a stable source of income and a fixed place of residence in the locality. This is considered as a great and significant step in the *hukou* reform ever since the system was put into place in 1958.

The *hukou* relaxation in some medium (even some large and provincial capital) sized cities is characterized as “abolishing quota and conditional entry”. Criteria for settling in those cities with *hukou* status have been substantially lowered. The easiest requirement in Shijiazhuang, the capital city of Hebei province, is to have a work contract with a term of more than two years. Cities implementing the reform include both those in coastal and inland regions. This approach to reforming *hukou* system meets the needs of maturing labour markets and conforms to the strategy of gradualism.

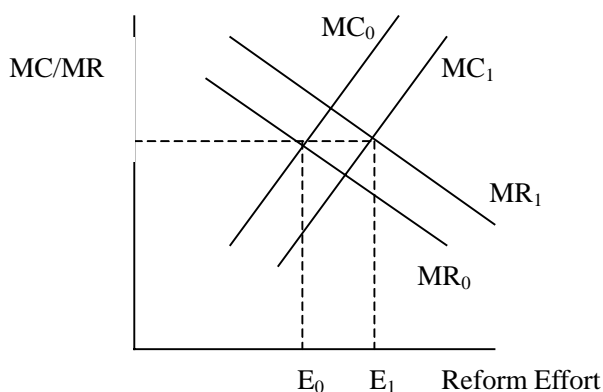
The *hukou* relaxation in mega cities like Beijing and Shanghai is characterized as “raising the bar and opening the gate”. Those cities have turned on green lights for intellectuals and professionals, whereas imposing stricter conditions for ordinary migrant workers to come. In short, raising the bar means narrowing the door by imposing stricter standards. Comparatively, the *hukou* reform in those cities has not made much progress.

From the above three patterns of the *hukou* system reform, it is evident that cities and towns forcibly promote the reform because of the following two reasons: one is that urban *hukou* identity now is of little value. Governments promise neither job opportunities nor welfare that can be obtained by *hukou*. Consequently, the increase in urban population will not aggravate the financial burden on the governments. The other is that local economies have experienced or longed for benefits of reallocating resources by labor force inflow. But as to metropolises that haven't achieved substantial progress in reform, that is not the case. Their *hukou* status is still valuable. Governments are obliged to ensure the residents benefits of re-employment services, all-around medical care provision, nice urban environment, and even lower grade for entrance to universities, and so on. Though being aware of the advantage of resource allocation by labor force inflow, they give priority to low unemployment rate and maintaining social stability. Therefore they are not motivated enough to push ahead with the reform.

As indicated by Figure 1, the desire and efforts are affected by the expected net marginal benefit (marginal revenue minus marginal cost, abbreviated as MR and MC) obtained by governments from reforming their *hukou* system. The comparison of marginal cost and revenue determines what kind of measures to be launched and how much effort to be made to carry them out. Usually with the further enforcement of reform measures and the strengthening of efforts, the marginal cost of reform tends to rise (e.g., increasing opposition from the vested interests),

while the marginal revenue tends to go down (people benefited from the reform withdraw their support as their benefit decreases). Finally, efforts stop at the point where the marginal cost and revenue curves intersect (Point  $E_0$ , Figure 1). In view of the time sequence of the reform and the comparison of different areas, the more developed the market is, the more is the marginal revenue, and the less is the marginal cost. As Figure 1 shows, with the marginal revenue line going up and the marginal cost line going down, the equilibrium points of efforts to reform vary among different backgrounds of market development. The more developed market needs and is able to endure further reform, as indicated by Point  $E_1$ .

**Figure 1. Revenue and Cost of *Hukou* System Reform**



The primary motivation for urban development should be the cost reduction from the economy of scale. But the planned and market economies engender two distinct development models. Cities with the market economic system develop by self-financing. They can reduce the transaction costs by agglomeration, and their expansion lies in efficient investment. On the contrary, those inclined to the planned economy tend to develop by redistribution. Therefore, it is observable that cities at different stages of market development have different motivations and intentions, and different means of reform, and hence different results. Naturally, those with redistribution privileges tend to resist the reform and restrict migration, while cities that increasingly rely on self-financing as the market grows prefer labor force flow.

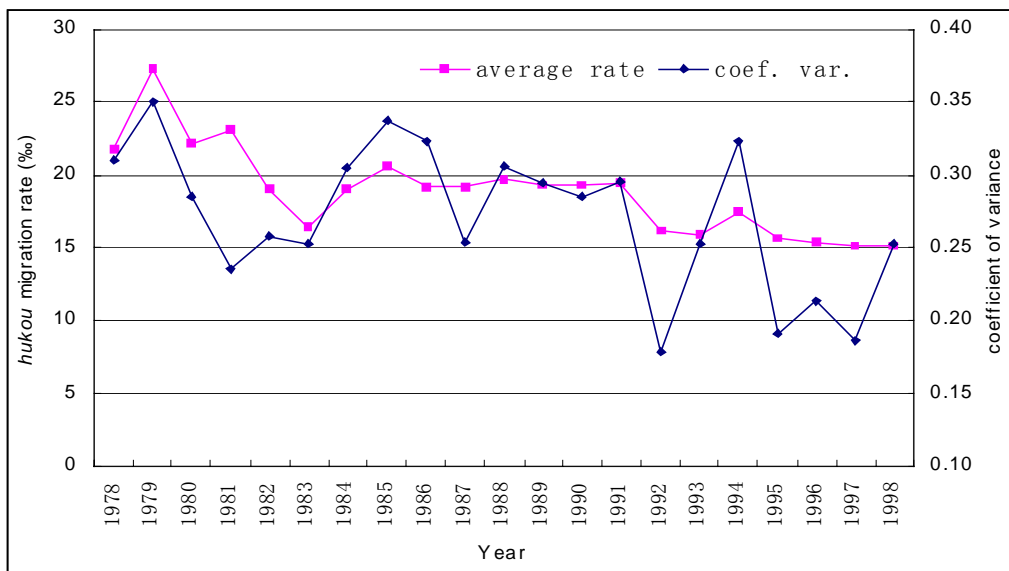
## II. Migration and Economic Growth

### Migration Types and Magnitude of Migrants

Estimates for the number of migrants vary due to different definitions of migrating length (minimum time of stay), geographic boundary (cross-township or county), and official identity (with or without *hukou*). Three categories mostly worth examining are: (1) planned *hukou* migrants, (2) permanent migration with or without *hukou* change, and (3) floating rural labor force.

