

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

Cai Fang

Wang Dewen

Institute of Population and Labour Economics, CASS

1. 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 a household registration system (*hukou* system) which was designed to control population migration and labor mobility between rural and urban areas as well as across regions. The issuing of Regulations on Household Registration of the People's Republic of China in 1958 marked the beginning of the formal establishment of the *hukou* system. Public security bureaus controlled place-to-place migration, and it was almost impossible to move from a rural to an urban area without authorized plans or official agreement. Departments of labor and personnel administration controlled the transfer of labor across economic sectors and there was no free labor market at all.

The *hukou* system was designed to promote the development of heavy industry, a high priority at the time, and to speed up industrialization generally. In order to accumulate capital for investment, the system kept the rural labor force in agricultural sectors. It also limited the number of people who had access to low-priced food, guaranteed non-agricultural employment, and subsidized urban housing social benefits, such as basic social security and subsidized public services (education, health care, transportation, and so on).

Since market-oriented reforms were instituted, controls over labor mobility have been gradually relaxed. The introduction of the Household Responsibility System (HRS) in the early 1980s allowed farmers to earn income based on effort, thus solving the long-standing incentive problem associated with the egalitarian compensation of the commune system (Meng 2000). At the same time, the price paid by the state for agricultural products was raised, stimulating an increase in agricultural productivity and releasing surplus laborers from agriculture. The higher returns to labor in non-agricultural sectors also 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 increased labor mobility since the 1980s. Observing the diminishing capacity of rural sectors to absorb surplus labor, in 1983 the government began allowing farmers to transport and market their products beyond the local market – the first time in several decades that Chinese farmers had the legal right to do 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 Town and Village Enterprises (TVEs) were seeking labor. Another major policy reform took place in 1988, when the central government allowed farmers to work in enterprises and run their own businesses in cities, provided that they were self-sufficient in staple foods.

In the early 1990s, the central and local governments adopted various measures to encourage labor mobility between rural and urban areas and across regions, further relaxing the *hukou* system. For example, some cities issued blue-stamp *hukou* identification to those who migrated to the cities and paid a certain amount of money, invested in local business, or bought an expensive house. Despite the reluctance of some larger cities to implement these new regulations, the central government did legitimize *hukou* reform as part of its efforts to develop a market economy.

This reform was retrenched in the late 1990s when cities like Beijing, Shanghai, and Wuhan enacted employment protection policies and made hundreds of industries and positions available only to laid-off and unemployed urban workers; rural migrants could not apply. However, a new round of economic growth and export expansion created more job opportunities, even causing a local shortage of rural migrants in coastal areas since 2003 (Wang et al. 2005). This has provided a looser employment environment in which cities can further deepen *hukou* system reform.

The gradual reform of the *hukou* system since the beginning of the twenty-first century can be characterized as a bottom-up process – that is, a relaxation of *hukou* control beginning with small towns and gradually extending to midsized and large cities. The *hukou* reform in over 20,000 small towns has been characterized as “requiring minimum conditions and complete opening-up.” After years of experimentation in some regions, in 2001 the Ministry of Public Security (MPS) initiated reform of the *hukou*

system in small towns. In most cases, the minimum requirements for obtaining a local *hukou* were a stable source of income and a fixed place of residence in the locality. This was considered the most significant step in the *hukou* reform since the system was put into place in 1958.

The relaxation of *hukou* in some midsized cities (and even some large cities and provincial capitals) has been characterized as “abolishing quotas and conditional entry.” Criteria for settling in those cities with *hukou* status have been substantially lowered. Shijiazhuang, the capital of Hebei Province, is the city with the easiest conditions, and it requires people to have a work contract with a term of more than two years. Cities implementing the reform include those in both coastal and inland regions. This approach to reforming the *hukou* system meets the needs of maturing labor markets and employs a strategy of gradualism.

The new *hukou* policy in mega-cities like Beijing and Shanghai is characterized as “raising the bar and opening the gate.” Those cities have given a green light to intellectuals and professionals seeking to move there but have imposed stricter conditions for ordinary migrant workers. In short, raising the bar means narrowing the door by imposing stricter standards. Compared to other cities, *hukou* reform in those cities has not made much progress.

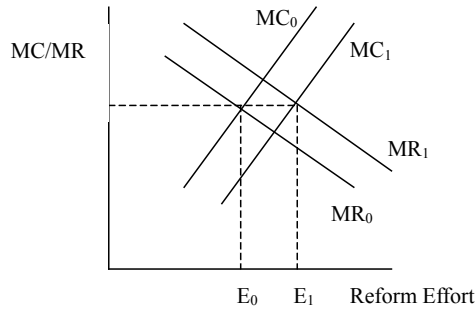
From the above three patterns of *hukou* system reform, it is evident that cities and towns promote reform for two reasons. First, in many smaller cities, an urban *hukou* is of less value now. Governments do not promise job opportunities or welfare on the basis of a person’s *hukou*, so the increase in urban population will not aggravate the financial burden on the local government. Second, local economies have experienced or long for the benefits that an influx of labor can bring in terms of the reallocation of resources.

But these conditions do not apply in large cities that have resisted reform. Their *hukou* status is still valuable. Governments are obliged to ensure that residents benefit from re-employment services, all-around medical care provision, a nice urban environment, lower grades for entrance to universities, and other advantages. Though aware of the advantages an influx of labor can bring in terms of reallocating resources, they give priority to maintaining low unemployment and social stability. They therefore have little motivation to push ahead with the reform.

