
Migration and labor-market returns in urban China: results from a recent survey in Guangzhou[†]

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Received 12 September 2000; in revised form 21 December 2000

Abstract. The transitional process in China is marked by prominent roles of state institutions, which are a key determinant of the opportunity and reward structure in the newly developing labor market. Migrant labor and the occupational and sectoral changes in the urban economy have further shaped the evolution of the labor market in Chinese cities. In this paper, I argue that labor-market returns are not only functions of human capital but are heavily influenced by state-controlled institutional status. Specifically, I examine the variations in income and benefits returns among nonmigrant urban residents, permanent migrants who possess urban residence, and temporary migrants who are denied permanent residence rights in cities. The empirical analysis employs data from a recent survey conducted in Guangzhou, one of the largest and most rapidly changing cities and one of the most popular destinations of migrant workers in China. The findings show that permanent migrants' income returns are especially high and that temporary migrants' benefits returns are especially inferior. Furthermore, they suggest that permanent migrants' advantaged positions are conducive to their continued success in the labor market when they shift to more profitable occupations and sectors such as commerce and self-employment. The findings of this paper support the notion that in China resident status functions like ascribed attributes that have effects on labor-market returns independent of achieved attributes, and that migration and labor-market segmentation are intricately related to the reward structure in the urban labor market.

Introduction

Urban China has witnessed sweeping economic and social changes in the past two decades. From state allocation of jobs to increasing applications of market mechanisms, from primarily state-sector and industrial employment to a varied multitude of jobs, from a strictly local labor supply to large magnitudes of migrants from rural areas, the young urban labor market in China appears to be evolving toward a market-economy model. Yet the process of transition in China is persistently governed and monitored by the state. Despite all the changes transition has brought about, state institutions continue to play a determining and gatekeeping role in the opportunity structure of the urban labor market.

In this paper I aim at examining the returns to work in urban China and how they reflect the processes by which the urban labor market evolves. I argue that labor-market returns are not only determined by conventional factors such as human capital, but are also functions of state-controlled resident status as well as recent changes in the occupational structure and ownership sectors in the economy. This argument is built on the premise that China's urban labor market is highly segmented along institutional lines, and that migration and resident status are intricately related to how the labor market is segmented. Specifically, in the empirical analysis I compare the income and benefits returns of three subpopulations with different resident statuses—urban

[†]Earlier versions of this paper were presented at the International Workshop on Resource Management, Urbanization and Governance in Hong Kong and Zhujiang Delta, Chinese University of Hong Kong, 23–24 May 2000 and at the Pacific Rim Workshop, Lewis Center for Regional Policy Studies, UCLA, 3–4 August 2000.

nonmigrants, permanent migrants, and temporary migrants—and seek to evaluate the factors that contribute to variations of these returns.

The empirical analysis in this paper employs data from a recent survey conducted in the city of Guangzhou in Guangdong province, one of the largest and most rapidly changing cities in China. In the next section of the paper, I explain the importance of employing both income and benefits as measures of labor-market returns in China, and summarize the most popular determinants of labor-market returns and how they differ between Western countries and China. Then, I examine the intricate relations among migration, the household registration system, and labor-market segmentation and returns in urban China. This is followed by a detailed account of the Guangzhou survey. The empirical analysis consists of three parts. The first part documents income returns and their determinants; the second part examines benefits returns and their determinants; and the third part analyzes occupational and sectoral allocations and mobility of labor in relation to income and benefits returns. In the last section, I summarize the findings of the paper and highlight the importance of resident status as a divide in China's urban labor market.

Labor-market returns in Western countries and in China

Measurement of labor-market returns

In most Western capitalist economies, the labor market is developed and its operation is governed by market mechanisms. Most crucial among these mechanisms are free labor flows and the allocation of labor by demand and supply. In addition, labor-market returns are primarily measured in terms of income (table 1). Most studies on labor markets in the West use wages or earnings as the sole indicator of labor-market returns (for example, Barrett et al, 1999; Grubb, 1997; Kane and Rouse, 1995; Leigh and Gill, 1997), based on the premise that income reflects demand in the labor market and individuals' skills. Though many jobs offer benefits such as health insurance and retirement plans, they are usually a function of employer policy and are less sensitive to labor demand and skills. To corporate executives, bonuses and other benefits may constitute attractive components of their compensation packages. In general, however, benefits are less useful measures of labor-market returns in Western economies, where it is assumed that individuals' salary and other monetary remuneration can be used to purchase all kinds of goods and services that satisfy their needs. In addition, the government in capitalist economies upholds mechanisms that facilitate market operation but is not expected to monitor labor allocation or the ways labor is compensated.

Table 1. Comparison of urban labor-market returns between Western countries and China.

	Western capitalist economies	China
<i>Measurement</i>		
Income	most important	increasingly important
Benefits	secondary	important
<i>Determinants</i>		
Education	important	important
Seniority or experience	important	less important
Occupation	important	increasingly important
Ownership sector	not important	important
Ascribed attributes and segmentation	important, for example, sex, race, and ethnicity	sex; resident status and migration very important

On the contrary, in Eastern Europe as in China, the labor market is young and is marked by an uneasy blend of legacies of socialist practices and new market mechanisms (for example, Domanski, 1990; Kornai, 1997, pages 200–202; Stark, 1986; Szelenyi and Kostello, 1996). In prereform socialist China, labor allocation was highly centralized and tightly controlled by the state. The system of ‘unified state assignment’ (*tongyi fenpei*) guaranteed school graduates jobs and assigned them to specific sectors, occupations, and regions according to the state’s blueprints for economic and regional development. Many jobs were held for life and became the workers’ ‘iron rice bowl’. A labor market did not exist; job mobility was low; unemployment was rare; but underemployment and hidden unemployment were rampant. Wages were kept low and did not reflect performance. Therefore, workers lacked incentives for improving productivity, which partly explained the low efficiency of the economy during the Maoist period (for example, Cook and Maurer-Fazio, 1999). The state, at the same time, took on the responsibility of taking care of its urban citizens ‘from cradle to grave’. Specifically, urbanites received from the state, primarily through the ‘work unit’, plentiful benefits including housing, education, and health care subsidies, which substantially compensated for the prevailing low wages. Unlike in Western economies, benefits could in effect constitute the bulk of the compensation from work.

By the 1980s, it was clear to the Chinese government that state-controlled labor allocations were incompatible with reform efforts aiming at increasing efficiency and productivity. Gradually, labor-market features were introduced into China’s urban economy (Bian, 1994, page 16; Knight and Song, 1995; Maurer-Fazio, 1995). In large cities such as Shanghai, the ‘unified state assignment’ system remained by the mid-1990s only in a residual manner (Davis, 1999). School graduates still have access to state-sponsored channels for employment, but they now have the option of using market channels such as advertisements, job fairs, and employment agencies. Enterprise reforms replaced the ‘iron rice bowl’ by performance-based hiring, firing, and compensation, and resulted in a rise in unemployment. While benefits continue to be important measures of labor-market returns, income is increasingly important, especially because more and more enterprises are turning to contract employment that rewards workers by wage alone with few benefits (table 1).

China’s young labor market operates in a mixed system with both socialist practices and market mechanisms. Accordingly, studies of labor-market returns must examine both income and benefits and must take into consideration the occupational and sectoral transitions of the economy. This is the approach this paper takes. In the following subsection I examine the most salient determinants of labor-market returns in Western economies and in China.

Determinants of labor-market returns

Labor-market returns in Western capitalist societies are primarily measured by income and are functions of individuals’ attributes as well as their labor-market positions. The most important and widely documented determinants of income are age, sex, race, education, experience, and occupation (table 1) (for example, Barrett et al, 1999; Grubb, 1997). Among these, education and experience are most indicative of human capital, and both are ‘achieved’ attributes that can be attained and improved. By contrast, sex and race are ‘ascribed’ attributes that may have independent effects on labor-market returns, as illustrated by the literature on gender wage gaps and on income differentials by race and ethnicity (see below) (for example, Mar, 1999; Tienda and Lii, 1987; Wellington, 1994). These ascribed attributes also influence individuals’ positions in the labor market. Occupation is a function of individuals’ attributes but also reflects the structure of the economy. In the USA, for example, the labor market is

characterized by a hierarchy of occupations whose ranks are generally correlated with income and are indicative of one's class and socioeconomic status.⁽¹⁾

Individuals' positions in the labor market depend on their attributes but are also related to the ways in which the labor market is segmented. The labor-market segmentation theory effectively describes the bifurcation of the labor market into a primary sector with relatively stable, high-skilled jobs offering high pay and good benefits, and a secondary sector with less stable, low-skilled, low-paying jobs with few benefits (for example, Piore, 1979). This theory is especially popular among studies on developing countries where rural–urban migrants that cannot be absorbed by the primary sector in cities have accelerated the expansion of a secondary sector (Gupta, 1993; Harris and Todaro, 1970; McGee, 1982). In Western nations that have received large numbers of immigrants, this theory is also applicable for explaining the difficulties of certain immigrants in crossing from the secondary sector into the primary sector and in attaining high labor-market returns. In multiethnic or multicultural societies, the labor market may be segmented by ethnicity so that some minorities and immigrant groups persistently occupy marginalized positions (for example, Ong and Valenzuela, 1996). In the USA, the difficulties for well-qualified minorities to move up beyond the 'glass ceiling' again illustrate the role of ethnicity in the labor market (for example, Fernandez, 1998). In these cases, ethnicity has effects on individuals' labor-market positions and returns independent of their achieved attributes. Similarly, sex discrimination may also result in persistently disadvantaged labor-market positions and returns of women workers.

The coexistence of central-planning and market mechanisms in China defines a labor market with a differing set of returns determinants. On the one hand, legacies of socialist practices such as low wages and generous benefits remain in the state sector; on the other hand, new reward systems emulating capitalist economies are emerging. As in capitalist societies, education is important (table 1). The average educational level of the Chinese is low, so that having an education beyond the senior-high level may already generate significantly higher income. But experience and age are not necessarily important determinants, owing to socialist legacies that do not specifically reward skills and expertise.

