



PSC Research Reports

Report 13-795

July 2013

Xiaogang Wu

Redrawing the Boundaries:
Work Units and Social Stratification in
Urban China

Redrawing the Boundaries: Work Units and Social Stratification in Urban China

Xiaogang Wu

Division of Social Science
Hong Kong University of Science and Technology
Clear Water Bay, Kowloon
Hong Kong SAR
Email: sowu@ust.hk

Population Studies Center Research Report 13-795
July 2013

An earlier and extended version of this paper was presented at the American Sociological Association 102nd Annual Meeting, New York City, August 11-14, 2007. The author appreciates the financial support for a research project (“Higher Education, Elite Formation, and Social Stratification in Contemporary China” [GRF 644510]) and a Prestigious Fellowship in Humanities and Social Sciences (HKUST602-HSS-12) from the Research Grants Council of Hong Kong SAR, Gloria He and Duoduo Xu’s research assistance, as well as the comments from conference participants and the suggestions from Wang Feng, Jun Li, Duoduo Xu. Direct all correspondence to Xiaogang Wu, Division of Social Science, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong SAR (email: sowu@ust.hk).

ABSTRACT

While work units continue to play an important role in shaping employees' economic rewards in urban China, the way organizational affiliations affect social stratification has undergone a subtle transformation and the distinctive boundaries among work units have been redrawn. Analysis of the data from the Chinese General Social Survey (2005) shows that, the boundaries exist mainly between government agencies/public institutions and enterprises: workers in the former sector enjoyed significantly higher income as well as more fringe benefits than their counterparts in the latter sector. Analyses using propensity score matching methods further identify the existence of organizational premiums (structural effect) on income for those who work in government agencies and public institutions. These findings shed new lights on the changing roles of the state and the market in social stratification in urban China.

Introduction

The relationship between work organization and social stratification in market economies has been well documented in previous literature (Baron 1984; Kalleberg 1988; Kalleberg and Sorenson 1979). Unlike the status attainment and human capital paradigms, which exclusively focus on individual determinants of career outcomes, the structural approach has paid more attention to the importance of organization in generating social inequality since the 1980s. Economic rewards and career opportunities are associated with specific organizational attributes, typically size and sector (e.g., Baron and Bielby 1980; Stolzenberg, 1978; Kalleberg et. al. 1981; Kalleberg 1988; Tolbert et. al. 1980). Such a pattern deviates from the neoclassical notion of labor markets, which are characterized by free flow of labor force and equal opportunities for all job seekers. To account for the failures of the market in maximizing profits in capitalist economies, scholars have proposed different theories, such as internal labor markets, dual economies, and segmentation theory, to account for how structural features of labor markets, including firms/work organizations, shape the process of socioeconomic attainment (e.g., Baron and Bieblly 1984; Cain 1976; Kalleberg 1988; Kalleberg and Sorenson 1979).

The importance of work organizations in creating social inequalities is no surprise to scholars on state socialism. In the absence of the market mechanism, work organizations played a central role in distributing resources and life chances among workers under state socialism (e.g. Burawoy and Lukacs 1985; Domanski 1988; Stark 1986; Titma and Tuma 1993). Inequalities based on organizations are phrased in terms of the political logic and redistributive power. For instance, Titma and Tuma (1993) stressed the importance of hierarchies of economic sectors in the Soviet stratification system as reflecting the political construction of opportunities. In China, the social and political roles of work organizations, known as work units or *danwei*, are said to play an important role in generating urban social inequality (Bian 1994; Walder 1986), and the advantages/disadvantages among employees associated with different organizations are conventionally construed as the structural effects of the socialist redistributive system (e.g., Bian 1994; Zhou 2000).

Nevertheless, inequality among workers in different organizations could be derived from two sources: the attributes of organization and the attributes of individuals. The former affects all employees in the same organization, irrespective of who they are. I take this organizational premium to reflect the structural/positional effect. To be certain, individual workers within the same organization are rewarded differently based on their own productivities/skills (e.g.,

education and work experiences). From the perspective of classical economics, the organizational premium should not exist if the labor market were efficient, because, on the one hand, the organizations/employers tend to maximize profits by reducing wage cost as long as other equally qualified workers are available in the market; and on the other hand, workers tend to compete for jobs with better pay (Granovetter 1981). Consequently, employees in certain organizations were paid higher not because of the structural position of the organization but because of selectivity based on individuals' attributes when the fluid labor market reaches equilibrium.

Prior to the economic reform, without a functioning labor market and much job mobility, urban inequality was largely attributable to the structural effects of work units in urban China's redistributive hierarchy. As the work units were further differentiated and urban labor markets developed during the reform, some workers may have purposely directed their job search towards more desirable work units associated with higher salaries and benefits, whereas others may have been forced to leave their work units and moved downward as a result of the substantial economic restructuring in the 1990s (Li 2012; Wu 2010). As a result, the increasing fluidity of labor market has two important implications for understanding how work organizations create structural inequality in post-socialist China. First, the boundaries of work units that define the urban inequality structure may have been shifted and redrawn, if not completely dissolved, and therefore the particular organizational attributes in determining individuals' socioeconomic attainment may have changed. Second, even if the advantages/disadvantages associated with particular attributes of work units could be observed, they should not be construed as the structural effects (i.e., organizational premium) without carefully considering how individuals are placed into organizations with such attributes.

Whereas scholars have revealed the persistent importance of work units in determining socioeconomic inequality in urban China (Wang 2008; Xie and Wu 2008; Xie, Lai and Wu 2009; Zhou 2004), it is unclear as to what extent the findings reflect the change or continuity of the work unit system. In other words, although work units may still be relevant, their mechanism for creating inequality may have undergone a subtle transformation, given the fact that the channels of resource distribution among work units have been fundamentally restructured and organizational attributes of work units that affect individuals' socioeconomic attainment may have changed.

This paper aims to empirically demonstrate how the shifting organizational boundaries generate inequality in income and entitlements to fringe benefits by investigating how socioeconomic inequality is associated with the sector of work units. It employs a counterfactual approach to estimating structural effects of work units, or organizational premium, on individuals' income after removing the selection bias. The paper concludes with discussions to shed new lights on the changing roles of the state and the market in social stratification in urban China.