As indicated in Figure 1, the motivation and effort governments put into reform are affected by the expected net marginal benefit (the marginal

revenue (MR) minus the marginal cost (MC)) obtained by reforming the *hukou* system. The balance between marginal costs and revenue determines what kind of measures can be launched and how much effort is put into carrying them out. Usually, further enforcement of reform measures leads the marginal cost of reform to rise as opposition from vested interests increases, and the marginal revenue to fall as people who initially benefited from reform withdraw their support as the benefits decrease. Effort is likely to stop at the equilibrium point where the MC and MR curves intersect (Point E_0 , Figure 1). Different markets will reach equilibrium at different points, but comparing the timing of reform across different areas, we see that the more developed the market is, the higher the marginal revenue and the lower the marginal cost will be. In other words, more developed markets need, and are able, to pursue deeper reforms.

Figure 1. Costs and Benefits of *Hukou* System Reform



The primary motivation for urban development is usually the reduction in costs made possible by economies of scale. But planned and market economies have two distinct development models. Cities with market systems develop by self-financing: They can reduce transaction costs by aggregation and expand through efficient investment. Cities with planned economies, on the other hand, tend to develop by redistribution. As a result, cities at different stages of market development have different motivations and intentions in pursuing reform and different ways of going about it. They also see different results. Naturally, cities with redistributive policies in place tend to resist reform and restrict migration, while those cities that increasingly rely on self-financing as the market grows prefer a free flow of labor.

2. Migration and Economic Growth

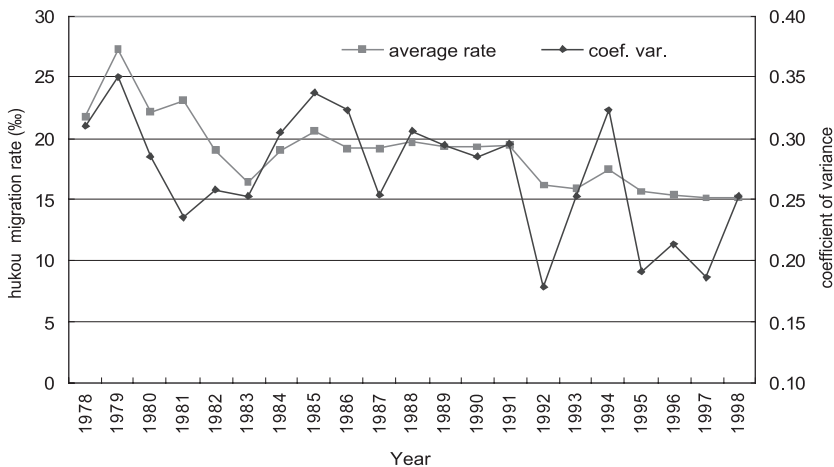
2.1 Migration Types and Magnitude of Migrants

Estimates of the number of migrants in China vary because people use different definitions of migration that relate to length of stay, the geographic boundary crossed (township or county), and official status (with or without *hukou*). The three major categories are:

- (1) planned *hukou* migrants;
- (2) permanent migration with or without *hukou* change;
- (3) the “floating” rural labor force.

Migration with a change of *hukou* is planned migration approved annually by the Ministry of Public Security and it reflects officially recognized population reallocation. The number of migrants who change their *hukou* has been slightly declining during the reform period, from the annual rate of twenty-two per thousand in 1978 to fifteen per thousand in 1998. Over the same period, the difference in planned migration rates across regions has become smaller, indicating that the policy is being implemented more uniformly in each region (see 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.

Before reform, the annual quota of planned migrants was mainly determined by consideration of fluctuations in grain production, with the government approving more migration when agricultural products were in plentiful supply. Since reform, the government has been more sensitive to unemployment, and has been more inclined to approve *hukou* transfers when there are more job opportunities. (Cai et al. 2001). The number of planned migrants in 2003 was 17.26 million, 1.37 percent of the total population (MPS 2003).

According to the 2000 census, between 1995 and 2000, 144 million people changed their place of residence (township, town and community), regardless of whether they changed their *hukou*. The 1 percent population sample survey in 2005 showed 147 million internal migrants in that same category – an increase of 3 million. As planned migrants account for only a small percentage of this number, it is clear that the majority are informal rural–urban migrants.

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 their destinations for three months or longer. Migrants in 2000 refer to those who migrated between townships, towns (*zhen*), and communities (*jiedao*), and stayed at their 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 Labourers in China 1999”; Liu Jianjing, *Rural Labour Employment and Transition, in China Employment Report 2003-2004*, China Labour and Social Security Press 2004.

Estimates of the number of rural migrants without urban *hukou* status can be found in various sample surveys conducted by the Ministry of Agriculture (MOA), the National Bureau of Statistics (NBS), and other government agencies. According the MOA, the number of rural migrants soared from 2 million in 1982 to 103 million in 2004. The NBS estimate also shows

an upward trend since the late 1990s but with annual fluctuations. Long-distance inter-provincial migration accounts for nearly half the total number. Long-distance migrants currently occupy 52.6 percent of all jobs in the wholesale and retail trades and catering services, 57.6 percent in the secondary sector, 68.2 percent in manufacturing, and 79.8 percent in construction (CIIC 2004).