More importantly, the transition of China's urban economy has important implications for labor-market returns. Such transition entails changes in the occupational structure and in ownership sectors. During the Maoist regime, Chinese cities were 'producing' entities where heavy industry was emphasized and where consumer industries and services were kept small. Since the 1980s, cities have been allowed to evolve into 'consuming' entities characterized by commercialization, burgeoning markets, division of labor, a thriving service sector, a growing middle class, and a more international and Western outlook (French and Hamilton, 1979; Lo, 1994; Lo et al, 1977; Wang, 2000; Yang Q and Guo, 1996). Services such as domestic work, hotels and restaurants, repair shops, and hair salons have expanded side-by-side with commercial establishments and factories that are oriented toward the world market. The emergence of new commerce, services and industrial jobs has diversified the urban economy and complicated labor-market returns. For example, although the professional occupations and agriculture are at the highest and lowest ends of the occupational stratum, respectively, the statuses of commerce, services, and industrial work are very much in

⁽¹⁾ Among white-collar occupations, the most prestigious category is 'managerial and professional specialties', followed by 'technicians and related support occupations', 'sales occupations', and finally 'administrative support occupations, including clerical'. White-collar work is generally of higher status than blue-collar work ('precision production, craft, and repair occupations' and 'operators, fabricators, and laborers'), 'service occupations' and 'farm, forestry, and fishing occupations'.

flux and have not been clearly established (Stinner et al, 1993). Nevertheless, it is clear that studies of the urban economy in China must focus on commerce and services as the newest and most volatile segments of the labor market.

An important determinant of labor-market returns in China is ownership sector. Unlike in capitalist economies, the opportunity and reward structure in China varies considerably between the 'state sector' and the 'nonstate sector'. Jobs in the state sector typically offer a host of welfare benefits, including housing and medical benefits, as well as job security and long tenure. But the socialist legacy of low wages, which are not directly tied to skills, expertise, or performance, remains a feature of the state sector. Low wages resulted in low productivity and efficiency, accounting for the problems many state-owned enterprises (SOEs) have been facing since the 1980s. Yet, despite SOEs' problems and their resorting to labor contracts and layoffs (*xiagang*), the state sector as a whole is still attractive because of job security and generous benefits. At the same time, decollectivization has accelerated the growth of the nonstate sector, which comprises foreign-invested enterprises, private, family, and individual-owned enterprises, and self-employment. The reward system in the nonstate sector is similar to that of capitalist economies, namely, returns are mainly measured by earnings and are closely tied to performance. Accordingly, income variations tend to be bigger and benefits provision tends to be smaller in the nonstate sector than in the state sector.

Labor-market segmentation is a crucial determinant of labor-market returns in China and deserves closer scrutiny. The next section details the intricate relations among the household registration system, migration, and labor-market segmentation and returns in China.

***Hukou*, migration, and labor-market segmentation in China**

China's urban labor market is young, adopts both socialist and market mechanisms, and is intricately related to migration. Specifically, the development of the urban labor market has motivated migrants to enter cities, while the arrival of migrants has accelerated the transformation of the urban economy, the maturing of the labor market, and its segmentation in terms of occupations, ownership sectors, and returns (Cao, 1995; Cook and Maurer-Fazio, 1999; Knight and Song, 1995; Liang, 1999; Yang Q and Guo, 1996). Whereas recent studies have documented gender wage gaps and labor-market segmentation by sex (Maurer-Fazio et al, 1999; Yang Q and Guo, 1996), this paper focuses less on gender and more specifically on resident status.

The labor-market segmentation in China has its roots in the decade-old favoritism toward urbanites, to whom the socialist state pledged full responsibility in terms of food, housing, work, education, and all sorts of welfare entitlements. Rural Chinese, on the other hand, were expected to be self-reliant in the countryside and were shut out from state support. The dualism that ensued is aptly described as a "crowning feature of Chinese socialism" (Wong and Huen, 1998). In addition, the state used the 'unified purchase and marketing' (*tonggou tongxiao*) system that prevailed until recently to set the prices of agricultural goods low and the prices of industrial goods high—the so-called scissors gap—thus extracting value from agricultural production in the countryside to subsidize urban areas and to accomplish 'industrialization on the cheap' (Chan and Zhang, 1999; Cheng and Selden, 1994; Ma Z et al, 1997; Tang et al, 1993; Wang, 1997).

Partly to sustain the geographical transfer of value from the countryside to urban areas and to prevent state coffers going bankrupt, the state employed the household registration (*hukou*) system⁽²⁾ to anchor Chinese peasants to the countryside.

(2) Chan and Zhang (1999) argue that the hukou system is effective because it is coordinated with other powerful institutions that oversee important social functions such as public security, housing, and welfare.

This system, implemented since the late 1950s, has controlled rural–urban migration and reinforced the division of Chinese citizens into two unequal tiers—the privileged urban and the underprivileged rural (Cao, 1995; Cheng and Selden, 1994; Christiansen, 1992; Shen and Tong, 1992). Specifically, hukou is a household record of individuals' registration and is usually passed from one generation to the next. An urban ('non-agricultural') hukou is an entitlement to state benefits and subsidies that the rural population do not have access to. The location of one's hukou essentially records where one belongs. Prior to the economic reforms, where a labor market was nonexistent, it was almost impossible for peasants who did not have urban hukou to survive in cities. For decades, therefore, the hukou system has tied Chinese peasants to the farmland (Hsu, 1994; Wong and Huen, 1998).

Since the reforms, both the transformation of the urban economy and the infusion of foreign investment have put pressure on labor supply, especially the supply of cheap labor, in urban areas (Liang, 1999; Liang and White, 1997; Ma Z, 1999). Many new jobs and jobs that have increased in number, such as nannies, restaurant servers, and garment factory workers, are at the lower end of the occupational stratum and are not desired by regular urbanites. Accordingly, a new 'pull' for labor is exerted by urban areas. At the same time, the 'push' from the countryside has been further exacerbated by the increasing magnitude of surplus agricultural labor because of improvements in agricultural productivity (Shen, 1995; Shen and Spence, 1995).⁽³⁾ Responding to the pull and push for labor, the state was compelled to relax migration control. Rather than removing the hukou system, the state added provisions to it that facilitate the 'temporary' migration of peasants to work in urban areas (for example, Chan and Zhang, 1999; Wang, 1997; Wong and Huen, 1998). Specifically, migrants are permitted to work in towns or cities on the basis of 'temporary residence permits' (*zanzhu zheng*) without obtaining urban hukou. They still do not have access to subsidized benefits and must rely entirely on themselves for housing and other necessities, but their survival in the city is made possible by the expanding labor market and the marketization of goods and services. In essence, the hukou institution has readjusted and revised itself in response to new demands and circumstances (Solinger, 1999a).

Yet, the state retains its urban bias and gatekeeping role of urban permanent residence by denying rural workers in the city local hukou. Their migration is considered 'self-initiated', and without a local hukou they are excluded from the more prestigious and desirable jobs—jobs that are reserved for urban permanent residents. Instead, rural migrants are considered 'outsiders' and are relegated to the bottom rungs, picking up dirty, dangerous, and low-paying jobs and finding a marginalized and underclass existence in the city (Knight and Song, 1995; Roberts, 1997; Yang Q and Guo, 1996). Though SOEs employ rural migrants, they are mostly hired as contract workers and are denied benefits permanent workers are entitled to (Maurer-Fazio, 1995; Solinger, 1999b). In essence, migrants without local hukou are considered 'temporary migrants', though many have stayed in the city for extended periods of time. They are valued for their cheap labor and tolerance of harsh working conditions but are treated as temporary workers who are disposable at any time (Knight et al, 1999).

On the contrary, the state rewards state-sponsored and selected migrants local hukou in urban areas and all the advantages that accompany it. These are 'permanent migrants' and are highly selective (Yang Q and Guo, 1999). Broadly speaking, two types of migrants to urban areas are awarded local hukou. The first type includes individuals who move to jobs assigned by the state and return migrants from

⁽³⁾ Estimates of surplus rural workers in China vary considerably and mostly fall in the range of 100 to 220 million (Solinger, 1999a, page 18).

previous state-sponsored migrations (Gu, 1991). They have close institutional ties with the state and most of them were urban residents and had urban hukou even before migration. An example is an employee of a large SOE that relocates from Beijing to the enterprise's subsidiary in Shanghai. The second type of individuals might have had rural hukou prior to migration but are deemed by the state as a selected group because of their skills and education. They include skilled workers such as professionals whose migration is endorsed by their employers, and university students who are among the most privileged groups in China. This second type of migrant is extremely selective and few in number. Employer-endorsed migration still requires approval by local authorities, which control tightly the awarding of urban hukou. University admission is very competitive in China, and is accessible only to the best and the brightest. But upon graduation, their chances of finding jobs in urban areas and obtaining urban hukou are high. Migrants with urban hukou have the legitimacy and right to stay in the city and have access to an array of jobs closed to temporary migrants, including high-paying and secure positions with full benefits. By awarding them urban hukou and granting them priorities in the labor market, the state has essentially acknowledged permanent migrants as privileged and entitled citizens.

The distinction between permanent migrants and temporary migrants is a vivid reminder of the legacy of a central-planning ideology in China. In the view of the state, permanent migrants are official, orderly, and 'within state plan', whereas temporary migrants are unofficial, haphazard, and 'outside of state plan'. A variety of other terminologies have been used to describe this dichotomy, for example, hukou versus nonhukou migration, 'plan' versus 'nonplan' or self-initiated migration, formal versus informal migration, and de jure versus de facto migration (Chan et al, 1999; Fan, 1999; Gu, 1991; Li, 1995; Yang Y, 1994). But by far 'permanent migrants' and 'temporary migrants' are the most descriptive of these two distinct tracks of migration in China, and are the preferred terms in this paper (for example, Goldstein and Goldstein, 1991; Goldstein and Guo, 1992; Liang and White, 1997; Woon, 1993; Yang X, 1993; 2000; Yang Q and Guo, 1996).

