DANWEI AND SOCIAL INEQUALITY IN CONTEMPORARY URBAN CHINA

Yu Xie,
University of Michigan

Qing Lai, and
University of Michigan

Xiaogang Wu
Hong Kong University of Science and Technology

Abstract

Prior research showed that *danwei*, the work unit, was very important in determining workers' social, economic, and political lives in pre-reform urban China. In this paper, we argue that *danwei* continues to be an agent of social stratification in contemporary urban China. Using data from a 1999 survey we conducted in three large Chinese cities, Wuhan, Shanghai, and Xi'an, we assess the extent to which workers' socioeconomic well-being depends on the financial conditions of their *danwei*. Results show that the financial situation of *danwei* remains one of the most important determinants of earnings and benefits. However, the explanatory power of *danwei*'s financial situation is much greater for earnings than for benefits.

Introduction

Walder's (1986) pioneering work on pre-reform China demonstrated well that the role of *danwei* prior to the economic reform was all-encompassing for urban citizens: *Danwei* defined one's social, economic, and political life. Individuals depended on *danwei* for almost everything, a phenomenon referred to as "organized dependency." The post-1978 economic reform has changed, but not diminished, the role of *danwei*. Certain functions of *danwei* in pre-reform China have been displaced or at least substantially weakened by the market, including housing provision, food rationing, entertainment provision, and political rights conferment. Non-state economic entities, such as private firms and joint ventures with foreign firms, have appeared and gained more prominence in the economy. Even state-owned or state-transformed employers, such as large public-traded firms, universities, and hospitals have now lost their previous characters as all-encompassing *danwei*. Technically, they are no longer part of the state's command economy, which was characterized by "soft-budget" constraints (Kornai 1986). It is thus an open question whether *danwei* continue to play an important role in determining social stratification in reform-era urban China.

Before we attempt to answer this question, we observe that the government, especially local government, continues to play a strong role in the Chinese economy. At least at the local level, business interests are allied closely with government interests. In the words of Oi (1995, p. 1137), "local governments in China [are] fully fledged *economic* actors, not just administrative-service providers as they are in other countries." Oi (1992) has termed the merger of state and

economy at the local level "local state corporatism." One important reason for this merger is that the local government has a vested interest in promoting local economic interests so that it can provide welfare and public services to its population. While Oi's work focused on rural China, her characterization can be readily extended to urban China. A concrete manifestation of the *danwei* system is that an employer in contemporary China may not wish to maximize profits by reducing labor costs as low as the labor market equilibrium would allow (Xie and Wu 2008). Rather, it may be interested in protecting the economic interests of current employees by paying them at levels substantially higher than may be justified by market competition. Thus, Xie and Wu (2008) show that workers earnings are strongly affected by their *danwei*'s financial conditions.

In this paper, we argue -- and demonstrate with survey data -- that *danwei*, the work unit, continues to be a main agent of social stratification in contemporary urban China. Using data from a 1999 survey we conducted in three large Chinese cities, Wuhan, Shanghai, and Xi'an, we assess the extent to which workers' earnings and benefits depend on their *danwei*'s financial conditions. We draw heavily from our earlier work on the relationship between *danwei*'s financial conditions (referred to as "*danwei* profitability" then) and earnings inequality (Xie and Wu 2008) but provide additional results on the role of *danwei*'s financial conditions in determining three other indicators of well-being, i.e., benefits that were provided by *danwei* in pre-reform China: medical benefits, housing conditions, and pensions for retirees. Taken as a whole, our results reveal that *danwei* financial conditions continue to be one of the most important determinants of social inequality in urban China as of the late 1990s, although the explanatory power of *danwei* is much greater in explaining earnings than in explaining benefits.

Theoretical Issues

Danwei in pre-reform China

The dominant view among Western scholars on contemporary China traces the origin of the Chinese *danwei* system either to the Communist movement in China or to the corporate culture of the Republic period (Lü and Perry 1997). However, some scholars in China believe that *danwei* can also be seen as a modern incarnation of the bureaucratic system that played a central role in the very long history of imperial China.

Liu, author of *Danwei China* (Liu 2000), expresses this view forcefully. After agreeing with Weber's (1951) observation that cities in ancient China were set up less as commercial centers, as in the Europe, than as political and military centers representing the emperor, Liu remarks (p.101),

> As a result, the establishment of the *danwei* system does not contradict the cultural and social logic of Chinese society. Instead, it is a structural manifestation of this logic. From ancient times, Chinese cities possessed a variety of the political, economic, and moral elements of *danwei*; these cultural properties have now been transplanted to the contemporary urban *danwei*. Thus, to understand the properties of the contemporary and urban version of the *danwei* system, one cannot overlook the historical tradition."