2.2 Spatial Patterns of Migration

Since 1990, income disparities and the gap in development between the eastern, central, and western regions of China have widened. As a result, in 2004, Beijing, Tianjin, Hebei, Shanghai, Jiangsu, Zhejiang, Fujian, and Guangdong accounted for 82.7 percent of the value of China's exports and 45.2 percent of all jobs in manufacturing. At the same time, markets became more important forces in allocating capital and labor. Benefiting from the early opening of their economies, these coastal regions took the lead in eliminating the institutional obstacles preventing the factors of production – including labor – from moving across regions. As a result, these now-booming areas attracted massive flows of labor, which in turn has stimulated economic growth in these regions and improved the 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 but when we consider inter-provincial migration, it is clear that the eastern region is the prime destination for migrants.

From Table 2, we can see that in 2000, 64.4 percent of the internal migrants in the eastern region stayed within the region, while 84.3 percent of interprovincial migrants from the central region and 68.3 percent from the western region moved east. Over the time period in question, 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 their destinations for six months or longer; migrants in 1990 refer to those who migrated between cities and counties and stayed at their destinations for one year or longer; migrants in 1995 refer to those who migrated between counties, districts and counties and stayed at their destinations for six months or longer; and migrants in 2000 refer to those who migrated between townships, towns (*Zhen*), and communities (*Jiedao*), and stayed at their destinations for six 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).

Rural-to-urban migration comprises the bulk of all migration, accounting for 40.7 percent, while urban-to-urban migration is in second, accounting for 37.2 percent of all migration in 2000. These are the two main forms of migration in China during the transitional period. Rural-to-rural migration accounted for 18.2 percent of all migration, and urban-to-rural migration only 4 percent. The proportion of urban-to-urban migration increased over time, whereas the proportion of rural-to-urban migration declined.

Statistics on rural-to-urban migration in recent years demonstrate that rural migrants are concentrated in the eastern region. The share of rural migrants there accounted for 64.3 percent of all migrants in 2000 and went up to 70.0 percent in 2004 (See Table 3). Most came from central and

western provinces with large populations such as Anhui, Jiangxi, Hubei, and Sichuan, where rural migrants account for more than 30 percent of the total rural labor force. In 2004, the number of rural migrants from Henan and Sichuan provinces was over 10 million. Analyzed by size of destination city, 62.4 percent of rural migrants chose to work in medium- and large-sized cities. Among them, 9.6 percent work in municipalities directly under the Central Government, 18.5 percent in provincial capitals, and 34.3 percent in prefectures. 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

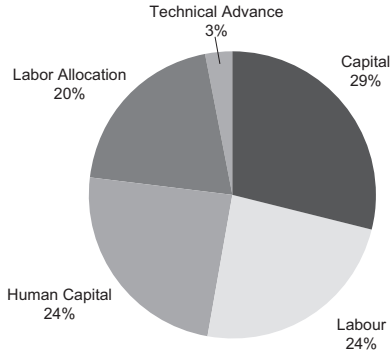
Source: National Statistical Bureau, *China Rural Household Survey Yearbook*, China Statistics Press.

2.3 The Contribution of Labor Mobility to Economic Growth and Income Inequality

Internal migration and labor mobility in China are not only part of the transformation from a predominantly agricultural economy to an industrial one, a common phenomenon in developing countries, but also part of a unique economic transition from a planned economy to a market economy. As such they have been important factors in China's rapid economic growth during the reform era.

The World Bank (1996) has estimated that the reallocation of labor from agricultural to non-agricultural sectors contributed 16 percent to China's economic growth from 1978 to 1995. Other research has found a similar or larger impact. Lees (1997) estimated the contribution of labor mobility at around 16.3 percent, and Cai and Wang (1999), following the same method as the World Bank, found that labor mobility contributed 20.2 percent of GDP growth from 1978 to 1997. Cai and Wang also found that the accumulation of human capital played a vital role in China's economic growth. Overall, the combination of labor input, human capital accumulation, and labor reallocation has contributed to nearly 70 percent of GDP growth since the reforms began.

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



Source: Cai, Fang, and Wang Dewen, "The Sustainability of China's Economic Growth and the Contribution of Labor." *Journal of Economic Research*, No. 10 1999.

This pattern will continue. Johnson (1999) has argued that transfers across labor sectors over the next three decades could contribute as much as two or three percentage points to China's annual economic growth if the barriers to migration are gradually lifted, and if 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 a similar pattern of migration from agricultural to non-agricultural sectors as other developing countries. Rapid urbanization in the next twenty years will release a huge number of rural laborers from agriculture and from rural areas. The transformation and decline of agricultural employment, and the reallocation of labor it generates, will have a profound impact on the rural economy and on economic development as a whole.

In a recent study, the World Bank (2005) divided the Chinese economy into four sectors – agriculture, urban industry, urban services and rural non-agriculture – and investigated their impact on economic growth by simulating the reallocation of labor from the low-productivity agricultural sectors to high-productivity sectors. This analysis found that, despite becoming more integrated over the reform period, China's labor market is still significantly fragmented across regions and across sectors. This fragmentation is reinforced by the remains of the *hukou* system, by 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, including labor, the gains from market integration could be huge.

Table 4. Estimated Contribution of the Transfer of Agricultural Labor to 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 Rural to 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, “Integration of National Product and Factor Markets: Economic Benefits and Policy Recommendations,” Report No. 31973-CHA 2005.

Using 2001 as a baseline (Table 4), the simulation showed that moving 1 percent of the labor force out of the agricultural sector would lead to a .7 percent growth in GDP from labor reallocation. If 10 percent of the labor force moved out of the agricultural sector, GDP would grow by 6.4 percent. Because of the difference in the 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 from the reallocation of labor are much higher in the western and central regions than in the eastern and northeastern regions. With a 10 percent movement of labor, GDP in the western and central regions would grow by 8.2 and 5.7 percent, compared to 3.5 and 3.1 percent for the northeast and eastern regions, respectively.