In short, one's hukou or resident status continues to symbolize one's geographical (rural versus urban) origin, connotes one's socioeconomic status, and above all defines one's opportunities and constraints (Cheng and Selden, 1994; Christiansen, 1990). The hukou system steadfastly sustains the urban-rural divide by upholding a dichotomy of access, opportunities, and socioeconomic statuses associated with one's hukou. Though it is possible for a small number of migrants to obtain urban hukou through acquiring highly demanded skills and high education, by and large it is the migrants who are sponsored by the state or have strong institutional ties with the state that are awarded urban hukou. Recent innovations such as the 'blue-stamp' hukou make it possible for the richest and most qualified temporary migrants to eventually obtain urban hukou, but they are in essence 'social creaming' mechanisms that extract monetary and human resources from a very small number of elite migrants (Wong and Huen, 1998). The vast majority of rural Chinese continue to be rendered inferior and subordinate to urbanites because of the hukou system, which denies them urban citizenship even if they manage to migrate to urban areas (Solinger, 1999a).

Furthermore, the hukou-based opportunity structure has segmented the urban labor market and shaped the differential returns to labor. Peasant migrants are relegated to jobs with poor compensation not only because of their disadvantaged personal attributes but also because they lack urban hukou. The barriers they experience are similar to those of illegal immigrants and some minority groups in the USA, who are shut out from certain segments of the labor market because of their

lack of citizenship and their ethnicity. Permanent migrants, on the other hand, are the most privileged group because of their affiliations with state sponsorship and institutional channels and because of their advantaged personal attributes. In the empirical analysis in this paper I seek to show that resident status, as measured by hukou, is an important determinant of labor-market returns. Specifically, this is done via a survey of Guangzhou's labor market and by comparing and examining the income and benefits returns to nonmigrant urbanites, permanent migrants, and temporary migrants in that survey.

Rationale of the Guangzhou survey

Readily available information on labor market returns in China is mostly limited to wages, such as those published by the State Statistical Bureau, which does not document nonwage incomes or benefits. In order to investigate the relations between labor-market returns and resident status and to examine both income and benefits returns, I conducted a survey in the city of Guangzhou in Guangdong province during June and July of 1998⁽⁴⁾ (figure 1). Guangzhou is an appropriate field site because it is among the cities in



Figure 1. The city of Guangzhou and the Guangdong province. Note: see Lin (1997, page 80) for the delineation of the Pearl River Delta.

⁽⁴⁾ The survey was designed in conjunction with other members (Kam Wing Chan, Ling Li, and Yunyan Yang) of a collaborative project.

China that have received large numbers of permanent and temporary migrants and where economic changes have significantly increased the demand for migrant labor.

The province of Guangdong accounts for less than 6% of China's population, but it has received disproportionate volumes of migrants and foreign investment (table 2). According to the 1990 Census, Guangdong was the most attractive destination of interprovincial migration and had one of the highest levels of intraprovincial mobility among all provinces (Fan, 1996). The Census recorded a total of 35.3 million internal migrants between 1985 and 1990, of whom 12.5%, or 4.4 million, were in Guangdong. The 1995 One-Percent Population Survey documented a similar proportion of migrants (12.3%) between 1990 and 1995 in Guangdong. Most notably, that survey recorded a total of 18.3% of all interprovincial migrants in China choosing Guangdong as their destination, compared with 10.4% documented by the 1990 Census, suggesting that the attractiveness of the province had increased further during the 1990s. In 1990 Guangdong received a commanding 41.9% of foreign direct investment in China. Though that proportion had declined by the mid-1990s, as the tremendous influx of foreign investment in the 1990s also induced diffusion to other provinces, Guangdong still accounted for 26.4% of the foreign direct investment China received in 1998.

Guangdong's ties and proximity to Hong Kong have facilitated the infusion of foreign investment, which in turn has created jobs that demand cheap labor and accounted for the large number of temporary migrants in the province (for example, Liang, 1999). Within Guangdong, the number of migrants is especially large in the Pearl River Delta, which is home to many residents in Hong Kong, and whose special economic zones and rapidly growing urban and rural areas serve as Hong Kong's production hinterland (Lin, 1997; Sit, 1989) (figure 1).

Table 2. Volumes of migration and foreign investment in China and Guangdong (sources: 1990 Census 1% sample, SSB, 1991; 1996; 1997; 1999).

	China	Guangdong	Guangdong (% of China)
<i>Population (millions)</i>			
1990	1 143	63	5.6
1995	1 211	69	5.7
1998	1 248	71	5.7
<i>Migrants (thousands)^a</i>			
1990 Census			
total migrants	35 331	4 400	12.5
intraprovincial migrants	23 797	3 202	13.5
interprovincial migrants	11 534	1 198	10.4
1995 One-Percent Population Survey			
total migrants	33 230	4 090	12.3
intraprovincial migrants	22 569	2 143	9.5
interprovincial migrants	10 661	1 947	18.3
<i>Foreign direct investment (US \$ million)</i>			
1990	3 487	1 460	41.9
1995 ^b	37 806	10 260	27.1
1998	45 463	12 020	26.4

^a Please see text for the variations in definitions. Specifically, the 1990 Census used a 'more than one year' residence criterion, whereas the 1995 One-Percent Population Survey used a 'more than six months' criterion.

^b The foreign direct investment reported for 1995 included 'other investment', which accounted for less than 1% of the foreign direct investment in China.

Guangzhou is one of the largest cities in China and is the provincial capital of Guangdong. It commands a central position in the Pearl River Delta. Though Guangzhou is a relatively old city, its proximity to Hong Kong (150 km) and to the special economic zones of Shenzhen and Zhuhai has facilitated the commercialization and marketization of its economy. Both the diversification of Guangzhou's economy and the foreign investment it has received have exerted a 'pull' for migrants from other parts of Guangdong and from other provinces. The 1990 Census recorded a total of 0.7 million migrants in Guangzhou, accounting for 15.0% of all migrants in Guangdong.

Though census-type data afford national coverage, their definitions tend to underestimate the volume of migration and overlook in particular temporary migrants. For example, the 1990 Census defined a migrant as an individual five years or older whose usual place of residence on 1 July 1985 was in a different city, town, or county than that on 1 July 1990, and (1) whose hukou was in the 1990 place of residence or (2) who had stayed in the destination for more than one year or had left the hukou location for more than one year. The first type of migrants had obtained local hukou at the destination and were by definition permanent migrants, whereas the second type of migrants did not obtain local hukou and were temporary migrants. The Census excluded moves within cities or counties, migrants younger than five years old, migrants who died between 1985 and 1990, multiple moves, and return migrants between the two years. Specifically, the 'more than one year' requirement excluded temporary migrants who had stayed in the destination for less than one year and those who had left the hukou location for less than one year, who in the Census were grouped under their hukou locations rather than their destinations (Banister and Harbaugh, 1992). The 1995 One-Percent Population Sample Survey used definitions similar to the 1990 Census, except that the former examined the period 1990–95, included migrants of all ages, and employed a 'more than six months' requirement.

In order to highlight resident status and to study temporary migrants in greater detail, the Guangzhou survey included three types of respondents—305 nonmigrants, 300 permanent migrants, and 911 temporary migrants. A larger number of temporary migrants were included because their migration and labor-market processes are less well understood. Also, I employed definitions that are somewhat different from those of the 1990 Census. Specifically, nonmigrants refers to individuals who had lived in Guangzhou for at least fifteen years and whose hukou were in Guangzhou; permanent migrants are migrants who had moved to Guangzhou since 1990 and whose hukou were in Guangzhou; and temporary migrants refers to migrants who had stayed in Guangzhou for at least three months but whose hukou were not in Guangzhou. The criterion for permanent migrants was selected in order to focus on relatively recent migrants (since 1990) whose moves were accompanied by a hukou transfer to Guangzhou or who had by the time of the survey obtained local hukou in Guangzhou. A 'three months' rather than the Census 'one year' criterion for temporary migrants was used because the latter would likely exclude large proportions of temporary migrants in large cities such as Guangzhou, as discussed earlier. For the nonmigrant criterion, it is expected that individuals who moved to Guangzhou more than fifteen years ago and who had local hukou are practically considered permanent residents or natives in the city. Although the 'duration of stay' and 'arrival time' criteria are quantitatively different from those of the 1990 Census, the qualitative definitional distinctions, between permanent migrants and temporary migrants, and between migrants and nonmigrants, are similar. Finally, the survey included only individuals aged 15 years or older.

The survey sample was arrived at using stratified quota sampling, with stratification across both major occupational categories and geographic districts in Guangzhou. First, occupational stratification was based on the five major occupational categories

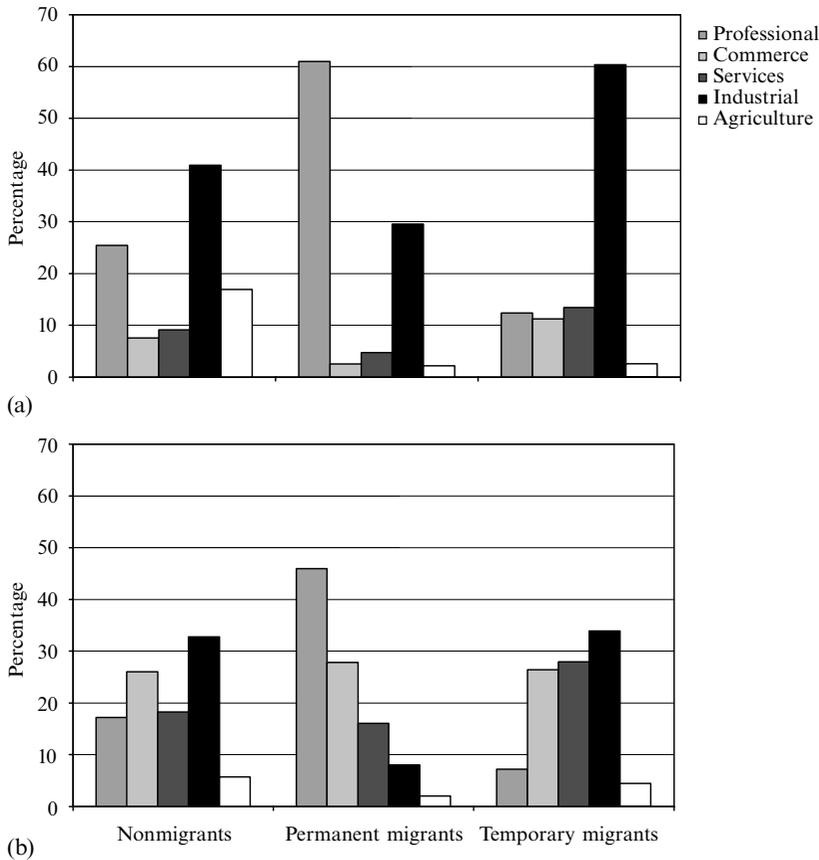


Figure 2. Occupational attainment in Guangzhou (for individuals aged 15 years or older): (a) 1990 Census; (b) 1998 Guangzhou survey (sampling framework).