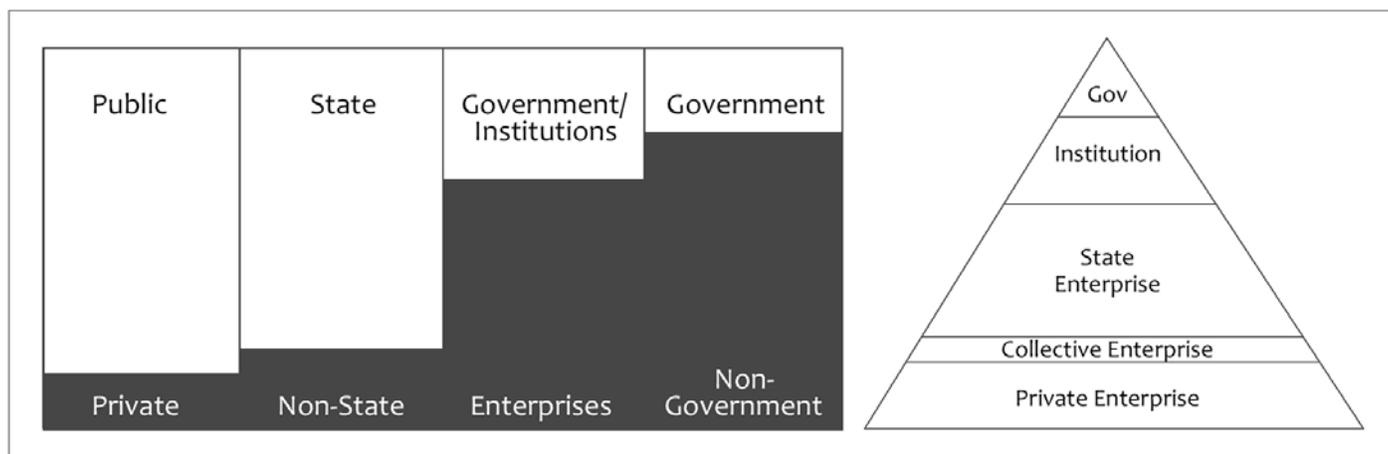
Shifting Boundaries of Work Units and Social Stratification in Urban China

Prior to the economic reform, the Chinese urban society was organized as a hierarchy, in which each work organization, be it a factory, a store, a school, or a government office, functioned as a social “unit” in the system dominated by the redistributive state.¹ Numerous studies have documented the central role of Chinese work units in social stratification (Bian 1994; Walder 1986; Whyte and Parish 1984). Under the state socialist system, a work unit's status in the redistributive hierarchy was reflected by the amount of resources it had at its disposal, which was largely contingent upon its type, ownership, and bureaucratic rank (Bian 1994).

Chinese work units were often classified into three types: party/government agencies (*dangzheng jiguan*), public institutions (*shiyue danwei*), and enterprises (*qiye danwei*). Party/government agencies were essentially the redistributors, whereas public institutions relying on government budget were the main beneficiary of the redistribution. Enterprises, which produced resources and revenues for redistribution, can be differentiated by the form of public ownership: state ownership (*guoyou qiye*) and collective ownership (*jiti qiye*). The predominantly state-owned enterprises were favored over collective enterprises for resource allocation as they were considered the economic base of the communist regime (Wang 2008). The Chinese work units once constituted a hierarchy, in which party/government agencies were at the top and collective enterprises were at the bottom, as shown in the middle of Figure 1. Each work unit also had a bureaucratic rank that supported its capacity to bargain with government offices for resources and life chances on behalf of its employees (Bian 1994; Walder 1986, 1992). The private sector, reemerging in the 1980s, had remained marginal to the stratified organizational system until the late 1990s.²

¹ In this paper, I use work organizations, work units, and *danwei* exchangeably in the context of urban China.

² According to the first Chinese Census of Basic Units conducted in 1996, there were about 0.48 million party/government agencies, 1.305 million institutions, and 3.671 million enterprises. Among enterprises, 16.8 percent were state-owned, 57.1 percent were collectively owned, with the rest mainly under private ownership (National Bureau of Statistics 1998).

Figure 1. Hierarchical and Dual Structure of Chinese Work Units

For a long period of time in the history of the People's Republic, *danwei* organizations had served an intermediate agent linking individuals to the state and conferred unequal socioeconomic status and life chances on workers, in accordance with their organizational status in the redistributive hierarchy. The structure of urban stratification was primarily characterized by the inequality between work units and relative egalitarianism within work units (Naughton 1997; Wu 2002). Employees and their family members were totally dependent upon their affiliated work units for material resources and career chances (Walder 1986, 1992). A permanent “membership” of a *danwei* was thus an important sign of social status and the main vehicle for status attainment and social mobility (Lin and Bian 1991; Wu 2001).

Such an organizational dependence of workers on their work units had changed since the economic reform in two respects. The work unit hierarchy plotted in Figure 1 had been significantly undermined by the introduction and subsequent growth of the private sector on the one hand and the decentralization of the state-owned enterprises on the other hand. As shown in Table 1, from 1996 to 2008, while the total number of registered enterprises in China grew from 2,628,000 to 4,959,000, the share of economic units in the private sector (domestic private enterprises, shareholding companies, and firms with investments from places outside China, excluding the self-employed) increased from 27.1 percent to 93.2 percent. The urban economic reform since the mid-1980s had attempted to push state-owned enterprises to the market, and the capacity of work units to generate extra revenues for distribution at their own discretion among the members was not always in line with their status in the hierarchy, defined by their sector and bureaucratic rank (Walder 1987; Wu 2002). For instance, more often than not those work units at

lower ranks and marginal to the redistributive core were involved in collective moonlight activities (Xie and Wu 2008). Moreover, with the competition from the emerging private sector since the 1990s, the state and collective enterprises had increasingly failed to make profits and thus could barely sustain themselves (Xie and Wu 2008); many small and medium-sized firms were allowed to be privatized in the late 1990s through the ownership re-structuring program, contributing to the exponential growth in the number of private enterprises from 1996 to 2008.

For social categories to exist and function, according to Tilly (1999), membership had to be explicitly defined and mobility across boundaries low. Notwithstanding that the expansion of the private sector as an alternative provider of resources and life chances had also undermined the bureaucratic coordination, not until the late 1990s when reforms in housing allocation, remuneration and social security had detached workers from their work units to a large extent and facilitate labor mobility. A nationwide policy to commercialize the urban housing sector was implemented and the direct allocation of new housing units by *danwei* was scrapped in 1998 (Li and Wang 2012); the delivery of other fringe benefits and services increasingly took the form of lump-sum cash payments, as the state further lifted its salary control on work units (Yang and Zhou 1999); and social security (pension and medical care) has now been successfully unified at the provincial level, and the coverage has been gradually extended to the private sector. Moreover, as the Chinese government had increasingly tolerated layoff and unemployment, many workers were forced to leave the public sector involuntarily and job mobility rates increased faster than before (Li 2013).