According to neoclassical economic theory, increased labor mobility and rural–urban migration should narrow regional and rural–urban disparities, but in fact an opposite effect has been observed since the 1990s. Cai and Wang (2003) incorporated the variable of marketization into a gravity model and found that market-oriented reform has created an institutional environment that favours labor mobility and influences the direction of rural to urban migration. Using a similar method, Lin et al. (2004) also found that migration has become more responsive to regional disparities.¹ The fact that increasing mobility has not reduced income inequality is mainly due to the unfinished reform of the *hukou* system and to other factors that continue to enlarge regional disparity. Whalley and Zhang (2004) introduced the *hukou* system into a simple CGE (Computable General Equilibrium model) model and found that when restrictions on

¹ The elasticity of migration to income disparity rose from 0.197 during the 1985 to 1990 period to 0.595 during the 1995 to 2000 period.

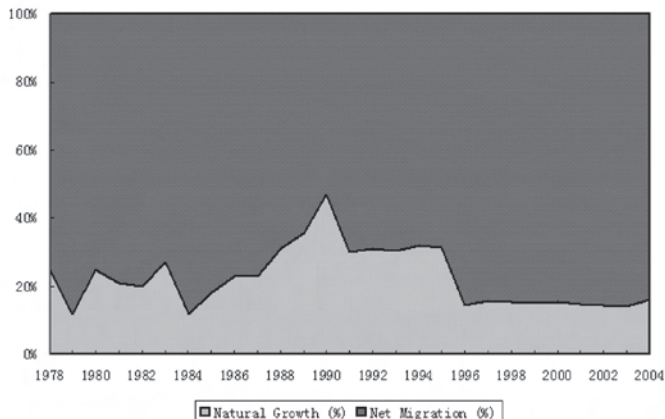
migration are removed, all wage and most income inequality disappears. Zhai and Wang (2003) used a complex CGE model that links macro sectors with micro household-level data to simulate the effect of labor mobility on the narrowing of the rural–urban gap. Although their estimate is lower than that presented by Whalley and Zhang, the effects are still very significant.

3. Migration as a Driving Force of Urbanization

Population migration is an important factor in the process of urbanization and economic development. Prior to reform and opening-up, however, the pace of urbanization in China was stagnant and even decreased during the ten years of the Cultural Revolution (see Figure 4). The relative decline of the urban share of the total population can be attributed to two factors. One is that the enforcement of the *hukou* system placed tight restrictions on rural–urban migration. The other is that the natural growth rate of the rural population was much higher than that of the urban population.

Since reform and opening-up, the pace of urbanization in China has picked up dramatically. From 1978 to 2004, the urban share of the 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 the urban population was 4.4 percent, significantly higher than the natural growth rate of the total population, which dropped from 1.2 to 0.59 percent.

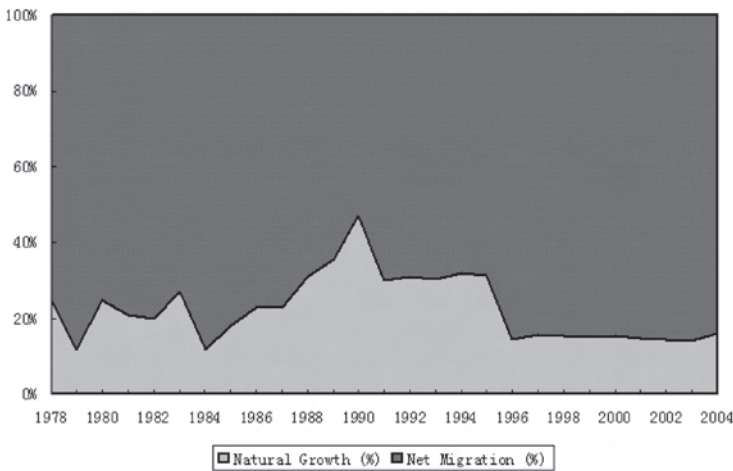
Figure 4. China's Urban Population Growth and Urbanization: 1957-2004



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

Generally speaking, urban population growth comes from three sources: natural growth in the urban population, rural–urban migration, and changes in spatial jurisdiction. According to a study conducted by Todaro (1984) of twenty-nine developing countries, migration and changes in spatial jurisdiction accounted for 41.4 percent of urban population growth from 1960 to 1979. Assuming that the growth in the urban population comes from a combination of natural population growth and net rural–urban migration, we can calculate the contribution of migration to urban growth in China. We use the size of the urban population in 1977 as the baseline and break out the annual increase in the urban population into the natural population growth and net growth resulting from migration from 1978 to 1999, and from 2000 to 2004.² Figure 5 shows that rural–urban net migration accounted for nearly 70 percent of urban growth in 1980s and more than 80 percent of urban growth in the 1990s, indicating that migration is becoming the most important factor in urbanization.