Migration with *hukou* change is a planned migration approved by the Ministry of Public Security annually, reflecting officially recognized population reallocation. The number of migrants with *hukou* has been slightly declining during the reform period. The number of migrants with *hukou* dropped from the annual rate of 22 per thousand in 1978 to 15 per thousand in 1998. In the same period, the difference in *hukou* migration rates among regions has become smaller, a trend indicating that the policy is implemented indifferently in each region (Figure 2).

Figure 2. *Hukou* migration rate and its variation across region, 1978-98



Source: Yao, Xinwu and Yin Hua (ed.), Basic Data of China's Population, China Population Publishing House, 1994; China's Population Statistic Data by County and Municipality.

Annual quota of *hukou* migrants is mainly determined by the consideration for grain production fluctuation in pre-reform period and unemployment pressure the government feels in the post-reform period (Cai et al., 2001). In other words, the government tends to approve more *hukou* migrants when agricultural products were abundant before the reform and when there are more employment opportunities available after the reform. The number of planned *hukou* migrants in 2003 was 17.26 million, 1.37 percent of the total population (MPS, 2003).

According to the 2000 census, internal migrants who by definition changed place of residence (township, town and community) between 1995 and 2000 for more than 6 months, regardless of *hukou* registration change, numbered 144 million. The one-hundredth population sampling survey in 2005 showed that the number of internal migrants totaled 147 million by the same definition as in the 2000 census, increasing 3 million. Therefore, the major part of migrants comes from rural to urban migration.

Table 1 Numbers, Growth Rates, and Spatial Distribution of Rural Migrants

Year	Total migrants		Of which: Inter-provincial	
	Numbers (million)	Increases (%)	Numbers (million)	Increases (%)
1997	38.90	-	14.88	-
1998	49.36	26.89	18.72	25.81
1999	52.04	5.43	21.15	12.98
2000	61.34	17.89	28.24	33.52
2001	78.49	27.96	36.81	30.35
2002	83.99	7.01	38.97	5.87
2003	98.31	17.05	40.31	3.44
2004	102.60	4.5	42.99	6.65

Note: Migrants before 2000 refer to those who migrated between townships, towns (*zhen*) and communities (*jiedao*), and stayed at destinations for three months or longer. Migrants in 2000 refer to those who migrated between townships, towns (*zhen*) and communities (*jiedao*), and stayed at destinations for six months or longer.

Sources: Department of Training and Employment of Ministry of Labor and Social Security and Rural Social and Economic Survey Team of National Bureau of Statistics, "The Employment and Flow of Rural Laborers in China 1999"; Liu Jianjing, Rural Labor Employment and Transition, in China Employment Report 2003-2004, China Labor and Social Security Press, 2004.

Estimates on rural migrants without urban *hukou* identity can be found from various sample surveys conducted by the Ministry of Agriculture (MOA), National Bureau of Statistics (NBS), and other government agencies. According the MOA source, the number of rural migrants

soared from 2 million in 1982 to 103 million in 2004. The NBS estimate of migration also shows an increasing trend since the late 1990s, but with annual growth fluctuations. The long-distance inter-provincial migration accounts for nearly half the total number. Currently they occupy 52.6 percent of total jobs in wholesale and retail trade and catering services, 57.6 percent in secondary sector, 68.2 percent in processing manufacturing, and 79.8 percent in construction (CIIC, 2004).

### **Spatial Pattern of Migration**

Since 1990, income disparities and development gaps between eastern, central and western regions have widened. As a result, in 2004, Beijing, Tianjin, Hebei, Shanghai, Jiangsu, Zhejiang, Fujian and Guangdong accounted for 82.7 percent of total exports value of China and 45.2 percent of total jobs in manufacturing. At the same time, factors markets became more important forces in allocating capital and labor. The booming coastal regions have created more job opportunities and attracted massive flows of labor. Benefiting from early openness of their economies, the coastal provinces have taken the lead in the development of factors markets, which eliminates the institutional obstacles preventing factors of production from moving across regions, and have become major destinations of labor flows. Labor inflows in turn provide an important source of economic growth in these regions and improve their efficiency of labor allocation (Cai et al., 2002). By summarizing data from the 1987 and 1995 population sample surveys, and the 1990 and 2000 national censuses, Table 2 shows the changes in spatial patterns of migration. The share of intra-provincial migration has been higher than that of inter-provincial migration. When we consider the inter-provincial migration, it is more obvious that the eastern region is the prime destination for migrants.

From Table 2, we can see that in 2000, 64.4 percent of the inter-provincial migration in the eastern region happened within this region, while 84.3 percent of inter-provincial migrants from the central region and 68.3 percent from the western region moved to the eastern region. In terms of the time trend, the share of inter-provincial migration within the eastern region increased by nearly 15 percent, and the share of migration from central and western to eastern regions increased by nearly 24 percent.



**Table 2 Regional Distribution of Inter-provincial Migrants (%)**

Destination	Origin			
	East	Central	West	National
East				
1987	49.7	61.7	44.2	52.0
1990	56.0	59.0	49.3	54.6
1995	63.5	71.8	56.5	63.1
2000	64.4	84.3	68.3	75.0
Central				
1987	31.3	21.8	21.2	24.6
1990	28.4	23.5	20.4	24.0
1995	20.5	12.7	13.4	18.8
2000	19.7	7.1	7.9	9.8
West				
1987	18.9	16.6	34.6	23.3
1990	15.6	17.5	30.3	21.4
1995	16.1	15.5	30.2	18.1
2000	15.9	8.6	23.9	15.3

Note: (1) Migrants in 1987 refer to those who migrated between cities, towns and counties and stayed at destinations for 6 months or longer; migrants in 1990 refer to those who migrated between cities and counties and stayed at destinations for one year or longer; migrants in 1995 refer to those who migrated between counties, districts and counties and stayed at destinations for 6 months or longer; migrants in 2000 refer to those who migrated between townships, towns (*Zhen*) and communities (*Jiedao*), and stayed at destinations for 6 months or longer. (2) Although the statistical criteria of migration timing and space units are different in various years, the results in Table 1 can be used as a reference to compare changes in migration directions.

Sources: National Bureau of Statistics. *Tabulation on the 1987 1 Percent Sampling Population Survey of China*, Beijing: China Statistic Publishing House (1988). National Bureau of Statistics. *Tabulation on the 1995 1 Percent Sampling Population Survey of China*, Beijing: China Statistic Publishing House (1997). National Bureau of Statistics. *Tabulation on the 1990 Census of the People's Republic of China*, Beijing: China Statistic Publishing House (1993). National Bureau of Statistics. *Tabulation on the 2000 Census of the People's Republic of China*, Beijing: China Statistic Publishing House (2002).