consistent with conventional definitions in China—professional (including administrative), commerce, services, industrial, and agriculture. Using the distribution of major occupations in Guangzhou from the 1990 Census as a basis [figure 2(a)], four types of adjustments were made: (1) I increased the relative proportions of commerce and services in order to reflect the changes in Guangzhou's economic structure between 1990 and 1998; (2) the occupational proportions of the three types of subpopulations were adjusted, based on recommendations by my informants in Guangzhou and on a variety of scholarly and journalistic sources, to reflect their likely occupational distributions in 1998;⁽⁵⁾ (3) adjustments were made to ensure that sufficient numbers of the subpopulations in respective occupational categories were included; (4) finally, except

⁽⁵⁾ The actual occupational distributions of these three subpopulations in Guangzhou are not known, because official data do not include migrants who have not registered with local authorities. Within each of the five major occupational categories, the sample was further stratified into detailed occupational categories, again based on estimates of their distributions in Guangzhou and across the three subpopulations and subject to the other three sampling criteria. The five major occupational categories and their breakdowns are: professional (management, specialized professional, executives, education and health, clerical, other); commerce (trade, food, general merchandise, clothing, communication, computer, street vendors, other); services (nannies, public security, hotels and hair salons, storage, repair, transportation, other); industrial (construction, custodians, garment, sewing, miscellaneous production, handymen, technicians, other); and agriculture (farming, vegetables, fruits, floral).

for occupational categories that are clearly dominated by one sex (for example, nannies and construction), roughly equal proportions were allocated to men and women. Then, the geographic proportions for the initial sampling framework across the eight urban districts of Guangzhou were derived based on existing data of the geographic distributions of population, nonagricultural population, and migrants in Guangzhou, as well as the settlement history of individual urban districts.

Using an initial sampling framework derived from the above criteria [figure 2(b)], a team of six interviewers employed the quota sampling technique and randomly interviewed respondents who satisfied the occupational and geographical criteria until the predetermined numbers or proportions in the initial sampling framework were reached. In this study, the quota sampling technique is more appropriate than the traditional random sampling method for the following reasons. First, random sampling entails the use of official databases, which inevitably miss temporary migrants who did not register with local authorities because of the fees involved. Among the temporary migrants included in the Guangzhou survey, 19.0% had not obtained temporary residence permits. Second, the use of official databases makes it difficult to satisfy the occupational stratification criteria outlined earlier. Third, a survey not based on official databases permits more in-depth questions to be asked.

Though the stratified quota technique did not yield a representative and random sample, specific strategies were employed to increase as much as possible the representativeness, randomness, and quality of the survey data. The occupational and geographical stratifications outlined earlier reduced possible occupational and spatial skewness of the data. Second, specific guidelines were used to reduce possible biases of the data, including limitations of the number of interviewees per household and per workplace. Third, I employed a total of only six interviewers, all well-trained specialists in conducting surveys in Guangzhou, in order to minimize possible inconsistencies and ensure quality of the survey. A pilot survey was conducted in December 1997, six months before the actual survey, which tested the questionnaire and identified and resolved possible inconsistencies in the survey.

The survey has two limitations that must be taken into consideration when interpreting the results. First, a survey of one site, albeit a major city, is not necessarily representative of other urban areas in China. Second, unlike the Census, the volume, occupational, and gender distributions of the survey sample are functions of the sampling framework and should not be objects of inquiry.

Despite these limitations, comparisons of the occupational and educational attainments between the 1990 Census and the 1998 survey suggest that the survey data are of sufficiently high quality. In both samples, permanent migrants were most highly represented in the professional occupation, and nonmigrants and temporary migrants were most highly represented in industrial work (figure 2). Though the occupational distribution of the survey sample is less concentrated than that of the 1990 Census, the former is probably a more realistic representation of Guangzhou's economic structure in the late 1990s, as diversification of the labor market had boosted the proportions of the labor force in commerce and services. Moreover, the survey yielded data that retain the occupational ranking observed in the Census, with permanent migrants at the top and temporary migrants at the bottom.

A comparison of the two samples' educational attainments adds further confidence to the survey data (figure 3). The educational attainments of permanent migrants and temporary migrants are almost exactly the same between the two samples. Specifically, almost 80% of permanent migrants had above senior high education, and more than 50% of temporary migrants had junior high education. Because education was not a criterion of the survey's sampling framework, the similarities between the two samples

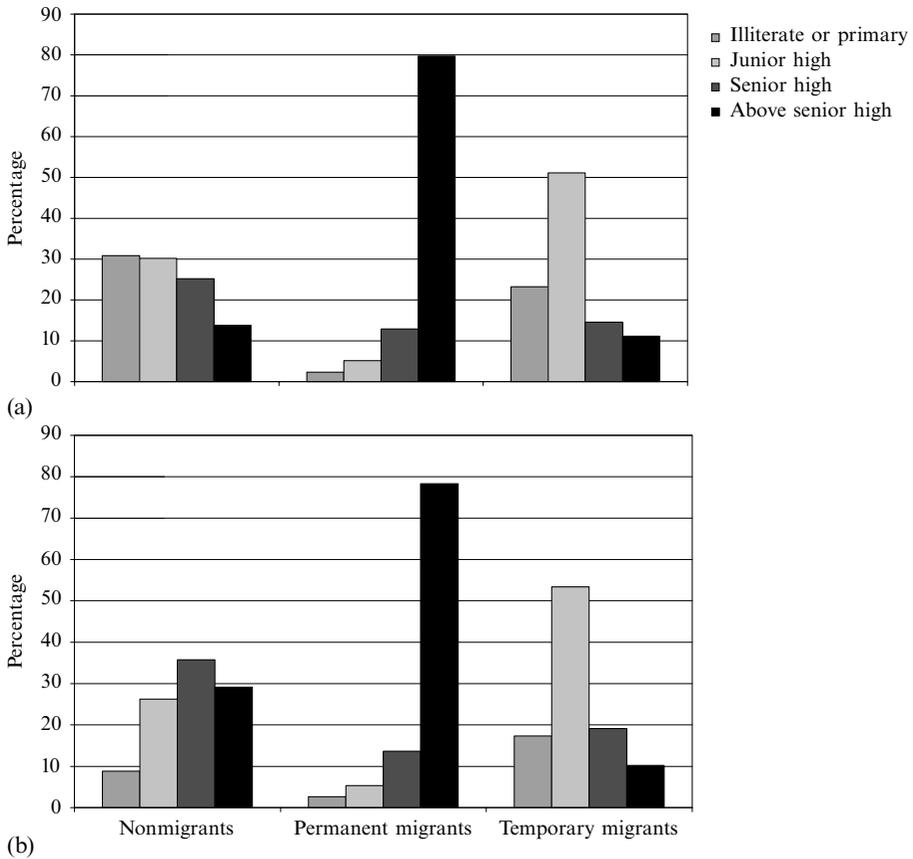


Figure 3. Educational attainment in Guangzhou (for individuals aged 15 years or older): (a) 1990 Census; (b) 1998 Guangzhou survey.

are not a result of the sampling framework but are evidence that the survey data are not unduly biased. Though nonmigrants in the survey are somewhat more highly educated than their Census counterparts, the survey clearly repeats the educational ranking observed in the Census—permanent migrants, nonmigrants, and temporary migrants in descending order.

The discrepancies in educational attainment and occupational attainment among the three subpopulations inevitably have implications for their labor-market returns. But in addition to achieved attributes such as education, individuals' resident status plays an important role in their labor-market experiences. Specifically, permanent migrants' access to institutional resources and government channels compound their human-capital advantages. On the other hand, temporary migrants who are largely associated with 'market' or 'outside of state plan' processes of migration are faced with a segmented labor market that channels them to jobs with low pay and poor benefits. In the following sections, empirical analyses will further illustrate the relations between the hukou-based migration system on one hand and segmentation of the urban labor market and differentials in labor-market returns on the other.

Income returns

In the questionnaire survey, respondents were asked to indicate their total monthly income, which included wage, bonus, other types of earnings from work, as well as net

Table 3. Income and benefits returns by resident status.

	Nonmigrants	Permanent migrants	Temporary migrants
Mean monthly income (yuan)	1836	3654	1511
Benefits ^a			
free lodging (%)	0.8	16.9	59.5
medical (%)	60.0	71.1	8.2
retirement (%)	48.8	63.1	3.8

^aExcluding the self-employed and those employed in agriculture.

profit if they were self-employed. Total income is a more realistic measure of earnings from work, because many jobs in China offer low wages but also a variety of other forms of monetary rewards. As expected, permanent migrants had the highest mean monthly income (3654 yuan), which was almost twice that of nonmigrants (1836 yuan), and temporary migrants had the lowest mean monthly income (1511 yuan) (table 3). Permanent migrants' high income reflects their advantaged institutional status as well as their human capital attributes, as the following analysis will show.

Income varies considerably with ownership sector. Specifically, I examine four ownership sectors—state-owned, collective-owned, new-economy, and self-employed [figure 4(a)]. The state-owned and collective-owned sectors are both traditional socialist-type components of the state sector that have shrunk in size in recent years. In particular, recent reforms of SOEs and changes in the urban economy have reduced the dominance of the state sector and promoted shifts of the labor force to the nonstate sector. In large and older cities such as Guangzhou, however, the state sector remains prominent. Permanent employment in the state sector is mostly available only to those with permanent residence rights in the city, though SOEs do offer low-paying contract work with few benefits to temporary migrants.

In order to gauge the complexity of the nonstate sector, it is further broken down into the 'new-economy' and 'self-employed' ownership sectors. By new-economy, I refer to employment in enterprises other than SOEs and collective-owned enterprises, such as foreign-invested enterprises, private, family, and individual-owned enterprises. It is especially characterized by jobs in industry and services, and is very important to temporary migrants who have more opportunities finding employment outside the state sector. The self-employed sector refers to employers and individuals who own their businesses, as opposed to employees who work for others. Like the new-economy sector, the self-employed sector has increased in size since the economic reforms. It is more developed in large and commercialized cities such as Guangzhou where reforms and concentration of human resources have given rise to a more open and plural economy, to a critical mass of entrepreneurs, and to plenty of business opportunities. Though self-employment is risky, its popularity has increased in Chinese cities where employers (*laoban*) are increasingly associated with wealth and prestige (Davis, 1999). Peasant migrants blocked from prestigious jobs in the city may also find self-employment and place-based business networks to their advantage (for example, Ma J C and Xiang, 1998).