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



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

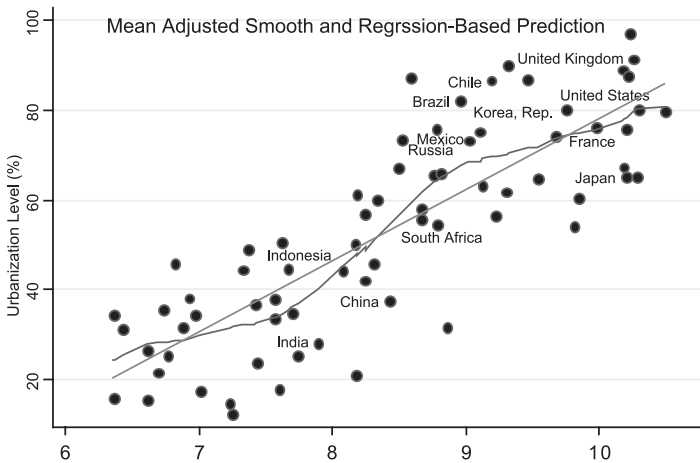
The acceleration of urbanization in China since reform is a remedy for the longstanding lag in development and structural distortions in the economy. Under the planned economy, the formation of cities in China emerged in a different way from those in market economies. Chinese cities were designed as special zones that would support the economic strategy of giving priority to the development of heavy industry. Although economic reform dismantled the traditional planning system, the dual economy and

² The information of natural growth rates of urban population is unavailable from 2000 to 2004.

urban-biased policies persisted, preventing urbanization from occurring alongside industrialization. The artificial separation between rural and urban areas deprived rural migrants of the choice of permanently settling in urban areas and led to the unique situation of under-urbanization in China.

Au and Henderson (2002) have used a production-function method to model and estimate urban agglomeration and optimal city size for 206 cities in China. They found that the constraints of the *hukou* system on labor mobility have resulted in sub-optimal size and under-agglomeration in Chinese cities, leading to significant losses in economic welfare. The majority of Chinese cities are potentially undersized (falling below the lower bound on the 95 percent confidence interval of the size where their output per worker would peak). Estimates show that increasing a city that is 50 percent below its optimal size to its efficient population level will raise output per worker by about 40 percent, indicating that the net benefits of clustering and agglomeration are considerable (World Bank 2005). Based on 2002 World Bank data on 71 countries with a population of over 50 million, Figure 6 illustrates how dramatically China's level of urbanization deviates from the predicted level.³

Figure 6. Economic Growth and Urbanization



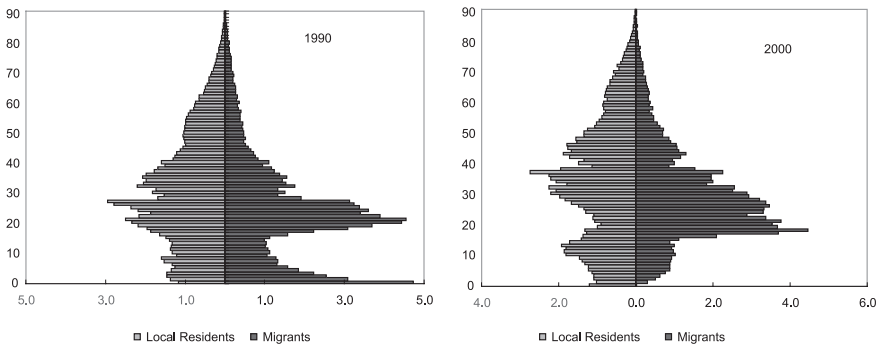
Source: World Bank, WDI Online Database, <http://devdata.worldbank.org/dataonline/>.

³ The Chenery-Syrquin structuralist method (1975) regresses the share of urban population on logged per capita GDP (PPP) and its squares and produces a linear trend of prediction. The non-parametric mean adjusted smooth method shows an S-shaped curve relationship between urbanization and changes in income level. Both methods illustrate a similar dramatic change in the spatial distribution of population with the growth of per capita income.

In addition to increasing urbanization, migration affects the structure of the urban population. Migration not only brings demographic change with regard to age, gender, education level, and so on. It also reduces the dependency-ratio of the urban population. Both these factors have cumulative and aggregate implications for the development of the urban economy.

Migration is selective. A number of studies have shown 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 the *hukou* system, few migrants move with their families. This selectivity strongly affects the age structure of the urban population. As shown in Figure 7, in the late 1980s, when small numbers of rural migrants began to move to urban areas, they had little impact on the age structure of the urban population. With fast-growing rural–urban migration in 1990s, however, the impact of migration on the age structure of the urban population became very significant. In Figure 7, the pyramid illustrates the age distribution of local urban residents on the left and migrants on the right. In 2000, migrants reduced the urban dependency ratio by 2.5 percentage points and the aging population ratio by 0.8 percentage points by adding to the number of those between 13 and 33 years old.

Figure 7: The Impact of Migration on Urban Population Age Structure



Note: Micro-data from the National Bureau of Statistics was used to adjust the duration of migration and geographic boundary in order to produce 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.

4. Labor Market Segregation and Social Exclusion

Despite the clear benefits of rural–urban migration for economic growth and urban development, significant problems remain. Many of these are related to the continued segregation of labor markets and unfinished *hukou*

reform. Under the *hukou* system, China's urban labor market has been segregated into two components with distinctively different operating mechanisms. The market that serves state-owned enterprises gives a high level of protection to local workers. With restrictive entry and weak withdrawal mechanisms, this market is not competitive, and salary levels do not reflect the demand for and supply of labor. The institutional wage is stable and highly secure, but incentives are lacking, and labor is more costly and less competitive – all factors that promote an equalitarian income distribution.