To understand the origin and destination of migration, rural-to-urban migration comprises the bulk of the total migration, accounting for 40.7 percent, while urban-to-urban migration makes up the second, accounting for 37.2 percent in 2000. That is, these two are the main forms of migration in China during the course of transition. Rural-to-rural migration accounted for 18.2 percent of total migration, and urban-to-rural migration was only 4 percent of the total. The proportion of urban-to-urban migration increased over time, whereas the proportion of

rural-to-urban migration declined.

The statistics of rural to urban migration in recent years demonstrate that rural migrants further concentrated in eastern region. The share of rural migrants in eastern region accounted for 64.3 percent in 2000 and went up to 70.0 percent in 2004 (See Table 3). Most of them come from central and western provinces with large population such as Anhui, Jiangxi, Hubei and Sichuan, in which rural migrants account for more than 30 percent of their total rural labor forces. In 2004, the number of rural migrants from Henan and Sichuan provinces is over 10 million, respectively. According to city size, 62.4 percent of rural migrants chose to work in medium and large sizes cities. Among of them, 9.6 percent in municipalities directly under the Central Government, 18.5 percent in provincial capitals, and 34.3 percent in prefectural cities. Less than 40 percent of rural migrants chose to work in county seats and townships.

**Table 3. Regional Distribution of Rural Migrants (%)**

Origin	Destination					
	2003			2004		
	East	Central	West	East	Central	West
National	68.0	14.7	17.1	70.0	14.2	15.6
East	96.3	2.4	0.9	96.6	2.1	0.8
Central	64.0	33.9	1.8	65.2	32.8	1.8
West	37.0	2.9	60.0	41.0	2.9	55.8

Source: National Statistical Bureau, China Rural Household Survey Yearbook (2005), China Statistics Press.

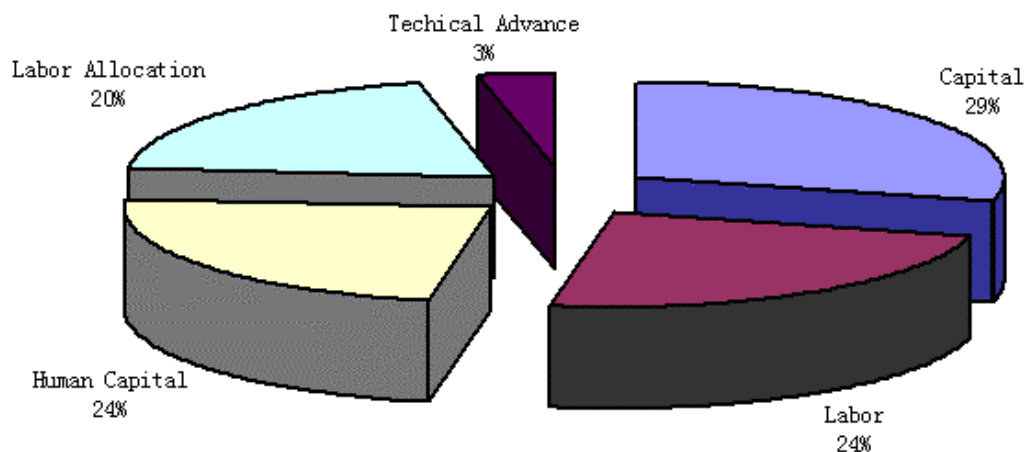
### **Contribution of Labor Mobility to Economic Growth and Income Inequality**

Population migration and labor mobility are characterized not only as a momentum of economic transformation from an agriculture-dominated economy to an industrial one, a common phenomenon in developing countries, but also as a unique economic transition from a planned economy to a market economy, constituting an important source of China's rapid economic growth during the reform era.

The World Bank (1996) decomposed the Solow residue by using a production function approach, and verifies that labor reallocation from agricultural to non-agricultural sectors has contributed 16 percent to China's economic growth from 1978 to 1995. Lees (1997) estimated

the contribution of labor mobility is around 16.3 percent. Cai and Wang (1999) followed the same method as the World Bank and found that labor mobility has contributed to 20.2 percent of GDP growth from 1978 to 1997. They also introduced human capital into production function and found that the accumulation of human capital also played a vital role in China's economic growth. The combination of labor input, human capital accumulation and labor reallocation has contributed to nearly 70 percent of GDP growth since the reform.

**Figure 3. Sources of China's Economic Growth in 1978-1997**



Source: Cai, Fang, and Wang Dewen, 1999. The sustainability of China's economic growth and labor contribution. Journal of Economic Research, No.10.

As Johnson (1999) argued that the inter-sectoral labor transfers over the next three decades could contribute as much as 2 or 3 percentage points to China's annual economic growth, if the barriers to migration are gradually lifted and rural and urban wages are nearly equalized for individuals with similar levels of human capital. A conservative estimate (Taylor and Martin, 1998) suggests that the share of agricultural employment will decrease by 3.1 percentage points with each 10 percent growth of GNP, if China follows the similar pattern of migration from agricultural sector to non-agricultural sectors as other developing countries. Rapid urbanization

in the future 20 years will release a huge number of rural labors out of agricultural sectors and rural areas. The transformation and decline of agricultural employment will have profound impacts on the healthy development of both rural economy and the whole economy through labor reallocation.

In a recent study, the World Bank (2005) divides Chinese economy into four sectors, namely agriculture, urban industry, urban services and rural non-agriculture, and investigates the impact on Chinese economic growth by simulating labor reallocation from low-productivity agriculture sectors to high productivity sectors. This report uncovers that China's labor market is still significantly fragmented across regions and across sectors while getting more integrated over the post-reform period, which were reinforced by the remains of the *hukou* system, the limited access for migrants to social services, and the highly uneven quality of public services. If China takes measures to abolish the segregation of goods and factors markets, the gains from market integration can be huge.

**Table 4. Allocative Contribution of Agricultural Labor Forces to the GDP Growth (%)**

Share of labor transfer	1%	5%	10%
Changes in GDP from moving labor out of agriculture	0.7%	3.3%	6.4%
Changes in GDP from moving labor out of the Rural to the Urban areas	0.5%	2.5%	5.0%
East	0.3%	1.6%	3.1%
Central	0.6%	2.9%	5.7%
West	0.9%	4.2%	8.2%
Northeast	0.4%	1.8%	3.5%

Source: World Bank, 2005. Integration of national product and factor markets: economic benefits and policy recommendations, Report No. 31973-CHA.

Using 2001 as a baseline (Table 4), the simulation shows that if moving 1 percent of labor force out of the agriculture sector, the GDP will grow by 0.7 percent from labor reallocation. If moving 10 percent of labor force out of the agriculture sector, the GDP will grow by 6.4 percent.