Hence, given the restructuring of the relationship among the work units and the functioning of more fluid labor markets, the significance of organization in social stratification is expected to decline over time. Xie and Wu (2008), based on the data collected in three Chinese cities in 1999, reported that the work unit sector (coded in 4 categories as government/public institutions, state, collective, and private) accounts for only a small fraction of the variance in workers' earnings. Lin and Wu (2010) analyzed waves of survey data collected between 1988 and 2005 in China and showed that three decades of economic reform had undermined the role of organizational assets tied to *danwei* ownership in social stratification (also see Jansen and Wu 2012). An alternative explanation is that organizations may still matter, but via different mechanisms. In other words, organizational attributes associated with individuals' socioeconomic attainment may have changed with the channels through which a work unit secures resources and distributes them to its members.

Table 1. The Changing Profiles of Chinese Work Units, 1996-2008

	1996	2001	2004	2008
Total # units (10,000)	440.2	510.7	516.9	709.9
Party/Gov't Agency	28	102.6	90.0	95.9
Institution (social organization)	149.4	105.5	101.9	118.1
Enterprise	262.8	302.6	325.0	495.9
Ownership	(100.0%)	(100.0%)	(100.0%)	(100.0%)
State	16.8	12.2	5.5	2.9
Collective	57.1	28.3	10.5	3.9
Private	16.9	43.7	61.0	72.5
Others	9.2	15.8	23.0	20.7

Sources: the main data reports for the first and second basic unit censuses (1996, 2001), and the first and second economic censuses (2004, 2008) (National Bureau of Statistics 1998, 2003, 2005, 2009). The census was discontinued and replaced by the economic census which has been conducted every four years on a regular basis since 2004. The economic census covers secondary and tertiary industries only. Since 2001 public institutions were reclassified and some institutions with administrative duties were included in the broader category of "government agency/institution" (*dangzheng jiguan/shiye danwei*), with the rest relabeled as "social organizations and others" (*shehui tuanti he qita*).

Take the work units' bureaucratic rank as an example. While the bureaucratic rank once played an important role in characterizing a work unit's status and bargaining power in the redistributive hierarchy in the 1980s (Walder 1992), its influence on income and benefits quickly faded away with the rapid expansion of the private sector and the further relaxation of state control over the work units in the 1990s (Walder 1992; Wu 2002). This is especially true for public enterprises, which now had to mainly rely on the market rather than bureaucratic coordination for revenues and profits. Instead, a work unit's financial situation (profitability) remains the second largest determinant of earnings only after the region/city where the work unit is located (Xie and Wu 2008), and the explanatory power of a work unit's financial situation is much greater for employees' earnings than for benefits (Xie, Lai and Wu 2009). In other words, work units continue to be important and relevant agents in social stratification in urban China, but pertaining largely to their business performance and financial situation, which are no longer stratified in accordance with their position in the redistributive hierarchy (Wu 2002; Xie and Wu 2008). The new organizational attributes coming to play thus may suggest that the concrete mechanism through which work units affect social stratification has changed in post-socialist China.

The objective information on the financial situation of a work unit, however, is not only difficult to gather but also hardly comparable across different sectors through household surveys on individual workers. While a subjective assessment on the part of the respondent, as employed by Xie and Wu (2008), provides a unified scale on the surface,³ it suffers from two problems. First, this measure is too elusive to identify organizational boundaries and characterize categorical inequality across work units. Second, the measure is no more than the subjective evaluation of respondents, which could be influenced by the income/benefits that they actually received from their work units and thereby suffers from the potential endogeneity problem in empirical analyses.

To investigate the changing mechanism of work units in social stratification, the sector may provide identifiable organizational boundaries to begin with. As discussed earlier, government/party agencies, public institutions, state-owned enterprises, and collective enterprises formed a hierarchy closely associated with individuals' socioeconomic inequality under the redistribution system. The hierarchy had remained largely intact until the recent decade,⁴ when it was gradually undermined by the substantial growth in the private enterprises, the further restructuring of public work units and their dynamic interactions. For instance, the social security system was extended to cover employees in the private sector to meet government regulations, whereas public enterprises, facing fierce market competition for survival, were able to adapt themselves and emulate their private counterparts in organizational practices such as recruitment and compensation.⁵ Firm performance in both the public and private sectors became increasingly heterogeneous and so did their abilities to reward employees. Some state enterprises had managed to prosper by taking advantage of both their monopoly position and the emerging capital markets in the form of mixed ownership (Naughton 2007; Walder 2011). Moreover, public institutions were further differentiated: some relied mainly on government budgets as the extension of state organs to provide public service, some were subsidized by the government budgets, while others were pushed to the market for survival. The ultimate goal of the reform is to create a leaner and more efficient public sector by shedding the non-essential functions and downsizing the bureaucracy (Brodsgard 2002).

³ In the survey data that Xie and Wu (2008) analyzed, the respondent was asked, "Is the economic situation of your work unit much better, better, about the same, worse, or much worse than that of other work units of this city?"

⁴ While employees in the private sector enjoyed higher income than those staying in the hierarchy in early years, the latter's lower salary was often compensated by more social benefits, job security and career opportunities.

⁵ The patron-client relationship that once characterized the unique Chinese work unit institutions has been turned into what some scholars called "managerial despotism" in the late reform era (Lee 1999).

Therefore, consistent with what Xie and Wu (2008) have reported, work units may continue to matter in social stratification, but not according to the five-sector hierarchy plotted in Figure 1. Because some sectors may have converged at a faster pace than others, the organizational boundaries may become blurred. As a result, the empirical results on the change or continuity in the role played by work units in social stratification processes are sensitive to where the boundaries are. Previous literature on China's economic transition has employed a crude classification of work units into a duality of either the public vs. private sectors or the state vs. non-state sectors (e.g., Wu 2002; Wu and Xie 2003), as illustrated in the left panel of Figure 1. The main difference between the two dichotomous classifications is the treatment of "collective enterprises", which are classified as being in the public sector but not in the state sector. Given the rapid shrinkage in both the number of units and the employment size in the collective sector, the dichotomous classification may make little difference in practice, and the increase in sectoral mobility has been driving the dual structure that characterizes urban inequality towards convergence.

As the right panel of Figure 1 shows, a distinctive boundary may also exist between government agencies/institutions and enterprises, because the former relied mainly on redistribution whereas public enterprises, no longer in the protection of the state, had to face market competition. Moreover, with further differentiation among public institutions, many were pushed to the market to generate revenue, whereas a small number continued to rely on the government budget allocation (Brodsgaard 2002). The party/government agencies themselves remained as the redistributors and their status was strengthened with the substantial growth of government revenues that could be used at their own discretion. A boundary thus can be drawn between government agencies and other non-government units (institutions, state-owned enterprises, collective enterprises, and private enterprises). I treat the redrawing of the boundaries as an empirical question and examine the meaningful classification of work units in characterizing socioeconomic inequality in urban China.