The labor market that serves the various non-state-owned and self-employed sectors is open, without explicit *hukou* requirements. In this market, wages reflect labor market demand and supply. Employment opportunities are primarily created outside the traditional system and can be characterized as flexible, inexpensive, and more competitive, but there is also little 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 a very small number of opportunities, such as “rural–urban *hukou* transfers” and enrolment 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 that offer low protection – jobs similar to those available in the large informal sectors in other developing countries. Due to the *hukou* system, local residents and rural migrants are treated completely differently in the urban labor market (See Table 5).

Table 5. Comparison of Formal Employment and Informal Employment

Characteristics	Formal Employment	Informal Employment
Household registration type	Non-agricultural and local	Agricultural and non-local
Urban residency status	Full legal status	Illegal or temporary
Socioeconomic sectors	Mostly state sectors and state-owned enterprises	Small and self-employed enterprises
Occupations	Managerial staff, technicians and skilled workers	Physical labor, self-employed
Employment channel	Determined by planning or formal channels	Based on personal contacts and market information
Work status	Relatively less demanding and stable	Highly demanding and unstable
Entitlement to basic social security and benefits	Full	No or temporary entitlement
Housing	Allocated by work units or self-owned	Low-cost shelters or homeless

In the 1980s and early 1990s, the inflow of rural migrants into urban areas was largely a supplement to the urban labor force. The fast-growing urban economy had generated a massive demand for laborers, resulting in structural shortages of urban workers. This was especially true in sectors such as construction and sanitary services, which have poor working conditions and a high demand for manual labor. In the meantime, the expansion of the tertiary and private sectors also created more opportunities for rural migrants to be employed in the trade and service sectors that support the everyday life of urban residents.

Since the mid-1990s, a large number of workers in state-owned enterprises have been laid off and these unemployed urban workers now compete with migrants in the same labor market. From this perspective, rural migrants have shifted from serving as a supplemental labor force to being competitors with urban workers. This is partly because the wages of rural migrants are determined by the labor market and are therefore very competitive. It is also because the non-state-owned sectors, which were once “supplemental” and relatively small, are now an “important” component of the national economy. Although competition between laid-off SOE workers and migrants is limited to positions that have a relatively low threshold for the entry and employ primarily low-skilled workers, it has posed a threat to those with a vested interest in urban employment protection policies and has generated opposition to *hukou* reform from urban workers.

4.1 Barriers to Entering Industry

While reform has created opportunities for rural migrants to move from their home villages and find work in the growing new sectors of the urban economy, the more traditional sectors responsible for creating labor segregation continue to maintain it, and have imposed barriers for migrants wanting to access a variety of jobs and public services. As a result, migrant workers can only take up employment characterized by poor working conditions, low pay, and little job security. Because of the incompleteness of the urban social service system reform, outside workers are excluded from receiving necessary housing, medical care, and children’s educational benefits at reasonable prices. Furthermore, migrants without a local *hukou* are often deported by urban authorities simply because they are outsiders and therefore seen as potential causes of instability and crime. All these factors prevent migration in China today from being complete and permanent and they result in rural–urban migration having some unique features: migrants have a relatively low standard of living compared to their real incomes, they remain economically and culturally separated from urban society, and migration continues to be an individual rather than a family phenomenon.

The institutional barriers faced by urban migrant workers stem directly from a variety of local government policies and regulations. Unlike the administrative measures that traditionally restricted migration, these 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 the governments of both sending and receiving locations. By levying a fee on each of these documents, the government artificially raises the costs of migration. Governments in many large and medium-sized cities have also issued regulations prohibiting enterprises from hiring migrants for certain jobs and posts, a trend that distorts the 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 unemployment. Urban governments have therefore implemented a series of measures more strictly restricting migrants who work in the city and preventing new migrants from moving in (see Cai et al. 2001).

Table 6 Employment 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): Distribution of urban workers by industry (including migrants and locals); Column (2): Distribution of migrant workers by industry; Column (3): Distribution of local workers; Column (4): Whether migrants are higher percentage of certain industry than all urban workers; Column (5): Difference between average wage of an industry and that of the weighted total (9,205 Yuan).

Source: Information about employment distribution comes from the sampling dataset of the 2000 census (long form); data on wages is from *China Labour Statistic Yearbook 2001*.

Discriminatory policies restricting labor mobility, which are legitimized by the *hukou* system, divide the urban labor market into two separate parts. As a result, migrant workers working in urban sectors are limited to certain industries while local workers are employed in a much wider range of occupations (Table 6). Using a nonlinear probability model to analyze 2000 Census data, Wang et al. (2004) and Zhang (2004) have shown that the existence of the *hukou* system makes migrant workers much less likely to enter urban monopoly and non-competitive sectors.

4.2 Occupational Segregation and wage difference

In the urban labor market, migrant workers generally 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 (CULS) conducted by the Institute of Population and Labor Economics of the Chinese Academy of Social Sciences, more than half of all migrant workers were self-employed in 2001, nearly 30 percent of them working for non-public sectors. Very few held administrative, managerial, professional, and technical positions.

Even when they are employed in the same kind of work, migrant workers are paid less and enjoy fewer benefits than their urban counterparts. Meng and Zhang (2001) used a wage function equation to analyze the factors behind the wage gap between rural migrant workers and local urban workers. A large part of the gap cannot be explained by factors related to productivity, suggesting that there is severe discrimination against rural workers in urban labor markets. According to CULS, the average hourly pay is RMB ¥4.05 for migrant workers and ¥5.70 for local urban workers. In all job categories, the average hourly pay for migrant workers is lower than for their local urban counterparts. Forty-three 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. Sixty-three 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 their health.