In view of the disparity in marginal productivity of labor across sectors and regions, policy simulations also show that facilitating labor market mobility and integration not only improves economic efficiency but also enhances equity. For example, the gains are much higher in the western and central region compared to the eastern and northeastern region from labor reallocation. With 10 percent of labor movement, the western and central region would gain by 8.2 and 5.7 percent, compared to 3.5 and 3.1 percent for the northeast and eastern region respectively.

According to the neo-classical theory of factors equalization theory, the increase of labor mobility and rural to urban migration should have an impact of narrowing regional and rural-urban disparities, but an opposite outcome has been observed since 1990s. Cai and Wang (2003) incorporated the variable of marketization into a gravity model and found that the market-oriented reform has created an institutional environment favoring labor mobility and directing the spatial distribution of rural to urban migration. Lin et al. (2004) also used a gravity model and confirmed that migration become more responsive to regional disparity. The elasticity of migration to income disparity rose from 0.197 during 1985-1990 to 0.595 during 1995-2000. The reason that increasing mobility hasn't reduced income inequality mainly comes from the unfinished *hukou* system and other factors that continue to enlarge regional disparity.

Another explanation on why migration has not reduced the income gap is the existence of distortion institutions (Cai, 2005a). If we want to take into account the interactions between sectors and institutional reform, the application of CGE model (Computable General Equilibrium model) will help to examine the effects of the *hukou* system reform. Whalley and Zhang (2004) introduced the *hukou* system into a simple CGE model and testified that when removing migration restrictions, all wage and most income inequality disappears. Zhai and Wang (2003) used a complex CGE model that links macro sectors with micro household level data to simulate the effect of labor mobility on the narrowing of rural-urban gap. Although their estimation is lower than that presented by Whalley and Zhang, the effects are still very significant.

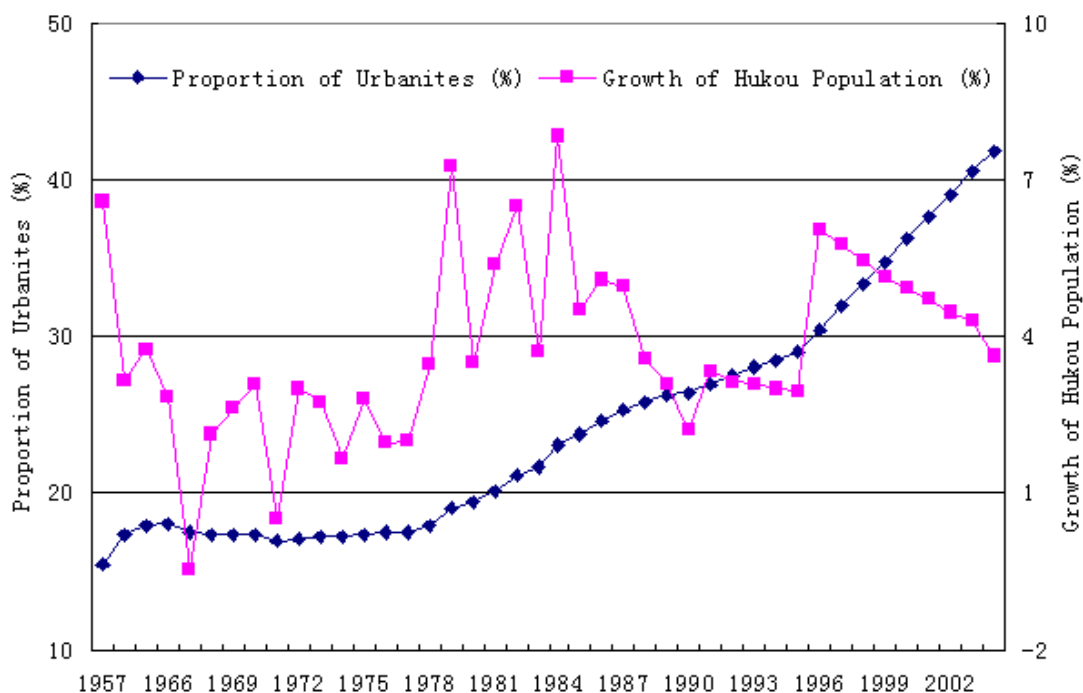
### **III. Migration As A Driving Force of Urbanization**

Population migration is an important contributing factor in the structural transformation and urbanization in the process of economic development. Prior to the reform and opening-up,

however, the pace of urbanization in China was stagnant and even dropped during the 10-year Cultural Revolution (Figure 4). The relative decline of urban share in the total population can be attributed to the following two factors: one is that the enforcement of *hukou* system placed tight restrictions on rural-urban migration. The other is that the natural growth rate of rural population was much higher than that of urban population.

Since the reform and opening up, China has dramatically picked up its pace of urbanization. From 1978 to 2004, the urban share in total population increased from 17.9 percent to 41.8 percent, with an average annual growth rate of 0.92 percentage points. During the same time period, the average growth rate of urban population stood at 4.4 percent, significantly higher than the natural growth rate of population in China, which dropped from 1.2 to 0.59 percent.

**Figure 4. China's Urban Population Growth and Urbanization: 1957-2004**

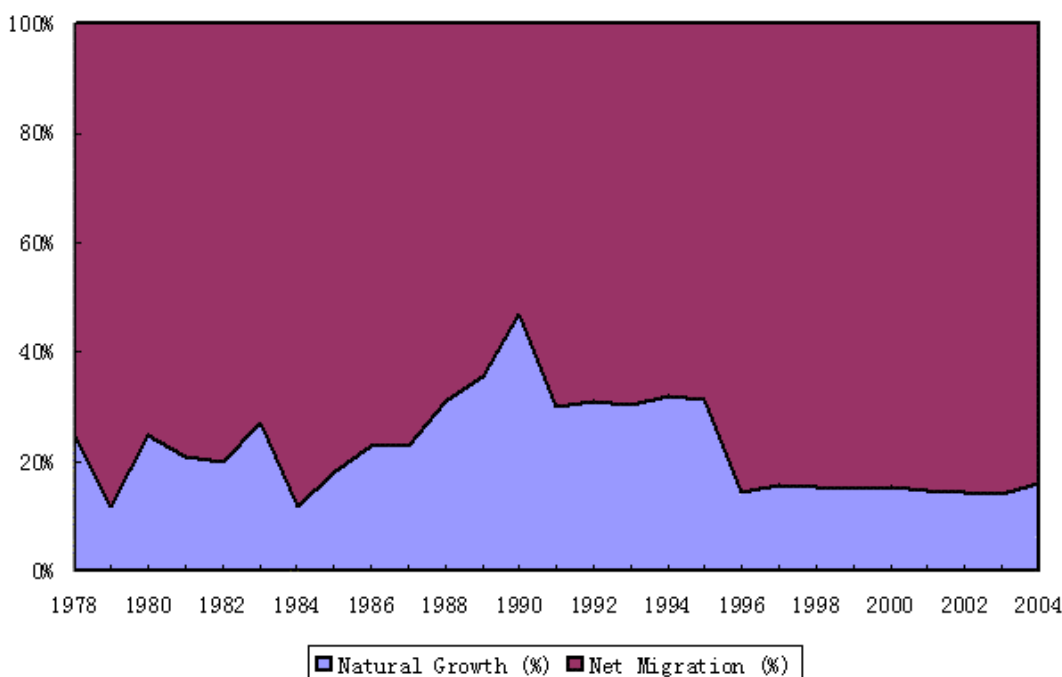


Source: National Bureau of Statistics, China Statistical Yearbook (1990, 2005), China Statistics Press, Beijing.