From this perspective, *danwei* now serve the mediation role between the central court and the general population – a crucial role played by assigned bureaucratic officials in imperial China (not the noble class as in Europe) (Sun 2004). In the governance system of imperial China, local officials were not judged on how closely they followed orders from above, but on how well they provided for the well-being of the populations under their governance. The ideal official was someone considered to be a true "father and mother" of the people (Nylan 1996).

Sociologists have long studied *danwei* and its importance in contemporary China (Bian 1994; Walder 1986; Whyte and Parish 1984). Prior to the economic reform in China, practically all urban workers were organized as part of a *danwei*, be it a factory, a store, a school, or a government office. The *danwei* organizations had multiple social, political, and economic functions, providing employees with a permanent "membership" of life employment (Naughton 1997; Hussain 2000). Workers and their families were totally dependent upon their affiliated work units for material resources and career chances (Walder 1986, 1992). The Chinese urban society was organized as a hierarchy, in which each work organization functioned as a social "unit" in a system dominated by the state. Indeed, membership in a *danwei* was an important sign of social status and an important vehicle for status attainment and social mobility (Lin and Bian 1991).

Danwei differed in their capability of providing for workers (Bian 1994; Liu 2000). Government and party agencies were *de facto* redistributors. State-owned work units had priority in acquiring resources from the government so as to provide housing and subsidized coupons to their employees. In general, the closer a *danwei* was to the state administrative hierarchy, the more power it had in bargaining with central planners, and thus the more material resources it had at its disposal for dispensing goods and services to workers (Bian 1994; Li and Li 2000; Walder 1986, 1992).

In pre-reform urban China, salaries were to a large extent fixed by the government, based on occupational status, seniority, and administrative position (Ji 1998;Korzec and Whyte 1981;Walder 1987;Yuan and Fang 1998: 42–64). There was not much leeway left for a work unit to pay its employees higher cash salaries than another work unit. However, social inequality across *danwei* was large, albeit more in the form of benefits than in salary (Bian 1994;Lin and Bian 1991;Liu 2000;Walder 1986;Whyte and Parish 1984;Yang and Zhou 1999).

Danwei during the Economic Reform

In 1984, the Chinese redistribution system already described was fundamentally reshaped by the market-oriented reform, transforming social inequalities during this era of change. A key policy aspect of this transformation was the loosening of state control over individual work units. Once these *danwei* had more decision-making power, they were able to keep a more significant share of the surpluses they generated than previously and to distribute these funds to workers as they chose, either by paying them out in bonuses or by spending them on shared living space (Walder 1987). In the meantime, a growing new market sector began offering alternative resources and life opportunities outside the redistributive sector, such that coordination from above became less essential than previously.

During the reform era, scholars continued to observe that work units played a major role in the stratification of urban China (Wang 2008; Wu 2002; Xie and Wu 2008). There is a simple institutional explanation for this: cadres and employees in the same *danwei* had a common interest in trying to keep the state from extracting resources generated by the *danwei*, as had also been the case in pre-reform China. A common strategy was to set up new subsidiary firms using assets that were essentially state-owned, staying, however, within the confines of the law in justifying this practice (Guthrie 1999). For example, factories were allowed to rent out empty offices to generate income and start their own shops, restaurants, or hotels. These *danwei*-owned businesses are commonly called "tertiary industries" or *san chan*. The revenues they generated could often be excluded from the accounts of supervising agencies and were mostly retained at the discretion of the work unit (You 1998: 129–130).

The private sector, which consists of private enterprises, foreign companies, joint-ventures, and the self-employed, has grown rapidly in Chinese economy during the economic reform.

Despite the private ownership, the Chinese people habitually refer to them as *danwei*. Interestingly, this is more than a matter of inertia in language use. Evidence shows that *danwei* as an institution is reproduced even in the private sector, as *danwei*-like institutional features could be observed even in newly emerging sectors such as privately owned high-tech firms in urban China (Francis 1996), or even industrialized villages in rural China (Lin 1995). Thus, *danwei* are likely to continue and to play an important role no matter what economic system takes shape, including the private sector. However, the form the *danwei* take may vary from one type of organization to another. For example, in the newer private firms, income redistribution typically takes the form of salary or wage increases, while state-owned and state-controlled *danwei* redistribution is likely to be hidden in bonuses and various forms of welfare benefits.