But although migrant workers earn less than urban residents they are not contributing to urban poverty. This goes against conventional wisdom in the literature. Ravallion (2001) has pointed out that the growth of urban poverty in developing countries generally outpaces the speed of urbanization itself,

because of the rapid migration of the rural poor to urban areas. According to data from thirty-nine developing countries, the urbanization rate of the poor is 26 percent faster than that of the overall population. If this momentum persists, when the global level of urbanization reaches 52 percent in 2020, the number of poor as a percentage of the total urban population will have risen to 40 percent.

Despite this prediction, rural–urban migration in China has not yet had much of a negative impact on urban poverty rates. And at the same time, rural migrant workers have contributed substantially to the alleviation of rural poverty through remittances. Because they are mobile and migrate in order to find work, the unemployment rate of rural migrant workers is very low. If treated as part of the urban population, rural migrant workers will therefore actually lower the urban poverty rate.

4.3 Exclusion from Social Welfare Coverage

Despite the potential benefits of migration, the *hukou* system has not yet been completely reformed and it remains a fundamental barrier to the integration of migrant workers (Roberts 2000). After comparing Chinese restrictions on rural–urban migrants with the stringent policy measures adopted by Germany and Japan in order to limit immigration from other countries, Solinger (1999) has argued that in terms of entry rules, citizenship rights, and treatment, the former is more restrictive than the latter.

Migrant workers have few channels for expressing their interests and protecting their rights. The present system for 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, trade unions, workers’ representative conferences, labor supervisory committees and other kinds of labor organizations are important channels for workers to express their opinions, wishes, and aspirations. Yet, according to CULS 2001, 78 percent of the migrant workers say their work units have none of these organizations, compared to 22 percent of urban resident workers.

According to CULS 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 an encroachment on the legal rights and interests of the employees. In addition, the lack of contracts makes it more difficult to settle labor disputes between employees and employers. In recent years,

there has been growing concern about employers defaulting on and even pocketing a portion of their workers' pay. Many migrant workers from 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 work units that employ migrant workers, the default 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 five large cities including Shanghai, Wuhan, Shenyang, Fujian, and Xian, and 5 smaller cities in surrounding areas.

According to CULS, in all work units with migrant workers, only 6.7 to 13.3 percent of workers are provided with old-age social security benefits, while 69.2 to 79.7 percent of their urban counterparts enjoy this security; only 2.4 to 7.7 percent of migrant workers are provided with medical insurance compared to 33.8 to 45.0 percent for urban resident workers; and only 7.7 to 14.3 percent of migrant workers have medical insurance compared to 63.9 to 72.4 percent for urban resident workers (see Table 7). Small cities are now more open to providing social insurance for rural migrants while large cities pay more attention to the provision of social insurance for urban local residents. The following table shows that a little progress has been made in absorbing rural migrants into the formal urban social security system, but the coverage gap between urban local residents and rural migrants remains large.

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 (RMB)	1356	1782	1572
Estimated city tuition with hukou (RMB)	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 have hardly any opportunity to receive formal education after entering the city. The only and probably the most feasible way of enhancing their human capital and work-related skills is through on-the-job 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. **Tuition fees differed by more than 50 percent between students with and without local *hukou* in 2001, declining to around 30 percent in 2005.** The difference in the cost of education is similar in large and small cities alike (See Table 8).

In addition to low social security coverage for rural migrant workers, many landless or land-lost farmers have inadequate access to social security. Known as the “three-no farmers” (no land, no job, and no social security), they have been marginalized in the process of urban expansion in China. According to statistics from the Ministry of Land and Resources, 33 million square mu of arable land was requisitioned for non-agricultural construction from 1987 to 2001, of which 70 percent was taken over by local governments through administrative means. At present, China has about forty million landless or land-lost farmers, with another two million added every year (Zhang 2004).

The maximum compensation package for land requisition is capped at ¥18,000 in some areas, which is only 1.5 times the annual disposable income of urban residents in 2002. At the average rural consumption level, this amount can maintain someone for seven years; at the average urban consumption level, it would last for only two years. Even if the money is deposited directly into the farmer’s personal social security account, assuming an average current age of 50 and a life expectancy of 72.6, those farmers can only get ¥60 per month after retirement, much less than the prevailing minimum living standard of ¥180 per month and the average urban pension of ¥500 per month (Gao 2004). In this situation, without a social security safety net, landless or land-lost farmers are likely to fall into urban poverty, and be unable to sustain a livelihood in the long run.

5. Concluding Remarks

Reform of the *hukou* system is essential for labor mobility and hence for urbanization. In the past two decades, labor mobility has led to a significant reallocation of labor in rural and urban areas, contributing to overall growth and urbanization. But the strength and depth of reform differs from region

to region. The *hukou* system, which has persisted for forty-four years, is being gradually reformed as overall economic reform progresses and it is expected to undergo further adjustment as the market system matures.

In the long run, rural–urban migrants will be the main source of labor for industry in China, helping to maintain its low-cost advantage. The implementation of a family planning program and the effects of socioeconomic growth have combined to alter China’s demographic trends and change the age structure of the 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 will begin to decrease by 2021. In fact, the growth rate of the working-age population has already been decreasing in recent years (Cai 2005b). As a result of this demographic transition, if labor transfers from rural areas to urban areas fail to speed up in the next decade or so, there will be a labor shortage in China’s urban sectors that would cause a slowdown in economic growth.