Generally speaking, urban population growth comes from three channels: natural growth of urban residents, rural-urban migration and spatial jurisdiction change. According to an empirical

study conducted by Todaro (1984) on 29 developing countries, migration and spatial jurisdiction change account for 41.4 percent of urban population growth from 1960 to 1979. Assuming the growth of urban population comes from the growth of urban residents and rural-urban net migration, we can calculate the contribution of migration to urban growth in China. We use the number of urban population in 1977 as the baseline and decompose the annual increase of urban population into growth of urban residents and net migration based on the information of natural growth rates of urban population from 1978 to 1999, natural growth rates of total population from 2000 to 2004<sup>1</sup> and annual number of urban population. Figure 5 shows that rural-urban net migration accounted for nearly 70 percent of urban growth in 1980s and went up to more than 80 percent of urban growth since 1990s, indicating that migration is becoming the most important force of Chinese urbanization.

**Figure 5. Contribution of Migration to Urban Population Growth: 1978-2004**



Source: National Bureau of Statistics, China Statistical Yearbook (2001, 2005), China Statistics Press, Beijing; Yao, Xinwu and Yin Hua (ed.), Basic Data of China's Population, China Population Publishing House, 1994.

The acceleration of China's urbanization since reform is virtually a remedy for the long time

<sup>1</sup> The information of natural growth rates of urban population is unavailable from 2000 to 2004.

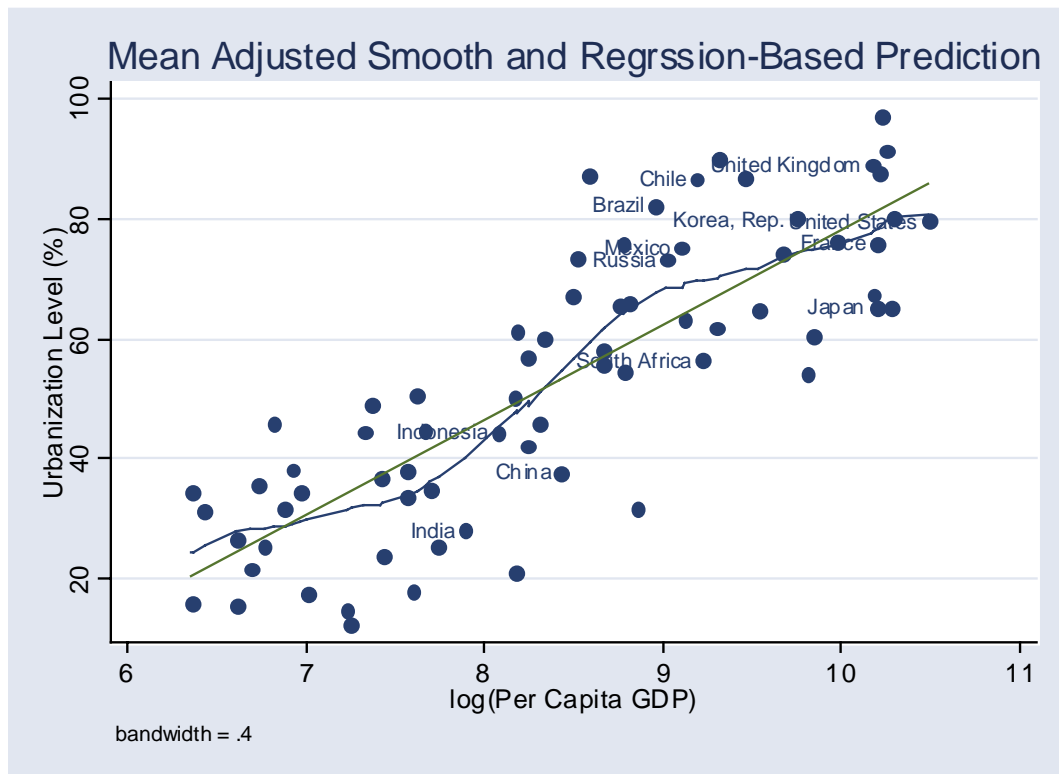
lagged development and structural deviation. Under the planned economy, the formation of cities in China emerged with a different path than those in market economy. Cities were designed as economic zones to serve the specific purpose of satisfying the priority strategy of heavy industrial development. Although economic reform dismantled the traditional planning system, dual economy and urban-biased policies persists, which hinders the simultaneous development of urbanization through industrialization. The man-made institutional segregation between rural and urban areas deprives rural migration of the choice of permanently settling down in urban areas, and leads to the unique characteristics of under-urbanization development in China.

Au and Henderson (2002) adopted a production function method to model and estimate urban agglomeration economies and the optimal city size for 206 cities in China. They found that the constraints of *hukou* system on labor mobility have also resulted in sub-optimal size and under-agglomeration in Chinese cities, leading to significant economic welfare losses. The majority of Chinese cities are potentially undersized-below the lower bound on the 95 percent confidence interval of the size where their output per workers peaks. Estimates show that increasing a city at 50 percent below optimal size to its efficient size will raise output per worker by about 40 percent, indicating that the net benefits of clustering and agglomeration are considerable (World Bank, 2005). The findings from the structuralist approach proposed by Chenery and Syrquin (1975) reached the similar conclusion.

Based on the 2002 World Bank data of 71 countries with a population of over 50 million, Figure 6 illustrates the deviation of China's urbanization level from the predictive trends by two methods. The Chenery-Syrquin structuralist method (1975) regresses the share of urban population on the value of logarithm per capita GDP (PPP) and its squares and produces a linear trend of prediction. The non-parametric mean adjusted smooth method shows a S-shaped curve relationship between urbanization and the changes in income level. Both methods illustrate a similar dramatic change in the spatial distribution of population with the growth of per capita income. According to the prediction, urbanization in China is way off the general trend and is at the stage of acceleration.