Data and Variables

The empirical analyses are based on data from the Chinese General Social Survey in 2005 (CGSS2005). The Chinese General Social Survey is an annual survey of a national representative sample of the adult population aged 18 or above in both rural and urban China except Tibet. A multi-stage stratified random sampling method is used in the survey. First, 125

principal sampling units (PSU) are selected from 2,798 counties or county-level districts, stratified by region, rural and urban populations, and education levels; then, four second-level sampling units (SSU) are selected from each selected PSU and two third-level sampling units (TSU) are selected from each selected SSU. Finally, 10 households are selected from each selected TSU. One eligible person aged 18 or above is randomly selected from each sampled household to serve as the survey respondent. The survey includes 10,372 completed interviews, with 6,098 from urban areas and 4,274 from rural areas (Bian and Li 2012).

In this article, I restrict the analysis to the urban sample for those aged between 18 and 69 who had a job and received income. I focus on income inequality among different work unit sectors to examine the organization-based stratification in urban China. The dependent variable is measured by the total amount of income (in Chinese *yuan*) the respondent received in 2004, which takes the logarithm form in the multivariate analysis. Access to fringe benefits is differentially associated with the work unit. In the survey respondents were asked whether or not their work units provide any of the seven items of fringe benefits, including public medical plan, basic medical insurance, supplemental medical insurance, basic pension insurance, supplemental pension insurance, unemployment insurance, housing or housing allowance (see details in Wang 2002). Since not every item is applicable to all workers, I select two kinds of benefits supposedly applicable to all regardless of their work units, namely, supplemental medical insurance and supplemental pension insurance, as the dependent variables. Each is coded as a dummy variable. I also count the number of benefits a respondent is entitled to, which is treated as a continuous variable (ranging from 0 to 7) in the analyses.

The key independent variable is the sector of work units, which is coded into five categories ranging from low-status to high-status in the redistributive hierarchy: 1=private sector, 2=collective enterprise, 3=state enterprise, 4=public institution and 5=government agencies.⁶ Given the fact that the boundary of work units in terms of their relations to social stratification is changing in a transition economy, I also code work units into different dichotomies in a progressive way, as illustrated in Figure 1. The first dichotomy is between the public and private sectors, with the former including all but the private sector; the second distinction lies between

⁶ The private sector includes private enterprises, foreign invested firms, joint ventures, and the self-employed. While self-employment differs from wage employment in the private sector, they both emerged outside of the redistributive hierarchy and thus could serve as the benchmark to gauge the impact of institutional reform on the work unit system (Wu 2006). In the survey data analyzed here, about 496 of the respondents are self-employed.

the state and non-state sectors, with the latter including collective enterprises. A boundary can also be drawn between government/institutions and economic sectors. Finally, a more rigid boundary can be drawn between the government and non-government sectors.

Other variables include education, party membership, gender, age and the square of age. As a conventional indicator of human capital, education is measured in four levels: 1=primary school or below, 2=junior high school, 3=senior high school/vocational school and 4=college or above. Party membership denotes political capital, which is coded as a dummy variable (yes=1). Gender is coded as a dummy variable as well (male=1). Age is a continuous variable measuring experience. The square of age is added to capture the curvilinear relationship between experience and income (Mincer 1974).

Table 2 presents summary statistics of the dependent and independent variables, for the entire sample and for the subsample in each sector. As shown in the table, the private sector had the largest share of employment (about 40 percent), followed by the state-owned enterprises (34 percent). While government employees only accounted for 3.63 percent of the total working population, they seemed to enjoy higher income and more fringe benefits, followed by employees in public institutions. For example, on average, government employees earned 17,539 *yuan* per year and received 3.21 fringe benefits, whereas employees in public institutions earned 14,195 *yuan* per year and received 3.17 fringe benefits. Workers in state-owned and collective enterprises earned the least but enjoyed more benefits than employees in the private sector. While previous studies have shown that people in the private sector earn the most among all sectors (offset by fewer benefits) (e.g., Walder 1990, 1992; Zhou 2000), this was no longer the case in urban China by 2005 (also see footnote 4).

Table 2 also shows that workers' characteristics differed across work unit sectors. Employees in government and institutions were more educated and experienced, and more likely to be a party member and male. These individual characteristics are strongly associated with higher income (Bian 1996; Walder 1990; Wu 2002; Xie and Hannum 1996; Zhou 2000). For this reason, to investigate inequality in income and access to benefits among different types of work units, I first employ the multivariate analyses with statistical controls. I then specifically identify the income premium of work units via propensity score matching analyses. Data are weighted and robust standard errors are presented adjusting for the clustering effects on 125 counties/county-level districts.

Table 2. Descriptive Statistics of Select Variables by Work Unit, Urban China, 2005

	5 types of work unit					All
	Government	Public Institutions	State enterprises	Collective enterprises	Private enterprises	
Annual income (<i>yuan</i>)	17,539.27 (11,831.84)	14195.16 (9241.368)	10967.66 (9937.83)	10038.3 (10855.31)	12731.28 (23946.16)	12250.14 (17461.53)
Logged income	9.59 (0.63)	9.33 (0.76)	9.03 (0.75)	8.86 (0.86)	8.87 (1.06)	9.001 (0.924)
Suppl. medical insurance	23.36	24.86	22.70	14.28	4.83	14.52
Suppl. Pension insurance	20.72	22.70	22.02	14.00	4.77	13.90
Total no. of benefits	3.21 (2.05)	3.17 (2.21)	3.17 (2.18)	1.99 (2.09)	0.60 (1.50)	1.958 (2.263)
Education						
Primary or lower	7.42	6.49	16.64	17.65	23.83	18.25
Junior high school	11.88	17.69	30.38	43.89	37.35	32.54
Senior high/vocational	36.73	35.44	38.37	27.55	29.15	32.93
College or above	43.97	40.39	14.62	10.91	9.66	16.28
Party membership	57.20	25.05	18.59	8.65	3.94	13.56
Male	71.90	44.16	54.65	39.78	44.24	48.11
Age	45.31 (13.19)	44.69 (13.11)	46.69 (11.97)	45.53 (12.67)	36.90 (12.36)	42.124 (13.192)
Un-weighted cases	185	600	1731	541	2034	5091
% share (un-weighted)	3.63	11.79	34.00	10.63	39.95	100.00%

Notes: Standard deviations are in parentheses. Data are weighted.

Empirical Results

1. Multivariate Analyses

The first column of Table 3 presents the results from OLS regression of logarithm of annual income on work unit sector and other selected independent variables. As expected, education is positively associated with income. Other things being equal, those with junior high school education, senior high school education, college education or above earned respectively 1.6 times ($e^{0.451}$), 2.1 times ($e^{0.723}$), and 3.3 times ($e^{1.206}$) more than those with primary school education or below. The effect of age on income was curvilinear: it first increased and then decreased. Party members earned 10.4 percent ($e^{0.099}-1$) more than non-party members, whereas men enjoyed a net income advantage over women of 36 percent ($e^{0.309}-1$). All these effects are statistically significant ($p<0.05$).