The distribution of income shown in figure 4(a) further supports the validity of examining self-employment as a separate sector. Specifically, average incomes in self-employment were significantly higher than in other sectors. Across all sectors, permanent migrants had the highest incomes. But the gaps were especially large among the self-employed—permanent migrants' average monthly income was 13 438 yuan, 2.8 and 3.2 times the income of their nonmigrant and temporary migrant counterparts, respectively.

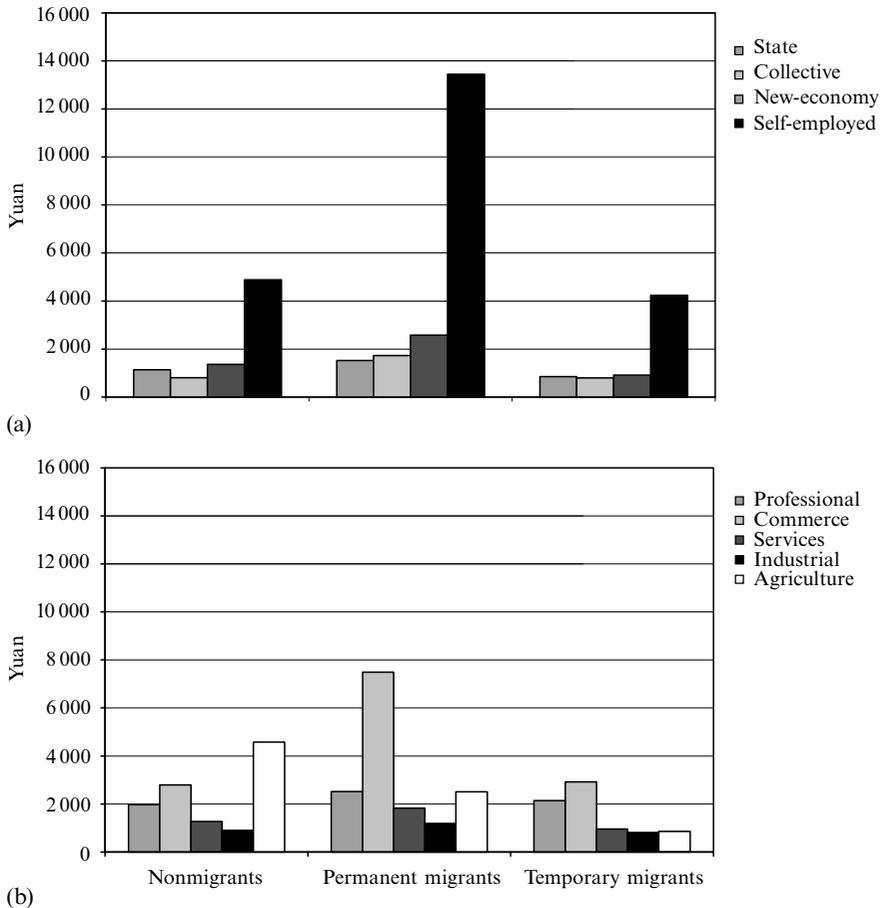


Figure 4. Income returns: 1998 Guangzhou survey: (a) by ownership sector; (b) by occupation.

Data on income distribution by occupation [figure 4(b)] again show that permanent migrants had the highest incomes across occupations, except in agriculture where nonmigrants had the highest incomes. A closer examination of the data indicates that all nonmigrants engaged in agriculture were self-employed, which explains their high incomes. In fact, in many large cities in China, many urban natives in agriculture are 'bosses' who hire migrants, especially temporary migrants, to do farm work. Among the nonagricultural occupations, the highest incomes were associated with commerce, followed by professional, services, and industrial work. The gap among the three subpopulations was the largest in commerce, where the income of permanent migrants (7498 yuan) more than doubled that of nonmigrants and temporary migrants.

A comparison of figure 4(a) and figure 4(b) suggests a high correlation between self-employment and commerce. Indeed, commerce and services, the two newest and most rapidly growing occupations in Chinese cities, have been the breeding grounds of marketized practices such as self-employment. In the survey 67.8% and 18.8% of self-employed individuals engaged in commerce and services, respectively, whereas only 1.4% of the self-employed engaged in professional occupation. The very high incomes associated with self-employment and commerce suggest that commercialization of the urban economy has created new opportunities for those who are equipped to amass wealth. The data indicate that permanent migrants have distinguished themselves as the most competitive group in Guangzhou's labor market. They are highly educated

and are highly represented in professional occupation [figure 2(a)] where income is quite high. But those who are engaged in or have shifted to commerce and self-employment earn significantly more than any other groups or professions. All of this suggests that permanent migrants are most capable of making use of their institutional advantages, human capital, and new opportunities in the labor market to make very high income gains.

In order to disentangle the effects of achieved attributes, such as education, from the effects of institutional attributes, I conduct a regression analysis that evaluates the relative contributions of five relevant groups of independent variables—demographic, resident status, experience, ownership sector, and occupation—to income variations (table 4). Because regression coefficients are unit dependent, in the discussion I shall focus on standardized regression coefficients which assess the extent to which individual independent variables are influential.

Independent variables in the demographic group include AGE, SEX, and EDUCATION. Neither AGE nor SEX is significantly related to income. The two EDUCATION dummy variables are both significant and positively related to income. In fact, ABOVE SENIOR HIGH has the second largest standardized regression coefficient in

Table 4. Regression on income.

Independent variable ^a	Regression coefficient	Standardized regression coefficient	<i>t</i> -value
<i>Demographic</i>			
AGE (years)	31.00	0.06	1.78
*SEX (male = 1)	416.17	0.04	1.79
EDUCATION (reference: below senior high)			
*SENIOR HIGH	831.87***	0.07***	2.72
*ABOVE SENIOR HIGH	1878.08****	0.18****	4.84
<i>Resident status</i> (reference: nonmigrants)			
*PERMANENT	1405.75****	0.12****	3.46
*TEMPORARY	94.64	0.01	0.26
<i>Experience</i>			
NUMBER (of jobs)	150.23**	0.05**	2.00
DURATION (years)	-7.95	-0.01	-0.28
<i>Ownership sector</i> (reference: new-economy)			
*STATE	-803.30***	-0.08***	-2.55
*COLLECTIVE	-379.63	-0.02	-0.91
*SELF-EMPLOYED	4215.03****	0.34****	11.54
<i>Occupation</i> (reference: industrial)			
*PROFESSIONAL	-184.71	-0.01	-0.43
*COMMERCE	211.61	0.02	0.60
*SERVICES	-444.48	-0.04	-1.37
*AGRICULTURE	-658.63	-0.03	-1.07
<i>Intercept</i>	-893.43		-1.36
<i>R</i> ²	0.22		
Adjusted <i>R</i> ²	0.21		
Degrees of freedom (regression)	15		
Degrees of freedom (residual)	1433		
<i>F</i>	26.35****		

Significance levels: **0.05; ***0.01; ****0.001.

^a*Dummy variable.

the analysis, suggesting that human capital defined by education, and especially higher education, is a very important determinant of income.

PERMANENT and TEMPORARY, representing permanent migrants and temporary migrants, are the two dummy variables in the resident status group, where the reference is nonmigrants. PERMANENT is significant and is the third most important independent variable, but TEMPORARY is not significant. The results suggest that all other things being equal, permanent migrants' income is significantly higher than that of nonmigrants, but temporary migrants' income is not significantly different from that of nonmigrants.

Labor-market experience is represented by NUMBER and DURATION. NUMBER refers to the number of jobs one has had, including the present job. Its positive and significant coefficient suggests that the more jobs one has had, the higher the income, and points to the relationship between job mobility and increase of income. But the length of time one has held the present job—DURATION—is not significantly related to income, indicating that seniority and experience are not among the most important determinants of income.

Ownership sector is the fourth group, with the new-economy sector as the reference. As expected, STATE is significant and negatively related to income, and SELF-EMPLOYMENT is significant and positively related to income. SELF-EMPLOYMENT has the largest standardized regression coefficient and is the most influential variable among all independent variables in the analysis, underscoring the relationship between self-employment and high income. None of the four independent variables in the occupation group is significant, however, probably because their effects on income are offset by the effects of the ownership-sector variables.

In summary, self-employment, high education, and the permanent migrant status are the three most prominent determinants of income differentials. The findings support recent researchers' observations that self-employment has emerged as the most profitable sector in large cities (Davis, 1999), and underscore the importance of relating labor-market segmentation to transformations of the urban economy. The prominence of education confirms the conventional wisdom linking human capital to economic return. But independent of self-employment and education, resident status is clearly one of the most important determinants of income returns.

Because self-employment distinguishes itself as the most influential determinant of income, and because there are large variations in income among the self-employed, another regression analysis of only the self-employed is conducted (table 5, over). The same variables in the demographic, resident status, and experience groups are included. Because only the self-employed are examined, the ownership sector group is omitted. Under occupation, I omit PROFESSIONAL because of its small representation (1.4%) among the self-employed. Because the size of business likely affects income, I include a new variable—SCALE—which is measured by the number of paid employees hired.

Most of the results are similar to the previous regression. Though SENIOR HIGH is not significant, ABOVE SENIOR HIGH is positive and significant and has the largest standardized regression coefficient. Again, higher education is an important determinant of income even among the self-employed. PERMANENT is the third most influential variable, and again TEMPORARY is not significant. In other words, other things being equal, being a permanent migrant still has its income advantages in self-employment. The newly introduced variable, SCALE, has a positive and the second largest standardized regression coefficient, indicating that a large business size is not only conducive to high income but is also an important determinant of income variations in self-employment. The average number of paid employees was

Table 5. Regression on income for the self-employed.