Danwei and Social Inequality

Why do *danwei*, after being released from tight state control, actively pursue revenue generation and then convert some of the resulting revenue into extra earnings and tangible benefits for their employees? The answer is that *danwei* are not necessarily interested in maximizing profit for *danwei* property owners, which in most cases are still the state. This may be less true for private firms. However, given the institutional legacy of *danwei*, they are far from free in pursuing profit. If profit maximization were the sole objective of *danwei*, highly profitable *danwei* would be interested in keeping the labor cost low by not redistributing the profit among employees, as they could easily replace their workers at low, market levels. Rather, the internal structure within work units is such that management has an interest in providing additional resources to workers. Despite policies in early years of the economic reform targeted at breaking up the "big pot of rice" (*da guo fan*), *danwei* as a social institution have remained. Thus, distributions of bonuses and other welfare benefits have become a major part of the internal politics within *danwei* (Dittmer and Lü 1996).

As discussed earlier, *danwei* managers served as intermediates between the state on the one hand and the workers on the other. Walder's (1986) work on pre-reform *danwei* clearly documents a dependency relationship between managers and workers. While managers sought cooperation from workers, workers needed managers to provide means and services for their livelihoods. This patron-client relationship enabled workers to extract resources from their managers. During the economic reform, factory managers have increasingly taken on dual roles: they are supposed to make workers more productive while at the same time taking responsibility for their overall well-being. To meet the challenges of this role conflict, managers often retain extra funds and use them to upgrade workers' living standards. According to a national survey of 2765 factory managers in 1995, to the question "What is the most important thing in your management?" 48 percent answered that maximizing workers' incomes was their priority (Ji 1998: 140). This expectation of a *danwei* manager is reminiscent of the "father and mother" image of an ideal local official in imperial China.

Our thesis that *danwei* remains an important agent of social stratification can be interpreted to mean that redistribution within *danwei* is more equal than the market would tend to justify. Wang's (2008, pp.114–117; pp.150–168) recent book cites a large number of existing studies and provides additional results showing relative income equality within *danwei*. One of his interesting findings is that on two recent surveys, respondents overwhelmingly complained that the degree of inequality was too high for China as a nation but not too high for their own *danwei* (p.167). As a result of this within-*danwei* egalitarian culture, workers' earnings fluctuate directly as a function of *danwei*'s financial conditions (Xie and Wu 2008).

Danwei and Benefits

Recall that in pre-reform urban China, the role of *danwei* was all-encompassing, affecting almost every aspect of Chinese life, particularly earnings and benefits. Our earlier work (Xie and Wu 2008) demonstrated the continued relevance of *danwei* for earnings. In this paper, we would like to extend our earlier work to understanding whatever effects *danwei* may still have on benefits, specifically medical benefit, housing, and pensions. Before we formulate our research hypotheses, let us review the history of changes in the provision of benefits during the economic reform.

The ties between benefits and *danwei* were very close in pre-reform China (Yang and Zhou 1999). This was true in large part because the state regulated salaries so formulaically that, when possessing extra resources, *danwei* could only redistribute them to workers through benefits. After the economic reform, the Chinese government wished to create an efficient labor market and found the close ties between *danwei* and benefits to be a major impediment to labor mobility. Thus, one of the major changes in the reform period has been the breakup of benefits from *danwei*, through various means. For housing, this has been a story of privatization (Zang 1999). For medical benefit and pension, it has involved social security, as we will explain below. Prior to the economic reform, housing was a benefit offered by *danwei* to their employees. As a result, a worker's housing size and amenities were subject to his/her *danwei*'s resources in providing the benefit (Bian et al. 1997; Zhou and Logan 1996). As early as in 1978, ideas about privatizing housing were first proposed by Chinese leaders. In 1980, the National Urban Housing and Residence Meeting formalized their housing commercialization plans: "Workers are permitted to build privately owned housing units, purchase publicly owned housing units, and own property. The state would make plans to construct housing units and sell them to the public." In 1988, the National Housing Reform Meeting held by the State Council approved a scheme encouraging workers to buy the existing public housing stock. Finally, a 1998 directive of the State Council declared that the state and the work units stop constructing publicly owned housing units but channel this source of funds toward subsidizing workers in purchasing their own housing units (Pan 2000). This last measure effectively brought the welfare-oriented housing allocation regime to an end and prompted rapid growth of the real-estate industry in the ensuing years.