After controlling for the effects of individual characteristics, income differentials were no longer in line with the hierarchy of work unit sector. Only government employees enjoyed net income advantages (of 24.2 percent [$e^{0.218}-1$]) over employees in the private sector, and the difference is statistically significant ($p<.05$). Workers in public institutions enjoyed 11 percent ($e^{0.105}-1$) higher income than their counterparts in the private sector, but the difference is no longer significant. Workers in state and collective enterprises did not differ significantly in earnings from workers in the private sector.

In multi-group comparisons, the results could be different if a different reference group is chosen (Jann 2005; Xie and Wu 2005). While only government employees earned significantly more than workers in the private sector, separate tests show that the differences in coefficients between institutions and state-owned enterprises, and between institutions and collective enterprises are all statistically significant. These results suggest that the disparity seems to exist mainly between government/institutions and enterprises (economic sector).

To simplify the comparisons, I proceed in the analyses with several dichotomous classifications of the work unit sector, as previously discussed. I first combine collective enterprises, state-owned enterprises, institutions, and government to represent the public sector and leave private enterprises, foreign invested enterprises, self-employment and others to denote the private sector, with the same set of other independent variables. I then compare the state work unit (state-owned enterprises, institutions, and government) with the non-state unit (collective enterprises and the private sector).

Table 3. Ordinary Least Square Estimates of Monthly Income for Different Work Units, Urban China, 2005

Variables	5 types of work unit	Public vs. private	State vs. non-state	Government/Institutions vs. enterprises	Government vs. non-government
Work unit type					
Collective enterprises	-0.043 (0.058)	0.021 (0.050)			
State enterprises	0.006 (0.056)		0.051 (0.047)		
Institutions	0.105 (0.063)			0.133** (0.045)	
Government	0.218* (0.084)				0.194** (0.065)
Education Primary school [omitted]					
Junior high school	0.451*** (0.056)	0.451*** (0.056)	0.448*** (0.057)	0.447*** (0.058)	0.455*** (0.058)
Senior high or vocational school	0.723*** (0.061)	0.735*** (0.061)	0.725*** (0.062)	0.721*** (0.061)	0.738*** (0.062)
College or above	1.206*** (0.075)	1.241*** (0.074)	1.227*** (0.074)	1.202*** (0.072)	1.239*** (0.070)
Age	0.022* (0.009)	0.022* (0.009)	0.021* (0.009)	0.022* (0.009)	0.023* (0.009)
Age ² *10	-0.002* (0.000)	-0.002* (0.000)	-0.002* (0.000)	-0.002* (0.000)	-0.003* (0.000)
Party member	0.099** (0.033)	0.127*** (0.035)	0.121*** (0.034)	0.110** (0.033)	0.107** (0.033)
Male	0.309*** (0.030)	0.309*** (0.030)	0.307*** (0.030)	0.313*** (0.030)	0.306*** (0.030)
Constant	7.779*** (0.195)	7.771*** (0.193)	7.793*** (0.198)	7.779*** (0.205)	7.761*** (0.204)
Observations	5,091	5,091	5,091	5,091	5,091
R-squared	0.236	0.233	0.234	0.236	0.235

Notes: Standard errors, in parentheses, have been adjusted for clustering effect on counties. Data are weighted. *p<0.05; **p<0.01; ***p<0.001 (two-tailed tests).

Results in Table 3 show that neither the income difference between the public sector and the private sector nor that between the state sector and the non-state sector is statistically significant. Moreover, if the distinction is drawn between government/institutions and economic sectors (including state, collective, and private), as shown in the fourth column, people working in government/institutions earned significantly (14.2 percent ($e^{0.133}-1$)) more than their counterparts in enterprises, holding constant all other factors ($p<.01$). Finally, the boundary can also be demarcated between government and non-government sectors, and results in the last column of Table 3 show that employees in government earned 21.4 percent ($e^{0.194}-1$) more than those in the non-government sector, and the advantage is statistically significant ($p<.001$). Therefore, the work unit boundaries that shape income inequality seem to lie mainly between government/institutions and economic sectors.

One of the essential features of Chinese work units is the provision of fringe benefits. Table 4 presents estimated coefficients for the binary logit models on the provision of two benefits, supplementary medical insurance and supplementary pension, and for the OLS regression models on the total number of entitled benefits.

Results show that, employees in collective enterprises, state-owned enterprises, institutions, and government were all significantly more likely to receive supplemental medical insurance and supplemental pension insurance than those working in the private sector. They also tended to receive more benefits than workers in the private sector. Again, if the five sectors of work unit are combined into two categories along different boundaries, distinctions in terms of access to fringe benefits exist between the public and private sectors and between the state and non-state sectors. Consistent with findings by Xie, Lai and Wu (2009), the distribution of fringe benefits seems to be more dependent upon the previous work unit system than the distribution of income, which is more responsive to the emerging market. To be certain, if both income and benefits are taken into account, the advantages enjoyed by workers in government/institutions over workers in the economic sector become even more evident.

2. Propensity Score Matching Analyses

As previously discussed, people were differentially sorted into work units based on such attributes as education and party membership, which may also affect income. Without balancing these attributes, a comparison of mean income among groups based on the OLS estimation may be biased. For instance, one may argue that the income advantages of workers in government/institutions may be due to the selection effect, rather than the positions in the hierarchy the government/institutions occupy.

Table 4. Binary Logit Models on the Provisions of Medical Benefits, Pension and Total Number of Benefits for Different Types of Work Units, Urban China, 2005

	5 types of work unit	Public vs. private	State vs. non-state	Government/Institutions vs. enterprises	Government vs. non-government
<u>Supplemental medical insurance</u>					
Work Unit Sector (Private sector [omitted])					
Collective enterprises	3.119*** (0.564)	4.295*** (0.795)			
State enterprises	4.828*** (1.072)		3.156*** (0.576)		
Institutions	4.284*** (0.899)			1.340* (0.197)	
Government	3.623*** (1.062)				1.032 (0.235)
<u>Supplemental pension insurance</u>					
Work Unit Sector (Private sector [omitted])					
Collective enterprises	2.960*** (0.587)	4.039*** (0.715)			
State enterprises	4.636*** (0.953)		3.007*** (0.548)		
Institutions	3.799*** (0.818)			1.229 (0.164)	
Government	3.268*** (0.932)				0.983 (0.233)
<u>Total number of benefits</u>					
Work Unit Sector (Private sector [omitted])					
Collective enterprises	1.118*** (0.142)	1.827*** (0.126)			
State enterprises	2.144*** (0.150)		0.388*** (0.097)		
Institutions	1.816*** (0.190)			0.114 (0.119)	
Government	1.714*** (0.253)				-0.050 (0.195)

Notes: Figures in parentheses are standard errors adjusted for clustering effect on counties. Data are weighted. The coefficients for other control variables (education, party membership, gender, age, and age²) are omitted to conserve space. * p<.05; ** p<.01; *** p<.001 (two-tailed tests).