Independent variable ^a	Regression coefficient	Standardized regression coefficient	t-value
<i>Demographic</i>			
AGE (years)	56.34	0.06	0.85
*SEX (male = 1)	787.87	0.05	0.82
EDUCATION (reference: below senior high)			
*SENIOR HIGH	1761.97	0.09	1.57
*ABOVE SENIOR HIGH	4976.90****	0.24****	3.45
<i>Resident status</i> (reference: nonmigrants)			
*PERMANENT	3975.21**	0.19**	2.55
*TEMPORARY	1096.28	0.07	0.79
<i>Experience</i>			
NUMBER (of jobs)	572.72**	0.11**	1.97
DURATION (years)	-32.24	-0.03	-0.35
Scale (number of employees)	249.26****	0.21****	3.57
<i>Occupation</i> (reference: industrial) ^b			
*COMMERCE	2486.85	0.14	1.03
*SERVICES	-80.22	0.00	-0.03
*AGRICULTURE	2544.86	0.09	0.86
<i>Intercept</i>	-3512.21		-0.96
<i>R</i> ²	0.25		
Adjusted <i>R</i> ²	0.22		
Degrees of freedom (regression)	12		
Degrees of freedom (residual)	256		
<i>F</i>	7.25****		
Significance levels: **0.05; ***0.01; ****0.001.			
^a *Dummy variable.			
^b The professional occupation is not included in this analysis.			

3.4, 4.4, and 1.3 among self-employed nonmigrants, permanent migrants, and temporary migrants, respectively. Though the average size of business is not large, permanent migrants are more likely to own larger businesses whereas temporary migrants' businesses tend to be much smaller.

The above results suggest that permanent migrants are the most advantaged among the self-employed. Compared with the other two subpopulations, permanent migrants are more highly educated and have more resources to launch bigger businesses, both conducive to higher incomes. But even holding education and size of business constant, permanent migrants' income is still significantly higher than that of the other two groups. This suggests that permanent migrants' institutional status and ties to the state facilitate their occupying the most central and favorable positions in the labor market. All these advantages appear to have cumulative effects so that permanent migrants have significantly higher income than others.

Benefits returns

As discussed earlier, benefits are an important element of the reward structure in China's labor market. They are especially essential to employees in the state sector where wages are relatively low and where the work unit is mainly responsible for the provision of welfare benefits and subsidies. The extent and variety of benefits employers provide vary considerably by resident status, ownership sector, and occupation. I have

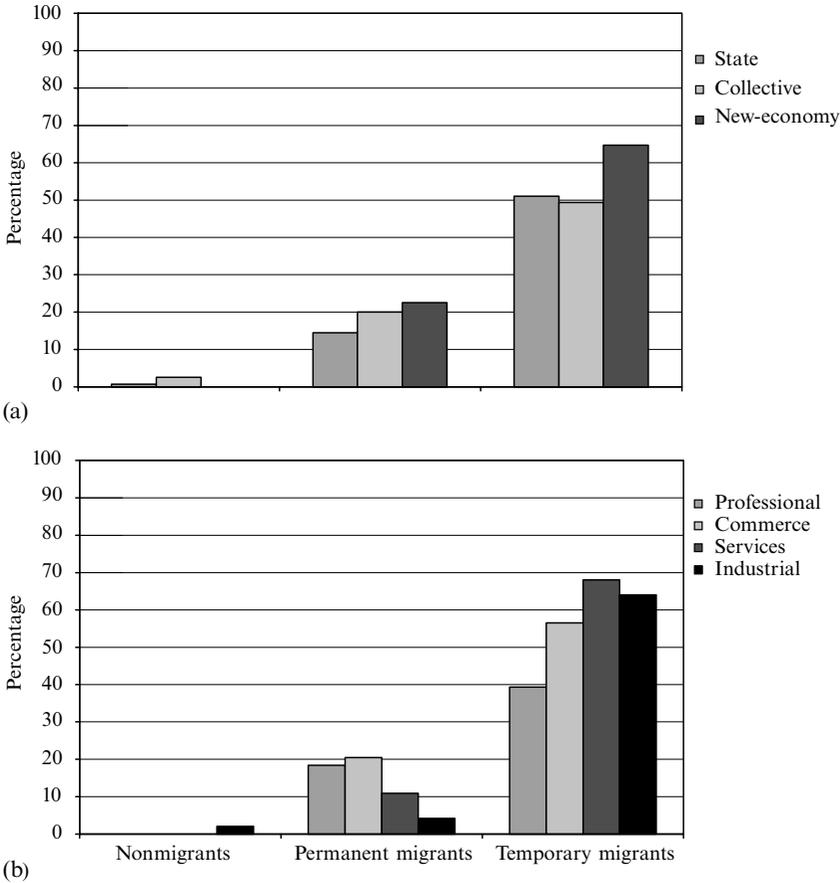


Figure 5. Free lodging benefits: 1998 Guangzhou survey: (a) by ownership sector; (b) by occupation.

selected to examine free lodging, medical benefits, and retirement benefits, as they are among the most popular nonmonetary compensations in China's urban labor market. Here, free lodging refers to lodging provision at the workplace or at the employers' home, rather than subsidies for rent and home purchase; medical and retirement benefits refer to employer-paid health insurance and retirement plans, respectively. The analysis excludes the self-employed and focuses only on benefits received by employees. Also, because the number of observations in agriculture for some categories is small (for example, nonmigrant employees), that occupation is omitted from the analysis.

Table 3 shows that the majority of nonmigrants and permanent migrants had access to medical and retirement benefits and the majority of temporary migrants had free lodging. Figures 5–7 detail benefits variations by ownership sector and occupation. Free lodging was provided mainly for migrants and only rarely for nonmigrants (figure 5). Among migrants, significantly higher proportions of temporary migrants than permanent migrants had lodging provision, in all ownership sectors and occupations. In particular, more than 60% of temporary migrants in the new-economy sector and industrial and services work had free lodging. The data indicate that temporary migrants, especially those engaged in the nonstate sector and less profitable occupations, mostly stayed in dormitories and employers' homes. Many foreign-invested enterprises, for example, built their factories and dormitories with temporary migrants

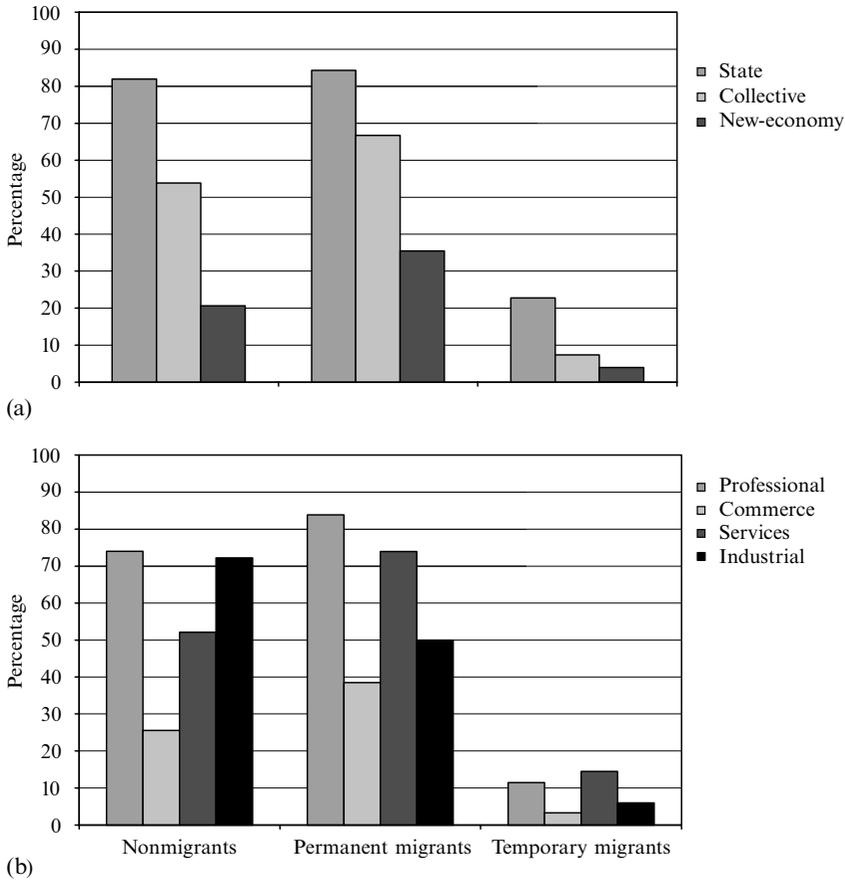


Figure 6. Medical benefits: 1998 Guangzhou survey: (a) by ownership sector; (b) by occupation.

in mind. Permanent migrants, on the other hand, were more likely engaged in other segments of the labor market.

On the contrary, very small proportions of temporary migrants were offered medical benefits by their employers (figure 6). Between nonmigrants and permanent migrants, higher proportions of the latter had access to medical benefits. As expected, SOEs and collective-owned enterprises were more generous than the new-economy sector. Among the four occupations, professional work was the most generous and commerce was the least generous. These data suggest that medical benefits are associated with state-sponsored or the most prestigious segments in the labor market—segments that are permeable to nonmigrants and permanent migrants but are difficult for temporary migrants to enter.

The proportions of the three subpopulations having access to retirement benefits were generally lower than those to medical benefits (figure 7). Nonetheless, the differences across resident status, ownership sectors, and occupations were similar to those observed for medical benefits. Namely, temporary migrants had the least access and permanent migrants had the greatest access to medical benefits; the state sector was more generous than the new-economy sector; and professional work was the most generous while commerce was the least generous.