Having set the specific development goal of building up a well-off (*xiaokang*) society, China’s per capita GDP is planned to reach USD3,000 in 2020. At that time, China will join the middle-income group of countries in terms of purchasing power parity. Among countries in this group, the rural population averages 23 percent of the total and China is expected to follow the same pattern and transfer hundreds of thousands of rural residents to urban areas. This transfer will play a significant role in China’s economic growth in the next ten to twenty years. Therefore, further reform should be implemented to abolish the various institutional obstacles that hinder the development of labor markets and labor migration, including better social security coverage, which would in turn cultivate the conditions for further *hukou* system reform.

References

Au, Chun-Chung, and Vernon Henderson

- 2002 "How migration restrictions limit agglomeration and productivity in China," National Bureau of Economic Research, Working Paper 8707.

Cai, Fang

- 2005a "Is hukou system still important? – an explanation on paradox of migration and income gap widening simultaneously," *Dynamics of Economics (Jingjixue Dongtai)*, 5.
- 2005b "Will labour shortage emerge in China – an analysis of new characteristics of the labour market," In Liu, Guoguang, Luolin Wang, and Jingwen Li (eds.) *Forecast on China's economy – Spring Report in 2005*, Social Science Documents Publishing House.

Cai, Fang, and Wang Dewen

- 1999 "The sustainability of Chinas economic growth and Labor contribution," *Journal of Economic Research*, 10.
- 2003 Migration as marketization: What can we learn from Chinas 2000 census data?" *The China Review* 3(2): 73-93.

Cai, Fang, Dewen Wang and Yang Du

- 2002 "Regional disparity and economic growth in China: The impact of labour market distortions," *China Economic Review* 13: 197-212.

Chenery, Hollis, and R. Syrquin.

- 1975 *Patterns of development: 1950-1970*, Oxford Press.

China Internet Information Center (CIIC)

- 2003 "Over one-third rural laborers became workers of non-agricultural sectors, <http://www.china.org.cn/chinese/2004/Jan/484152.htm>, accessed on June 21, 2004.

Chan, Kam Wing

1994 *Cities with invisible walls*, Oxford University Press, Hong Kong.

Chan, Kam Wing, and Li Zhang

1999 "The hukou system and rural–urban migration in China: Processes and changes," *China Quarterly* 160: December: 818-55.

Cook, Sarah

1999 "Surplus labour and productivity in Chinese agriculture: Evidence from household survey data," *The Journal of Development Studies* 35: 3: 16-44.

Friedberg, M. Rachel, and Jennifer Hunt

1995 "The impact of immigrants on host country wages, employment and growth," *Journal of Economic Perspectives* 9: 2: 23-44.

Gao, Yong

2004 "Discussion on the issues of Chinese farmers with losing land during urbanization," *Economists*, 1.

Johnson, D. Gale

1999 "Agricultural adjustment in China: The Taiwan experience and its implications," Office of Agricultural Economics Research, The University of Chicago.

Lees, Francis A.

1997 *China superpower: Requisites for high growth*, St. Martin's Press, New York.

Lin, Justin, Gewei Wang, and Yaohui Zhao

- 2004 "Regional inequality and labor transfers in China," *Economic Development and Cultural Change* 52 (3): 587-603.

Ravallion, Martin

- 2001 "On the urbanization of poverty," Working Paper, Development Research Group, World Bank.

Meng, Xin

- 2000 *Labor market reform in China*, Cambridge University Press, Cambridge, UK.

Roberts, K.

- 2000 Chinese labour migration: Insights from Mexican undocumented migration to the United States," in West, L. and Yaohui Zhao (eds.), *Rural labour flows in China*, Institute of East Asian Studies, University of California, Berkeley.

Solinger, Dorothy J.

- 1999 "Citizenship issues in China's internal migration: Comparisons with Germany and Japan," *Political Science Quarterly* 114: 3: 455-78.

Taylor, J. E. and P. Martin

- 1998 "Poverty amid prosperity: Farm employment, immigration and poverty in California," *American Journal of Agricultural Economics* 80 (November): 1008-1014.

Wan Guanghua, Cai Fang, and Wang Dewen

- 2005 "Estimating flows of migrants in China and policy implications," *UNU-WIDER Discussion Papers*.

Wang, Dewen, Wu Yaowu, and Cai Fang

- 2004 "Migration, unemployment and urban labour market segregation in China's economic transition," *The World Economy*, 4.

Wang Dewen, Cai Fang ,and Gao Wenshu

- 2005 "Globalization and internal migration in China: New trends and policy implications," Paper presented the Monash University Conference.

Wang, Meiyang and Fang Cai

- 2005 "Local vs. migrant workers: Employment opportunities and wage differentials in urban China," Paper presented at Munich Conference.

Whalley, John and Shuming Zhang

- 2004 "Inequality change in China and (hukou) labour mobility restrictions," *NBER Working Paper* 10683, National Bureau of Economic Research.

World Bank

- 1996 *The Chinese economy: Controlling inflation, deepening reform*, The World Bank Publication, Washington, D. C.
- 2005 "Integration of national product and factor markets: Economic benefits and policy recommendations," Report 31973-CHA.

Zhai, Fan, Thomas Herte, and Zhi Wang

- 2003 "Labor market distortions, rural-urban inequality and the opening of China's economy," *GTAP Working Paper* 27.

Zhang, Zhe

- 2004 "Research on the issues of current Chinese farmers with losing land," <http://www.eco.sdu.edu.cn/>.