To advance the inquiry into the causal effect of the work-unit sector on income advantages, I re-conceptualize the substantive problem within an explicit counterfactual framework (Winship and Morgan 1999). Using the jargon from the causal inference literature, I consider two “treatments” in the study: entry to the government/institutions, and entry to the government sector. For the first treatment, the “control” group includes workers in the economic sector. For the second treatment, the “control” group includes workers in the non-government sector.

In the following analyses, I employ the propensity score matching method, instead of conventional regression models, to obtain the semi-parametric and non-parametric estimators of causal effects of certain work unit sector on income. With this method, one can first summarize all the differences between the treatment and control groups along a single dimension, the probability/propensity of receiving a particular treatment, and then match the two groups with similar propensity scores.⁷ With the balance achieved between the treatment and control groups in propensity and covariates, the average treatment effect on income can then be calculated (Guo and Fraser 2010). Table 5 presents the description of the two treated groups and estimated coefficients for related individual characteristics in the logistic regression model predicting propensity scores.

Results of the average treatment effect (ATE) or the average treatment effect on the treated (ATT) from various ways of matching are shown in Table 6, and p values indicate whether the effect is statistically significant (Sascha and Ichino 2002). The income distinctions between government/institutions and economic sectors and between government and non-government sectors were consistent. Net of their individual characteristics, workers in government/institutions enjoyed an income advantage, ranging from 16 percent ($e^{0.149}-1$) to 31.5 percent ($e^{0.274}-1$), and workers in government enjoyed an income advantage, ranging from 21.4 ($e^{0.194}-1$) percent to 32.4 ($e^{0.281}-1$) percent, depending on the method of matching. Hence, there is clear evidence that a structural effect exists for those working in the government and institutions over those working in other work units.

⁷ To render the matching estimates unbiased for the true average treatment, the observable characteristics are assumed to be exhaustive; that is, no other important covariates affect the propensity of receiving the treatment. This is known as the ignorability assumption (Rosenbaum and Rubin 1984).

Table 5. Sample Description and Logistic Regression Models Predicting Propensity Scores

	Government/Institutions vs. enterprises			Government vs. non-government		
	Percentage of Treated	Bivariate χ^2 Test	Logistic regression	Percentage of Treated	Bivariate χ^2 Test	Logistic regression
Education						
Primary or below	7.79	<.0001		1.40	<.0001	
Junior high school	12.91		2.432***	3.18		2.494***
Senior high/Vocational	26.30		6.910***	6.22		3.608***
College or above	42.36		14.347***	12.74		6.135***
Age	--	<.0001	1.036***	--	.0001	1.018*
Party membership						
Party member	34.81	<.0001	2.378***	14.07	<.0001	5.387***
Non-party member	12.45			2.04		
Gender						
Male	16.23	0.127	0.758*	5.38	<.0001	1.721**
Female	14.69			2.06		
Constant			0.014***			0.003***
Observations			5,091			5,091

Notes: Standard errors are in parentheses, adjusted for clustering effect on counties. Data are weighted. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 6. Average Treatment Effect (ATE) on the Logarithm of Annual Income for Different Matching Schemes

	Government/institutions vs. enterprises		Government vs. non-government	
	ATE	P-value	ATE	P-value
1. Mahalanobis matching with p-score added	0.168	0.002	0.281	0.002
2. Nearest neighbor matching using caliper	0.149	0.006	0.225	0.007
3. Kernel-based matching	0.176	0.000	0.194	0.000
4. Optimal pair matching	0.274	0.000	0.268	0.001
5. Optimal full matching	0.273	0.000	0.226	0.001

Notes: See Guo and Fraser (2010) for detailed references on different matching schemes. For kernel-based matching, the Average Treatment Effect for the Treated (ATT) is presented. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Summary and Conclusions

Chinese work units had once played an important role in conferring unequal socioeconomic status and life chances on workers, according to their position in the redistributive hierarchy. Such an organizational hierarchy had been significantly undermined by substantial growth of the private sector, the fundamental reform of the state-owned enterprises, and the dynamic interactions between the two sectors since the late 1990s. As a result, the stratification of the resources that a work unit can have access to became less dependent on bureaucratic coordination but more dependent on how well the work unit can adapt to the market competition, especially in the economic sector. The restructuring of work units had also detached workers from their work units and accelerated job mobility, especially from the public sector to the private sector via massive layoffs. Against this backdrop, the distinctive boundaries of organizational attributes that characterize individuals' socioeconomic attainment had been redrawn.

Analysis of the data from the Chinese General Social Survey in 2005 confirms this prediction. While the work unit sector continued to be an important source of income inequality, the sectoral differentials no longer formed a hierarchy with government agencies at the top, the collective enterprises the bottom within the public sector, and the private sector clinging to the side. Workers in the government and institutions now enjoy income advantages over their counterparts in the private sector, but workers in both state-owned enterprises and collective enterprises do not enjoy such advantage. The main boundaries among different work units seem to exist mainly between the government/institutions and enterprises, whereas the dual structure of either the public and private sectors or the state and non-state sectors seems to have moved towards convergence. On the other hand, the boundaries pertaining to the entitlement to fringe benefits continued to be drawn between the public and private sectors and between the state and non-state sectors. Altogether, the advantages enjoyed by workers in government/institutions became even more salient. Using the propensity score matching methods, I have identified the organizational premiums (structural effect) on income for those who worked in government/institutions even after removing individual-level selection bias.

The findings suggest both changes and continuity of work units and the evolving role of organizations in social stratification in urban China. Enterprises of different ownerships no longer formed a hierarchy and their economic performance became more heterogeneous. Other organizational attributes came to play their own roles. For example, employment size was found

to have an independent effect on employees' earnings (Li 2012). Within the state economic sector, only the workers in certain monopoly industries enjoyed socioeconomic advantages over those in the non-state sector (Li and Gu 2011). Hence, along with the dismantling of the redistributive economy, the significance of work units in social stratification seems not to have declined but instead been transformed into the role played by firms/work organizations in capitalist economies.

While the state enterprises had been granted more autonomy in human resource decisions, an ambitious reform of the institutional structure of China's administrative system was launched in 1998, with an attempt to define the core functions of the state and its governing organs and to create a leaner and more efficient public sector without giving up the party-state control. The institutional reform has involved the fixing of personnel quota or *bianzhi*, through which the state exercises strict control over the number of state-salaried employees in government and public institutions.⁸ The implementation of the civil servant system further differentiated government employees from staff in other public institutions and created a rigid group boundary with differential entitlements.⁹ Thanks to the rapid economic growth and increased revenue in recent decades (Ding 2010), the Chinese government has strengthened its role as the redistributor and its capacity in spending more resources to fund public services and to reward its own staff/employees. Hence, the revival of the party-state in resource distribution and social stratification has been observed in urban China, even as early as 2005.