### **Figure 6. Economic Growth and Urbanization**





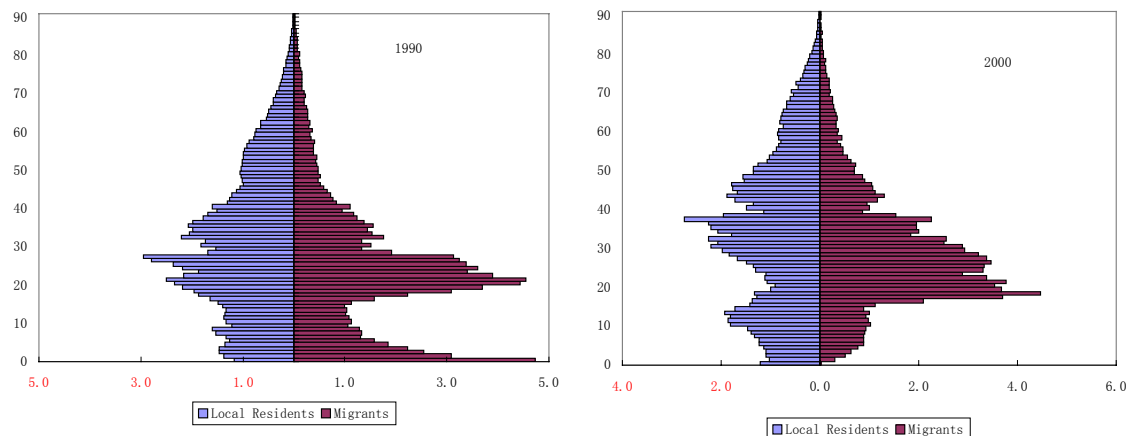
Source: World Bank, WDI Online Database, <http://devdata.worldbank.org/dataonline/>.

Apart from raising urbanization level, migration also affects the structure of urban population. On one hand, migration brings about demographical structural changes in age, gender and education level and so on. On the other hand, migration reduces urban population dependency ratio. Those impacts produce accumulative effects and agglomeration for the development of urban economy.

Migration is selective. A number of studies show that rural migrant workers are primarily youths, with an average education level higher than those who choose not to migrate. Because of the restrictions of *hukou* system, few migrants move along with their families. Such selectivity of migration strongly affects urban population age structure. As shown in Figure 7, in late 1980s when small amount of rural migrants began to flow into urban areas, they had little impacts on the age structure of urban population in 1990. With the fast growing amount of rural-urban migration in 1990s, however, the impacts of migration on urban population age structure become very significant. In Figure 7, the age structure pyramid illustrates the age distributions of urban local residents on the left and migrants on the right, respectively. In 2000, migrants reduce urban dependency ratio by 2.5 percentage points and aging population ratio by 0.8 percentage points

through filling up the gap of age groups between 13 and 33.

**Figure 7. The Impact of Migration on Urban Population Age Structure**



Note: We used the micro-data from the National Bureau of Statistics to adjust the migrating time length and geographic boundary to get a consistent comparison.

Source: National Bureau of Statistics, 1 percent sample of the 1990 Census of the People's Republic of China and 1 percent sample of the Long Form data of the 2000 Census of the People's Republic of China, Beijing.

#### **IV. Labor Market Segregation and Social Exclusion**

Under the *hukou* system, China's urban labor market has been segregated into two components with a distinctively different operation mechanism. The market that serves state-owned enterprises is highly protective for local laborers. With a restrictive entry and weak withdrawal mechanism, this market lacks competitiveness and its salary level cannot reflect the relationship between labor supply and labor demand. The institutional wage is stable, highly secure but lacking in incentives, more costly and less competitive, all of which feature an equalitarian income distribution system.

Another labor market that serves various non state-owned and self-employed sectors is open without explicit limitations on *hukou* requirement. On this market, the determination of wage reflects labor market demand and labor supply. Employment opportunities on this market are primarily created outside the traditional system and can be characterized as flexible, inexpensive and more competitive, but lacking in necessary protection of workers' legal rights.

The highly segregated labor market not only hampers the mobility of urban workers but also constrains the mobility of rural migrants. Except for very small amount of job opportunities, such as “rural-urban *hukou* transfer” and enrollments in universities, it is very difficult for rural residents to find formal employment in urban areas. Most of them can only find jobs that are temporary, physically demanding and offer low protection, similar to those available in widespread informal sectors in many developing countries. Due to the *hukou* system, local residents and rural migrants get totally different treatments in urban labor market (See Table 5).

**Table 5. Comparison of Formal Employment and Informal Employment**

<b>Characteristics</b>	<b>Formal Employment</b>	<b>Informal Employment</b>
Household registration type	Non-agricultural and local	Agricultural and non-local
Legal urban residency status	Full status	Illegal or temporary
Socioeconomic sectors	Mostly in the state sectors and state-owned enterprises	Small and self-employed enterprises
Occupations	Managerial staff, technicians and skilled workers	Physical workers, self-employed
Employment channel	Determined by planning or formal channels	Based on personal contacts and markets information
Working status	Relatively less demanding and stable	Highly labor demanding and unstable
Entitlements to basic social security and benefits	Full	From none to temporary entitlements
Housing	Allocated by working units or self-owned	Low-cost shelters or homeless

In 1980s and the early 1990s, the inflow of rural migrants into urban areas was largely a supplement to urban labor force. The fast-growing urban economy has generated massive demand for laborers, resulting in structural shortages of urban workers, especially in sectors such as construction and sanitary services, which have poor working conditions and high demand for physical labor. In the meantime, the expansion of tertiary sectors and private sectors had also

created more opportunities and diversified channels for rural migrants to be employed in trade and catering service sectors that are related to the everyday life of urban residents.

Since the middle 1990s, after a large number of SOE workers were laid off, unemployed urban workers entered the competitive labor market and competed with migrants on the same playing field. From this perspective, rural migrants have shifted from a supplemental labor force to competitors of urban workers. This can be attributed to two reasons: first, the wage of rural migrants is determined by labor market and therefore very competitive; second, the role of non state-owned economy has grown from a “supplemental” component to an “important” component of the national economy. Although this kind of competition is still limited to positions that allow entry for low-skilled workers at a relatively low threshold, it has posed threats to those vested in the urban employment protection policies and prompted opposition from the urban workers.