The above results point to resident status as a distinct divide in the labor market. Though benefits provision varies with ownership sectors and occupation, these variations pale when compared with those between temporary migrants and the other two

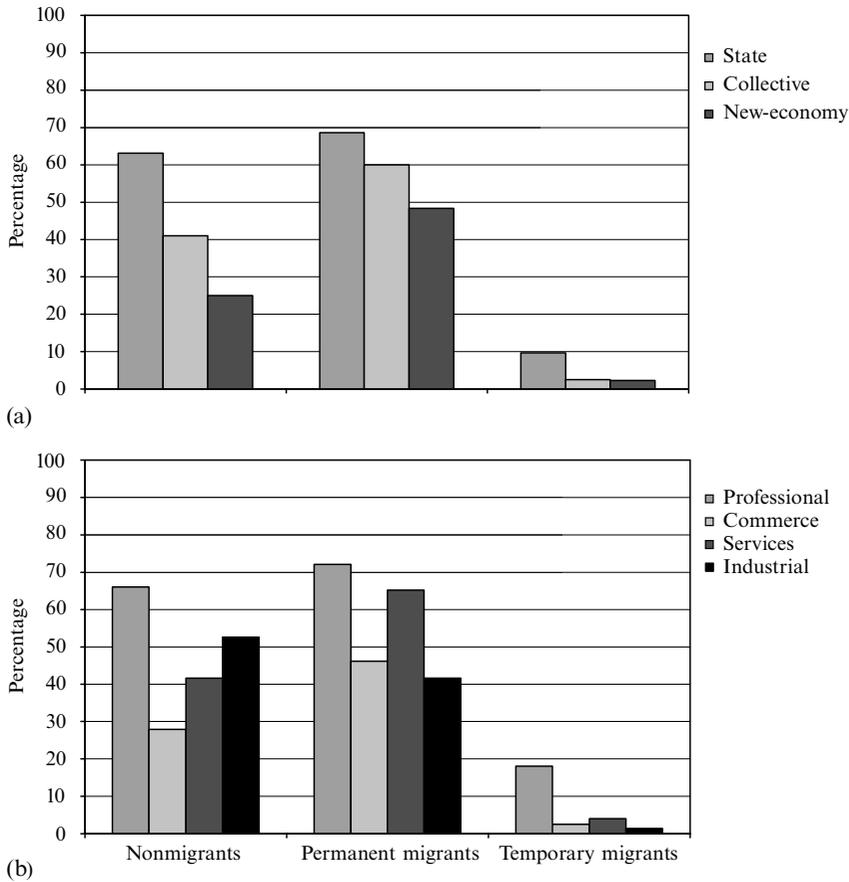


Figure 7. Retirement benefits: 1998 Guangzhou survey: (a) by ownership sector; (b) by occupation.

subpopulations. Specifically, temporary migrants are channeled into jobs that target them by providing living spaces at or near work but deny them social benefits. Most nonmigrants and permanent migrants, on the other hand, enjoy medical and retirement benefits provided by the employer and occupy more advantaged positions in the labor market.

Table 6 (see over) summarizes the results of logistic regressions that aim at evaluating the effects of five groups of independent variables on the provision of free lodging, medical, and retirement benefits. These are the same independent variables used in the first regression on income described earlier (table 4), absent SELF-EMPLOYMENT and AGRICULTURE. The dependent variables are coded one for having access to the respective benefits via the employer, and zero if the benefits are not provided by the employer. Because odds ratios are unit dependent, they are reported for reference purpose only. Instead, the size of standardized regression coefficients and associated significance tests are more reliable indicators of the relative importance of the independent variables in predicting the benefits outcome.

In all three logistic regressions, TEMPORARY is the most influential independent variable. It is positively related to free lodging and negatively related to medical and retirement benefits, confirming that resident status is an extremely important determinant of the types of benefits one receives. PERMANENT is also significant in the free lodging equation with a smaller coefficient. ABOVE SENIOR HIGH is significant and

Table 6. Logistic regression on benefits.

Independent variable ^a	Free lodging (yes = 1)			Medical (yes = 1)			Retirement (yes = 1)		
	standardized regression coeff.	Wald statistic	odds ratio	standardized regression coeff.	Wald statistic	odds ratio	standardized regression coeff.	Wald statistic	odds ratio
<i>Demographic</i>									
AGE (years)	-0.37	3.12	0.98	-0.30	1.15	0.98	0.39	1.55	1.02
*SEX (male = 1)	0.66****	16.00	1.90	0.05	0.07	1.05	0.14	0.40	1.13
EDUCATION (reference: below senior high)									
*SENIOR HIGH	-0.98****	31.92	0.31	0.16	0.51	1.21	0.58**	4.92	1.87
*ABOVE SENIOR HIGH	-1.17****	20.91	0.28	0.84***	8.55	2.42	1.64****	27.03	4.96
<i>Resident status</i> (reference: nonmigrants)									
*PERMANENT	2.66****	18.77	25.89	0.28	1.49	1.39	0.19	0.68	1.23
*TEMPORARY	4.43****	37.28	84.27	-1.96****	49.82	0.15	-2.28****	49.67	0.13
<i>Experience</i>									
NUMBER (of jobs)	-0.57***	9.32	0.85	-0.56	3.22	0.86	-0.36	1.05	0.91
DURATION (years)	-0.51	2.19	0.95	1.12****	16.19	1.11	0.81***	8.83	1.07
<i>Ownership sector</i> (reference: new-economy)									
*STATE	-0.61****	11.06	0.53	1.89****	76.90	6.63	0.80****	11.10	2.12
*COLLECTIVE	-0.39***	7.28	0.51	0.61****	10.99	2.71	0.23	1.12	1.41
<i>Occupation</i> (reference: industrial) ^b									
*PROFESSIONAL	0.07	0.09	1.09	0.27	1.24	1.40	0.52**	4.05	1.82
*COMMERCE	-0.14	0.42	0.86	-0.78**	6.15	0.44	-0.09	0.07	0.92
*SERVICES	0.37**	4.45	1.53	0.34	2.17	1.45	0.48	3.07	1.63
Model χ^2	501.80****			666.17****			554.31****		
-2 log likelihood with intercept	1531.48			1440.03			1306.93		
-2 log likelihood of model	1029.68			770.86			752.63		
ρ^2 ^c	0.33			0.46			0.42		
Percentage correctly classified	77.41			87.30			85.29		
Number of cases	1142			1142			1142		
Degree of freedom	13			13			13		

Significance levels: **0.05; ***0.01; ****0.001. ^aDummy variable. ^bThe self-employed and the agricultural occupation are not included in the analysis.

^c $\rho^2 = 1 - (-2 \log \text{likelihood of model} / -2 \log \text{likelihood with intercept})$.

is among the most important independent variables in all three equations. As expected, individuals who have had higher education are more likely to be in segments that provide medical and retirement benefits and less likely to be engaged in work that provide free lodging at work. The positive and significant coefficient of SEX in the free lodging equation suggests that men are more likely than women to have lodging provision at work.

DURATION is significant and positively related to medical and retirement benefits, denoting the correlation between experience and these benefits. The negative and significant coefficient of NUMBER in the lodging equation, however, suggests that free lodging is mostly provided to first-time and inexperienced workers—individuals who have had few job shifts.

The effects of ownership sectors are quite straightforward. Specifically, STATE is significant and positively related to medical and retirement benefits, but STATE and COLLECTIVE are significant and negatively related to free lodging. As expected, medical and retirement benefits are correlated with the state sector, and lodging provision is more typical of the new-economy sector that is dependent on migrant labor. Finally, PROFESSIONAL is positively related to retirement benefits, COMMERCE is negatively related to medical benefits, and SERVICES is positively related to free lodging. As a whole, medical and retirement benefits are associated with more established and prestigious sectors and occupations, and free lodging is associated with newer, less established, and less prestigious sectors and occupations.

Job allocation and mobility

In mature labor markets, returns to work are an important factor of individuals' choice of work and their job mobility. Given the income and benefits differentials described earlier, one would expect the state sector and self-employment to be attractive because of their respective benefits and income advantages; and professional and commerce to be popular because of their high income potential. But the institution-based barriers and opportunities in China's urban labor market are another important factor that influences labor allocation and mobility (Bian, 1994, page 109). In the following analysis I seek to examine further the opportunity structure in the labor market by comparing the ownership sectors and occupations of first-time job seekers and experienced workers among nonmigrants, permanent migrants, and temporary migrants.

By first-time job seekers, I refer to individuals whose job at the time of the survey was their first job, who accounted for 30.1% of all respondents, plus those who were agricultural workers prior to holding the present job.⁽⁶⁾ Temporary migrants who engaged in agriculture prior to moving to Guangzhou were entering the urban labor market for the first time. By experienced workers, I refer to individuals who had held nonagricultural work prior to their job at the time of the survey.

Among nonmigrants and permanent migrants, the majority of first-time job seekers entered SOEs, which suggests that they had access to institutional resources such as job assignment by state agencies, and that they were attracted to the security and benefits of state-sector employment [figures 8(a) and 8(b), over]. But the shares of SOEs declined considerably among experienced workers, whereas the shares of the new-economy and self-employed sectors increased. These shifts indicate that the nonstate sector had become more attractive to nonmigrants and permanent migrants as they changed jobs, a testimony to the increasing importance of income as a labor-market

⁽⁶⁾ Former agricultural workers accounted for more than 24% of temporary migrants but less than 5% of nonmigrants and permanent migrants.

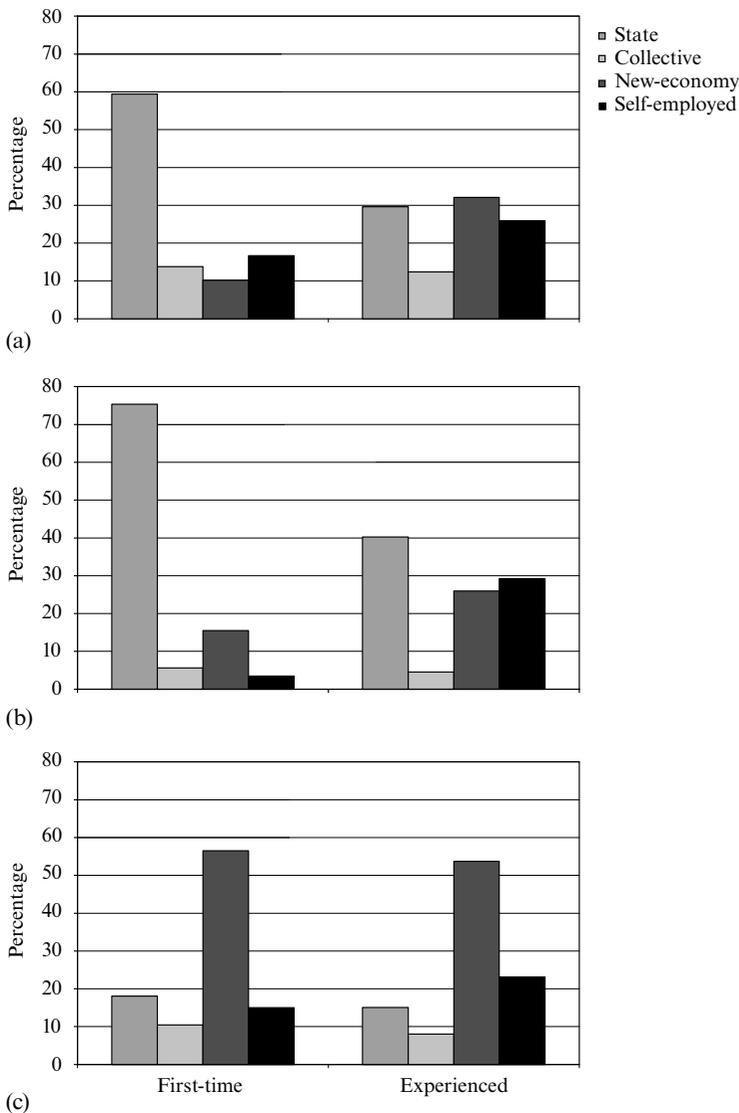


Figure 8. Sectoral shifts: 1998 Guangzhou survey: (a) nonmigrants; (b) permanent migrants; (c) temporary migrants.

factor and to the increasing diversity and complexity of Guangzhou's economic structure. The increase in self-employment among permanent migrants, from less than 4% among first-time job seekers to almost 30% among experienced workers, underscores their ability to shift to high-income opportunities.