⁸ The term *bianzhi* refers to the authorized number of personnel (the number of established posts) in a *danwei*. According to Brødsgaard (2002, p365), among those people with *bianzhi* on the state payroll in 2000, about one third worked in the government/party agencies and about two thirds worked in public institutions. State enterprises also have a *bianzhi* system, but under a different category, and their salaries and benefits are largely associated with the economic performance of their work units.

⁹ It is thus not surprising that so many college graduates in China now are line up to take the national civil service exam. In 2012, a record of 1.1 million students took the exam, 13 percent more than in 2011. A recent survey in 2010 shows that two-thirds of Chinese college graduates say that they want to work either in the government or big state-owned firms, which are seen as recession-proof, rather than the private companies that have powered China's remarkable economic growth (Davis 2003).

References

- Baron, James N. 1984. "Organizational Perspectives on Stratification." *Annual Review Sociology* 10:37-69.
- Baron, James N. and William T. Bielby. 1980. "Bring the Firms Back in: Stratification, Segmentation, and the Organization of Work." *American Sociological Review* 45:737-65.
- Beck, E. M., Patrick M. Horan and Charles M. Tolbert II. 1978. "Stratification in a Dual Economy: A Sectoral Model of Earnings Determination." *American Sociological Review* 43:704-20.
- Becker, Sascha O. and Andrea Ichino. 2002. "Estimation of Average Treatment Effects Based on Propensity Scores." *The Stata Journal* 2: 358-77.
- Bian, Yanjie. 1994. *Work and Inequality in Urban China*. Albany, NY: SUNY.
- Bian, Yanjie and Lulu Li. 2012. "The Chinese General Social Survey (2003-2008): Sample Designs and Data Evaluation." *Chinese Sociological Review* 45(1):70-97.
- Bian, Yanjie, Xiaoling Shu, and John R. Logan. 2001. "Communist Party Membership and Regime Dynamics in China." *Social Forces* 79:805-841.
- Brødsgaard, Kjeld Erik. 2002. "Institutional Reform and the *Bianzhi* System in China." *The China Quarterly* 170: 361-86.
- Burawoy, Michael. and J. Lukacs. 1985. "Mythologies of Work: A Comparison of Firms in State Socialism and Advanced Capitalism." *American Sociological Review* 50:723-37.
- Cain, Glen G. 1976. "The Challenge of Segmented Labor Market Theories to Orthodox Theory: A Survey." *Journal of Economic Literature* 14: 1215-57.
- Davis, Bob. 2013. "Chinese Grads Play Safe, Lose Out." *The Wall Street Journal* (Asia Edition) March 27 (Wednesday), Vol. XXXVII No 143.
- Ding, Xueliang 2010. *Bianlu Zhongguo Moshi (Debating the Chinese Model)*. Beijing: Social Science Academic Press (in Chinese).
- Guo, Shenyang and Mark W. Fraser. 2010. *Propensity Score Analysis Statistical Methods and Applications* Thousand Oak, CA: Sage
- Granovetter, Mark S. 1981. "Toward a Sociological theory of Income Coming Differences." Pp. 11-47 in Berg, Ivar., ed. 1981. *Sociological Perspectives on Labor Markets*. New York: Academic Press.
- Holland, Paul W. 1986. "Statistics and Causal Inference" (with discussion). *Journal of American Statistical Association* 81:945-960
- Jann, Ben 2005. "Comment: Earnings Returns to Education in Urban China: A Note on Testing Differences among Groups." *American Sociological Review* 70(5): 860-64.

- Jansen, Wim and Xiaogang Wu. 2012. "Income Inequality in Urban China, 1978-2006." *Chinese Sociological Review* 45 (1):3-27.
- Kalleberg, Arne L. 1988. "Comparative Perspectives on Work Structure and Inequality." *Annual Review of Sociology* 14: 203-25.
- Kalleberg, Arne L. and Ivar Berg 1990. *Work and Industry: Structure, Market and Processes* New York and London: Plenum Press.
- Kalleberg, Arne L. and Aage B. Sorensen. 1979. "The Sociology of Labor Markets." *Annual Review of Sociology* 5: 351-79.
- Kalleberg, Arne L., Michael Wallace and Robert Althausen. 1981. "Economic Segmentation, Worker Power, and Income Inequality." *American Journal of Sociology* 87:651-83.
- Lee, Ching Kwan. 1999 "From Organized Dependence to Disorganized Despotism: Changing Labor Relations in Chinese Factories." *The China Quarterly* 157: 44-71.
- Li, Jun and Yanfeng Gu 2011 "Hukou-based Stratification in China's Urban Labor Market." *Sociological Studies* 2 [in Chinese]
- Li, Jun 2012. *Three Essays on the Dynamics of China's Urban Labor Market: Hukou-based Stratification, Size-earnings Relation and Sector-segmented Mobility* PhD dissertation, Division of Social Science, Hong Kong University of Science and Technology
- _____, 2013. "Job Mobility in Post-reform Urban China." *Chinese Sociological Review* [in press]
- Li, Jun and Hongbo Wang. 2012. "Home Ownership and Political Participation in Urban China" *Chinese Sociological Review* 44 (4): 58-81
- Lin, Nan and Yanjie Bian. 1991. "Getting Ahead in Urban China." *American Journal of Sociology* 97: 657-88.
- Lin, Thung-hong and Xiaogang Wu 2009. "The Transformation of the Chinese Class Structure, 1978-2005." *Social Transformations in Chinese Societies* 5:81-116
- Manski, Charles. 1995. *Identification Problems in the Social Sciences*. Boston, MA: Harvard University Press.
- Mincer, Jacob A. 1974. *Schooling, Experience, and Earnings* New York, NY: Columbia University Press
- National Bureau of Statistics, 1998 "Bulletin on the First Census of Basic Units." available at http://www.stats.gov.cn/tjgb/jbdwpcgb/qgjbdwpcgb/t20020331_15499.htm accessed on March 17, 2013
- _____. 2003 "Bulletin on the Second Census of Basic Units." Available at http://news.xinhuanet.com/zhengfu/2003-01/17/content_694482.htm accessed on March 17, 2013
- _____. 2005. "Bulletin on the Main Data of the First National Economic Census" available at http://news.xinhuanet.com/fortune/2005-12/06/content_3883969.htm accessed on March 17, 2013
- _____. 2009. "Bulletin on the Main Data of the Second National Economic Census" available at http://www.stats.gov.cn/tjfx/fxbg/t20091225_402610155.htm accessed on March 17, 2013