### **Industrial Entry Barrier**

While the reform has so far created the possibility and opportunity for rural migrants to move out from their home villages, the remaining of traditional sectors, which created and still keep alive the urban labor market segregation, set barriers for migrants to access a variety of jobs and public services. As a result, migrant workers can only take up those jobs characterizing poor working conditions, with low pay and insecurity. Because of the incompleteness of the urban social service system reform, outside workers are excluded from receiving the necessary housing, medical care and children’s education at reasonable prices. Furthermore, migrants without a local *hukou* are often deported by urban authorities simply because they are outsiders and, therefore, potential factors of instability and crime. All those deterrent factors prevent migration in today’s China from being complete and permanent, inducing its unique features of urban migrants: relative low standard of living to their real income, economic and cultural separation from the urban society and individual instead of family migration.

Institutional barriers faced by urban migrant workers directly stem from a variety of policies and regulations by local governments. Unlike the traditional institutions that restricted migration with administrative measures, the current institutional barriers deter migration by increasing its costs. Typically, to be legally eligible to move out from their hometown and search for a job in

the urban sector, migrant workers are required to have various permits and documents issued by both governments of sending and receiving places. By levying a fee on each permit and document required, the government artificially raises the costs of migrant labor leaving the countryside and staying in the cities. The governments in many large and medium sized cities have also issued regulations prohibiting enterprises from hiring migrants in certain jobs and posts, a trend that distorts costs of using migrant labor. At a time when there is enormous employment pressure in cities and large-scale layoffs in SOEs, the influx of rural migrant labor is viewed as only adding to urban job pressure. Urban governments have implemented a series of measures more strictly restricting migrants to work in the city and preventing migrants from moving in (see Cai et al., 2001).

**Table 6 Employment Distributions of Local and Migrant Workers by Industry (%)**

Industry	(1)	(2)	(3)	(4)	(5)
Mining and Quarrying	2.91	1.08	2.82	No	-888
Manufacturing	34.82	47.04	30.68	Yes	-369
Electricity, Gas and Water	1.73	0.52	2.29	No	3596
Construction	7.66	9.12	5.64	Yes	-537
Geological Prospecting & Water Conservancy	0.37	0.11	0.47	No	385
Transport, Storage and Telecommunication	7.30	3.75	7.98	No	2965
Trade and Catering Service	18.91	24.15	19.45	Yes	-2017
Finance and Insurance	1.60	0.50	2.18	No	3973
Real Estate	0.66	0.49	0.9	No	3346
Social Service	6.02	7.26	6.41	Yes	1181
Health, Sports and Welfare	2.96	1.05	3.64	No	1627
Education, Culture and Art	7.13	2.46	7.32	No	19
Sciences and Polytechnic Service	0.59	0.12	0.89	No	4169
Governments and Social Organization	6.61	1.99	8.4	No	773
Others	0.71	0.37	0.94	No	2000
Total	100	100	100	-	-

Note: Column (1): Industrial distribution of total urban workers (including migrants and locals); Column (2): Industrial distribution of migrant workers; Column (3): Industrial distribution of local workers; Column (4): whether or not a certain industrial distribution of migrants is higher than that of total urban workers; Column (5): Difference between average wage of an industry and that of the weighted total (9205 yuan).

Source: Information about employment distribution comes from the sampling dataset of long form of 2000 census; Data of wages is from *China Labor Statistic Yearbook 2001*.

Those discriminatory policies restricting labor mobility, legitimized by the hukou system, divide urban labor market into two separate parts – local vs. migrant labors. As a result, migrant workers working in urban sector are limited within certain industries while local workers are engaged in much wider range of industries (Table 6).

In order to find out whether rural migrants have equal employment opportunities as their urban counterparts, lots of researcher use the non-linear probability model to compare the differences in probabilities of entering sectors and occupations between rural migrant workers and urban workers. Based on the 2000 Census, Wang et al. (2004) and Zhang (2004) presented evidence that the existence of *hukou* system makes migrant workers much less likely to enter urban monopoly and non-competitive sectors.

### ***Occupational Segregation and wage difference***

In urban labor market, migrant workers, generally speaking, cannot obtain employment in “regular departments” such as government offices and state-owned enterprises. They can only enter non-state-owned or non-regular departments for unskilled labor. According to China’s Urban Labor Survey (hereafter “CULS”) conducted by the Institute of Population and Labor Economics, Chinese Academy of Social Sciences, in terms of occupation, more than half of the migrant workers are self-employed in 2001, nearly 30 percent of them working for non-public sectors and very few in administrative, managerial, professional and technical occupations.

Even when they are employed for the same kind of work, migrant workers are paid less and enjoy fewer benefits than their urban counterparts. Meng and Zhang (2001) used wage function equation and decomposed the wage gap between rural migrant workers and local urban workers. The remaining part that cannot be explained by factors related to productivity is large, revealing the severe discrimination against rural workers on urban labor market. According to CULS, the average hourly pay is RMB4.05 for migrant workers but RMB5.70 for urban resident workers. In all job categories held, the average hourly pay for migrant workers is lower than their counterparts. 43 percent of the wage difference between them can be attributed to discrimination (Wang and Cai, 2005), caused largely by the *hukou* system and a set of other related welfare and benefit systems.

63 percent of the wage difference between migrant workers and urban resident workers is caused by different occupational distributions. Compared with urban residents, migrant workers are generally engaged in those jobs that are low paying, dirty, tedious, physically demanding, or hazardous to health.

The impact of migrant workers on urban local labor market is very complicated. While migrant workers heighten competition pressure, they also make contribution to urban economic growth and job creation. As the market-oriented reform proceeds, the momentum of migration will speed up the integration of urban labor market.

### **Social Exclusion from Welfare Coverage**

Ravallion (2001) pointed out that the speed of poverty urbanization in developing countries outpaces the speed of urbanization itself, which came from the rapid migration of rural poverty to urban areas. According to data from 39 developing countries, the urbanization of poverty population is 26 percent faster than that of the overall population. If this momentum persists, urban poverty population as a percentage of total urban population will rise to 40 percent when the global urbanization level hits 52 percent in 2020.

Rural-urban migration in China has not yet had much negative impact on urban poverty. Rural migrant workers have, in fact, contributed a lot to the alleviation of rural poverty through remittances. The unemployment rate of rural migrant workers is very low, due to their mobility and employment-oriented migration. If treated as urban population, rural migrant workers will actually lower the urban poverty rate. Due to the incomplete nature of the reform, *hukou* system still remains as a fundamental barrier to population migration (Roberts, 2000). After comparing the Chinese urban restrictions towards rural migrants with the stringent policy measures adopted by Germany and Japan in order to limit immigration, Solinger (1999) argued that in terms of entry rules, citizenship rights and treatment, the former is more restrictive than the latter.