By contrast, the majority of temporary migrants entered the new-economy sector, which continued to be the most popular destination when they changed jobs [figure 8(c)]. The increase in self-employment was small, especially compared with that of permanent migrants. Temporary migrants' concentration in the nonstate sector and their lack of mobility across sectors support the notions that they are detached from state-sponsored employment, that they have relatively few resources to shift to the most profitable segments of the labor market, and that they are faced with a relatively closed opportunity structure.

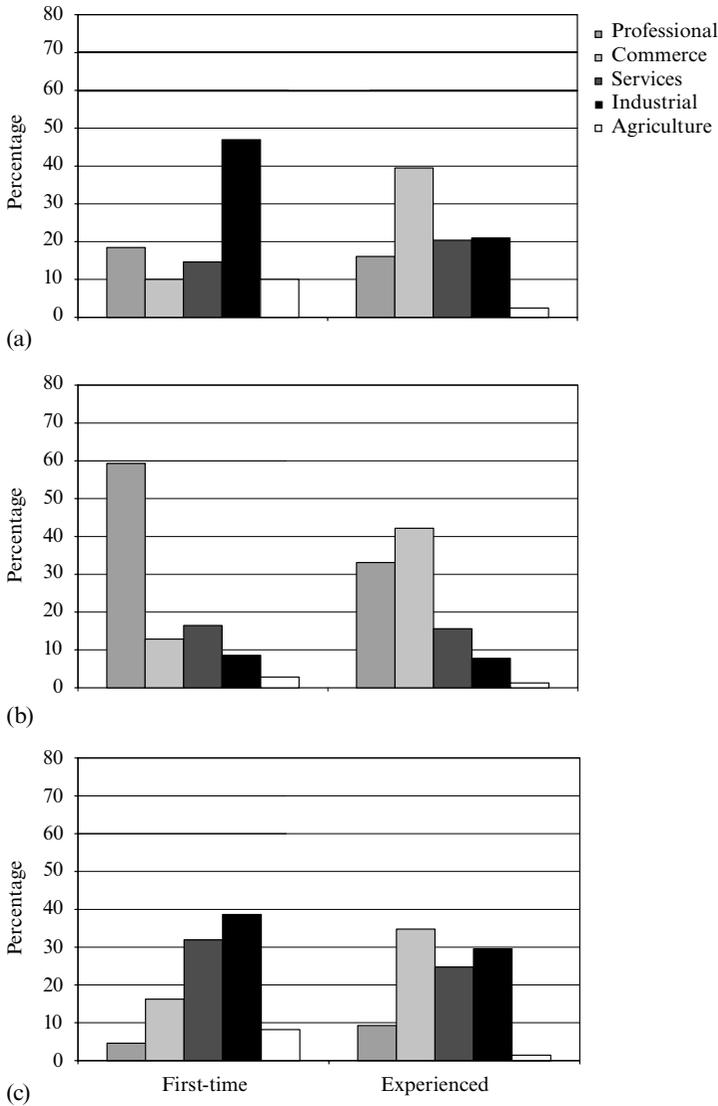


Figure 9. Occupational shifts: 1998 Guangzhou survey: (a) nonmigrants; (b) permanent migrants; (c) temporary migrants.

Though the occupational distributions of the three subpopulations are functions of the sampling framework, breakdowns of first-time job seekers and experienced workers can still shed some light on prominent factors of job mobility in the labor market. Among nonmigrants, the most popular occupation for first-time job seekers was industrial work, reflecting the industrialized economy of Guangzhou [figure 9(a)]. Among permanent migrants, it was professional work, which was partly a result of their access to institutional resources and partly a result of their high level of education [figure 9(b)]. Industrial work and services were the leading occupations for temporary migrants who were first-time job seekers [figure 9(c)]. These differences are strong evidence for the argument that entrance and access to the labor market are heavily dependent on one's resident status.

Among experienced workers, regardless of resident status, commerce was the most popular occupation to shift to (figure 9), underscoring the importance of income during job changes and the increasing commercialization of Guangzhou's economy. The concentration of permanent migrants in commerce and professional work suggests that they are the most competitive group who are well positioned to receive high incomes from their jobs [figure 9(b)]. On the other hand, the changes in occupational distribution between first-time job seekers and experienced workers were relatively small among temporary migrants, again suggesting that they were least able to undertake job shifts in order to maximize their labor-market returns [figure 9(c)]. As a result, experienced temporary migrants had the lowest proportion in professional work and the highest proportions in services and industrial work, compared with their nonmigrant and permanent migrant counterparts.

The above analysis highlights the increasing commercialization of Guangzhou's economy, the heterogeneity of its labor market, the popularity of self-employment, and the importance of income returns as a factor during job changes. But above all the findings underscore an opportunity structure defined by resident status—permanent migrants and nonmigrants enjoy state-sponsored employment resources when they first enter the urban labor market; as they change jobs, permanent migrants are especially competitive in remaining in or moving to thriving sectors and occupations, especially self-employment and commerce. Temporary migrants, on the other hand, have limited access to institutional resources and prestigious occupations when they enter the labor market, and are therefore highly represented in new-economy jobs and in services and industrial work. During job changes, temporary migrants are more sticky and are more likely to remain in the sectors and occupations they began with, and are less competitive than those with local urban hukou to shift to profitable segments such as self-employment and commerce.

Summary and conclusion

The emergence of a labor market and the increasing applications of market mechanisms have accelerated the transitional process in China. Against this backdrop, labor-market returns and their determinants are important lenses through which one can examine the most salient changes of China's urban economy. In this paper, I have argued that the urban labor market in China is segmented by resident status, and that this segmentation has brought about differential returns to urban nonmigrants, permanent migrants, and temporary migrants in the labor force. Using data from a recent survey in Guangzhou, I have shown that permanent migrants' income is substantially higher than that of the other two subpopulations, whereas temporary migrants' benefits are significantly inferior to those of nonmigrants and permanent migrants. Most importantly, the empirical analysis has shown that resident status exerts compelling effects on labor-market returns even after effects of achieved attributes such as education are held constant.

The findings of this paper support the notion that income and benefits are both important measures of labor-market returns in China. More so than in Western capitalist economies, benefits are a crucial supplement to monetary rewards and must be included in analyses of labor-market returns in China. In addition, benefits are good indicators of labor-market segmentation. For example, temporary migrants are grossly underrepresented in jobs that offer medical and retirement benefits, even if they are hired by SOEs that traditionally afford good benefits, underscoring their peripheral positions in the labor market. On the other hand, permanent migrants' good access to benefits from work is evidence of their favorable positions in the labor market that are at least partly related to their advantaged institutional status.

The distinct benefits differentials and substantial income gaps among the three subpopulations highlight the explanatory power of resident status in labor-market differentials. In this light, resident status operates much like ascribed attributes such as race and sex in Western labor markets—a status that is very difficult to change but exerts independent effects on labor-market returns.⁽⁷⁾ Empirical analyses in this paper strongly suggest that resident status is an important determinant of income and benefits even when human capital determinants are held constant. The importance of resident status further confirms the steadfast role of state institutions in China, which sustain and monitor an opportunity structure that is hierarchical and that privileges those that have urban hukou but disadvantages those that do not.

Furthermore, the findings highlight the implications of urban economic changes for labor-market returns. Decollectivization of the economy has given rise to a variety of ownership sectors, whereas diversification of the economy has promoted commerce and services. As self-employment and jobs in commerce have become increasingly profitable, permanent migrants have succeeded, more so than other subpopulations, in gaining economically by engaging in and shifting to these new sectors. Their experience suggests that their advantaged positions in the labor market, as a result of their institutional status, have had cumulative effects toward further successes in the labor market.

Though this paper has examined only one city, the findings are probably shared by many other cities in China, especially those that have a rapidly developing labor market and that have received a large number of labor migrants. In these cities, one observes the continued presence of the hukou system that differentiates the working population and divides the labor market, which not only maintains a hierarchical opportunity and reward structure but also initiates and reinforces social stratification. The cleavages that state institutions generate are further reinforced by internal migration, as temporary migrants continue to come to the cities and take up the least desirable positions and jobs. Both the prominent role of state institutions and the prevalence of internal migration suggest that segmentation and returns differentials by resident status will remain persistent features of China's urban labor market.

Acknowledgements. This research was supported by awards from the National Science Foundation (SBR-9618500), the Luce Foundation, and the UCLA Academic Senate. I would like to acknowledge the contribution by Kam Wing Chan, Ling Li, and Yunyan Yang to a collaborative project from which the data for this paper are drawn. I am grateful to Chase Langford for his cartographic assistance, and to three anonymous referees whose suggestions and criticisms helped improve an earlier version of the paper.

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(7) See also Honig (1996), Ma L J C and Xiang (1998), and Roberts (1997) for further discussion about the implications of place of origin for the construction of ethnicity in China.

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