- Naughton, Barry 1997. "The Economic Foundation of a Unique Institution." Pp169-194 in Xiaobo Lu and Elizabeth J. Perry. ed. 1997. *Danwei: the Changing Chinese Workplace in Historical and Comparative Perspective*. Armonk, NY: M. E. Sharpe.
- Naughton, Barry 2007. *The Chinese Economy: Transitions and Growth*, Cambridge MA: MIT Press.
- Rosenbaum, Paul R. and Donald B. Rubin. 1984. "Reducing Bias in Observational Studies Using Subclassification on the Propensity Score." *Journal of American Statistical Association* 79: 516-24.
- Sorensen, Aage B. 1996. "The Structural Basis of Social Inequality." *American Journal of Sociology* 101:1333-65.
- Stark, David. 1986. "Rethinking International Labor Markets: New Insights from a Comparative Perspective." *American Sociological Review* 51:492-504.
- Stolzenberg, Ross M. 1978. "Bringing the Boss back in: Employer Size, Employee Schooling, and Socioeconomic Achievement." *American Sociological Review* 43:813-28.
- Titma, Mikk and Nancy Brandon Tuma. 1993. "Stratification Research in a Changing World." Pp 225-54 in *Eastern European Societies at the Threshold of Change*, edited by J. Szmataka, Z. Mach, and J. Mucha. Edwin Mellen Press.
- Tilly, Charles. 1998. *Durable Inequality*. Berkeley, CA: University of California Press
- Tolbert, Charles, Patrick M. Horan and E. M. Beck. 1980. "The Structure of Economic Segmentation: A Dual Economic Approach." *American Journal of Sociology* 85: 1095-1116.
- Walder, Andrew G. 1986. *Communist Neo-Traditionalism: Work and Authority in Chinese Industry*. Berkeley: Univ. of California Press.
- _____, 1987. "Wage Reform and the Web of Factory Interests." *The China Quarterly* 109:22-41.
- . 1992. "Property Rights and Stratification in Socialist Redistributive Economies." *American Sociological Review* 57:524-39.
- . 1995. "Career Mobility and the Communist Political Order." *American Sociological Review* 60:309-28.
- Walder, Andrew G. and Bobai Li and Donald J. Treiman. 2000. "Politics and Life Chances in a State Socialist Regime: Dual Career Paths into the Urban Chinese Elite: 1949 to 1996." *American Sociological Review* 65: 191-209.
- Walder, Andrew G. 2011 "From Control to Ownership: China's Managerial Revolution." *Management and Organization Review* 7(1): 9-38
- Wang, Feng. 2008. *Boundaries and Categories: Rising Inequality in Post-Socialist Urban China*. Palo Alto, CA: Stanford University Press.
- Wang, Mengkui 2002. *Restructuring China's Social Security System* Beijing: Foreign Language Press

- Whyte, Martin K. and William Parish. 1984. *Urban Life in Contemporary China*. Chicago, IL: University of Chicago Press.
- Winship, Christopher and Stephen L. Morgan. 1999. "The Estimation of Causal Effects from Observational Data." *Annual Review of Sociology* 25: 650-707.
- Wu, Xiaogang. 2001. *Institutional Structure and Social Mobility in China*. PhD Dissertation, Department of Sociology, University of California, Los Angeles.
- _____. 2002. "Work units and Income inequality: The Effect of market Transition in Urban China." *Social Forces* 80: 1069-99.
- _____. 2006. "Communist Cadres and Market Opportunities: Entry to Self-Employment in China, 1978-1996." *Social Forces* 85 (1): 389-411.
- _____. 2010. "Voluntary and Involuntary Job Mobility and Earnings Inequality in Urban China, 1993-2000." *Social Science Research* 39: 382-95
- _____. 2011. "Three Decades of Social Changes in China, 1978-2008," Pp. 51-89 in *Handbook of Contemporary China*. Edited by Alvin So and William Tay, World Scientific.
- Wu, Xiaogang and Xie Yu. 2003. "Does the Market Pay Off? Earnings Returns to Education in Urban China." *American Sociological Review* 68:425- 42.
- Wu, Xiaogang and Donald J. Treiman. 2004. "The household Registration System and Social Stratification in China: 1955-1996." *Demography* 41: 363-84.
- Xie, Yu and Emily Hannum. 1996. "Regional Variation in Earnings Inequality in Reform-Era Urban China." *American Journal of Sociology* 102: 950-92.
- Xie, Yu, Qing Lai and Xiaogang Wu 2009. "Danwei and Social Inequality in Contemporary Urban China." *Research in Sociology of Work* 19: 283-308
- Xie, Yu and Xiaogang Wu. 2005. "Reply: Market Premium, Social Process, and Statisticism." *American Sociological Review* 70: 865- 70.
- Xie, Yu and Xiaogang Wu. 2008 "Danwei Profitability and Earnings Inequality in three Chinese Cities." *The China Quarterly* 200 (December):1033-1052
- Yang, Xiaomin and Yihu Zhou. 1999. *Zhongguo Danwei Zhidu (The Chinese Work-unit System)*. Beijing: China Economy Press (in Chinese).
- Zhou, Xueguang. 2000. "Economic Transformation and Income Inequality in Urban China: Evidence from Panel Data." *American Journal of Sociology* 105: 1135-74.
- Zhou, Xueguang 2004. *The State and Life Chances in Urban China*. Cambridge: Cambridge University Press
- Zhou, Xueguang and Nancy B. Tuma and Phyllis Moen. 1997. "Institutional Change and Job-shift Patterns in Urban China: 1949 to 1994." *American Sociological Review* 62: 339-65.



PSC Research Reports

The **Population Studies Center** (PSC) at the University of Michigan is one of the oldest population centers in the United States. Established in 1961 with a grant from the Ford Foundation, the Center has a rich history as the main workplace for an interdisciplinary community of scholars in the field of population studies.

Currently PSC is one of five centers within the University of Michigan's Institute for Social Research. The Center receives core funding from both the Eunice Kennedy Shriver National Institute of Child Health and Human Development (R24) and the National Institute on Aging (P30).

PSC Research Reports are **prepublication working papers** that report on current demographic research conducted by PSC-affiliated researchers. These papers are written for timely dissemination and are often later submitted for publication in scholarly journals.

The **PSC Research Report Series** was initiated in 1981.

Copyrights for all Reports are held by the authors. Readers may quote from this work (except as limited by authors) if they properly acknowledge the authors and the PSC Series and do not alter the original work.

Population Studies Center
University of Michigan
Institute for Social Research
PO Box 1248, Ann Arbor, MI 48106-1248 USA
www.psc.isr.umich.edu