The present system of electing representatives to the National People's Congress has, in real terms, resulted in the loss of migrant workers' rights to vote and to stand for election because of its stipulation that "outsiders" cannot participate in local politics and administration. Generally speaking, the Trade Union, the Workers' Representative Conference, Labor Supervisory

Committee and other kinds of labor organizations within a work unit are important channels for workers to express their opinions, wishes and aspirations. According to our CULS in 2001, 78 percent of the migrant workers as compared to 22 percent of urban resident workers say their work units have none of those labor organizations.

From CULS in 2001, only 29 percent of the migrant workers had signed a contract with their work units or employers, much lower than the 53 percent for urban resident workers. This is a clear violation of the Labor Law and encroachment on the legal rights and interests of the employees. In addition, this creates barriers for settling labor disputes between employees and employers. In recent years, defaulting on and even pocketing a portion of the worker's pay by the employer has become an issue of public concern. Many migrant workers from the rural areas work in harsh conditions all the year round only to find that they cannot get paid. According to findings in CULS, among all those work units that employ migrant workers, the defaulting ratio is 12.02 percent, higher than the 8.59 percent for those that employ only urban residents.

**Table 7. Comparison of Social Insurance Coverage between Urban Resident and Migrants (%)**

City Size	Urban Residents			Migrants		
	Large cities	Large cities	Small cities	Large cities	Large cities	Small cities
Year	2001	2005	2005	2001	2005	2005
Pension Insurance	69.2	76.9	76.7	6.7	8.8	13.3
Unemployment Insurance	-	33.8	45.0	-	2.4	7.7
Health Insurance	67.6	63.9	72.4	7.7	7.5	14.3

Source: 2001 and 2005 China Urban Labor Survey in 5 large cities including Shanghai, Wuhan, Shengyang, Fujian, and Xian, and 5 smaller cities in surrounding areas.

According to CULS, in all work units with migrant workers, only 6.7-13.3 percent of those workers are provided with old-age social security while 69.2-79.7 percent of their urban counterparts enjoy this security; only 2.4-7.7 percent of migrant workers are provided with



medical insurance as compared to 33.8-45.0 percent for urban resident workers; only 7.7-14.3 percent of migrant workers are provided with medical insurance as compared to 63.9-72.4 percent for urban resident workers (See Table 7). Small cities are now more open to providing social insurance service for rural migrants while large cities pay more attentions to the provision of social insurance for urban local residents. The following table also shows a little progress has been made for absorbing rural migrants into urban formal social security system, but the coverage gap between urban local residents and rural migrants is still big.

**Table 8. Higher Costs of Education for Migrant Children**

	4 large cities (2001)	4 large cities (2005)	5 small cities (2005)
Mean yearly tuition of migrant children attending school in urban areas (Yuan)	1356	1782	1572
Estimated city tuition with hukou (Yuan)	829	1304	1064
Percentage difference in means	52.6	26.8	32.3
Median percentage difference	52	33	25
% respondents reporting that city tuition is higher than city tuition with a local hukou	81.9%	75.1%	58.1%

Source: 2001, 2005 Chinese Urban Labor Survey.

Migrant workers hardly get any chance of receiving formal education after entering the city. The only and probably the most feasible way of enhancing the level of their human capital and work-related skills is through training. Many work units, however, do not provide such an opportunity for migrant workers. The situation for the education of their children is also a matter of grave concern. The CULS survey shows that the share of migrants who send their children to schools in local urban areas rose from 52 percent in 2001 to 62 percent in 2005, but most migrants have to pay extra fees. The tuition fees differed by more than 50 percent between students with and without local *hukou* in 2001 and declined to around 30 percent in 2005. The differences in the cost of education are similar in large and small cities alike (See Table 8).

In addition to low social security coverage for rural migrant workers, large amounts of landless or land-lost farmers have inadequate access to social security and become “three- no farmers” who have no land, no job and no social security, and are marginalized in the process of urbanization expansion in China. According to the statistics from the Ministry of Land and Resources, China requisitioned 33-million square mu of arable land for non-agricultural construction from 1987 to 2001, in which 70 percent was taken over by local government through administrative means. At present, China has about 40 million landless or land-lost farmers, with an annual increment of 2 million (Zhang, 2004).

The compensation package for land requisition tops at 18,000 Yuan in some areas, which is only 1.5 times that of the disposable annual income for urban residents in 2002. At the average consumption level of rural residents, this amount of money can only maintain 7 years of living; at the average consumption level of urban residents, this amount of money can only maintain 2 years of living. Even if the money is deposited directly into the farmer’s social security personal account, assuming an average current age of 50 and a life expectancy of 72.6 for those farmers, they can only get 60 Yuan per month after retirement, much lower than the prevailing minimum living standard of 180 Yuan per month and the average urban pension of 500 Yuan per month (Gao, 2004). Under this situation, without a social security safety net, landless or land-lost farmers are likely to fall into urban poverty, not to mention sustain a livelihood in the long run.

## **V. Conclusive Remarks**

The *hukou* system reform is essential for labor mobility and hence urbanization. In the past two decades, labor mobility has produced significant effect on the reallocation of labor force in rural and urban areas, contributing to overall growth and urbanization. The strength and depth of *hukou* system reform, however, differs from region to region. The *hukou* system, which has persisted for the past forty-four years, is expected to undergo further reforms as the market system matures. The gradual reform of the *hukou* system follows the same logic as that of the overall reform of China.

In the long run, rural-to-urban migrants will be the main sources of non-agricultural industry workforce to maintain low labor cost advantage. The implementation of family planning

program and the effects of socioeconomic growth have combined to alter China's demographic trends. China's demographic transition finished much earlier than it should have and caused the changes in the age structure of population. China will reach its population peak of 1.44 billion in 2030. The increase in the working-age population will slow down by 2011 and begin to decrease by 2021. Actually the growth rate of working-age population has been decreasing in recent years (Cai, 2005b). As the result of demographic transition, therefore, the labor shortage in China's urban sectors would happen if the labor transfers from rural areas to urban areas fail to speed up in the next decade or so, which would give rise to a slowdown of Chinese economic growth.

Having set the specific development goal of building up a well-off society, China's per capita GDP is planned to reach 3000 US dollars in 2020. At that time, China will join the middle-income group of countries in terms of purchasing power parity. Following the pattern in this group, whose share of rural population averages 23 percent, China is expected to transfer hundred of thousands of its rural residents to urban areas, even if the total number of population in rural areas does not increase. This transfer will play a significant role in China's economic growth in the next 10-20 years, therefore, the further reform should be taken to abolish various institutional obstacles that hinder the development of labor markets and to encourage labor migration with a better social security coverage, which in turn cultivates the conditions for the further *hukou* system reform.

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