Our review of recent changes to health insurance and pension policies is heavily drawn from Song (2001) and Song, Zhang, and Zheng (1998). China's urban health insurance has consisted of two components: Labor Insurance and Government Employee Insurance. Labor Insurance began in the 1950s as a *danwei*-based self-insurance system that covers medical expenses for workers and often their dependents. Government Employee Insurance provides health coverage to employees of state institutions (such as government agencies, schools, and hospitals), funded by general revenues but administered through *danwei*. In the late 1980s, reform efforts were initiated to reduce the dependency of Labor Insurance on *danwei*, culminating in the government's major policy decision in 1998 to establish a social insurance program for urban workers, with contributions jointly from the state, the enterprises, and individual workers. Following trials in Zhenjiang City and Jiujiang City in 1994 and 1995, the Medical Benefit Reform was carried out on a full scale. The new Labor Insurance has two key features: (1) specified contributions from both employers and workers towards health insurance funds managed at the local government level, and (2) pre-defined coverage of medical services, including co-pays (around 10% – 20%), at the local government level. While thus far, the local government for most places is still the prefecture/city, the aim of reformers is to shift responsibility for Labor Insurance to the provincial government. In the mean time, Government Employee Insurance has been modified so as to shift a higher portion of expenses than before to individual employees in the form of co-pays (at 10–20%). Since both Labor Insurance and Government Employee Insurance only provide limited coverage of medical services, a small

number of highly profitable *danwei* may choose to provide premium medical insurances purchased in the open market.

The pension insurance system was first established in the early 1950s. It covered the government and public sector, state-owned enterprises (SOE), as well as certain collectively owned enterprises (COE) in urban China, with funds from both *danwei* and the state. The situation has remained unchanged for the government and public sectors. In 1966, however, state financing retreated from the SOEs and COEs' pension program, leaving *danwei* solely responsible for retirement benefit provision. During the economic reform, such a heavy financial burden seriously handicapped many enterprises. In the 1983 National Insurance and Welfare Meeting, it was decided to shift the SOEs' pension burden to the "society" (meaning public) level, and trials followed in a few cities. In 1987, the National Institutional Reform Committee and the Ministry of Labor and Human Resources urged cities and counties to complete the transition of pension provision from *danwei* to society-based programs within two years. By 1991, the State Council required that pension insurance be jointly contributed by the state, enterprises, and individual workers, and be managed at the province level. In 1995, the *No. 6 Document* by the State Council extended the coverage of pension insurance to include employees in the private sector. In 1997, the State Council *Decisions on Establishing the Unified Basic Pension Insurance System for Enterprise Employees* specified the new pension insurance program, requiring both workers and their employers to make financial contributions. While the goal is to manage the funds at the provincial level, some of this responsibility still remains at the prefectural/city level.

Hypotheses

From the existing literature (e.g., Wang 2008) and our earlier work (Xie and Wu 2008), we know that *danwei* continue to affect workers' earnings. When a *danwei* is profitable, some of the profit is directly rechanneled as compensation to its workers. However, compensation does not have to take the form of earnings. In pre-reform China, indeed, such compensation primarily took the form of benefits. In this paper, we are interested in the potential role of *danwei* in influencing workers' benefits, as well as their earnings. We consider three forms of benefits: housing, medical benefits, and retirement pensions.

As stated in the preceding session, provision of these three types of benefits has changed radically during the economic reform. Change has mainly taken the form of detaching benefits from *danwei* so as to facilitate the labor market and encourage job mobility, involving privatization in the case of housing, and public welfare and marketization in the case of medical benefits and retirement pensions. However, it is plausible that *danwei* have continued to affect benefits in urban China through at least three causal mechanisms. First, a *danwei* in a good financial situation may continue to provide additional resources to workers, in the form of housing subsidies and/or premium health/pension benefits purchased in the private market. Second, *danwei* in a poor financial condition may not comply with government regulations concerning medical benefits and retirement pensions. We suspect that this mechanism was particularly likely to be in operation in the late 1990s, the period under our study. Finally, a component of the health insurance system and the pension system consists of individual accounts, the amounts of which are proportional to individual's earnings and thus are indirectly affected by *danwei*'s financial situation. Hence, we propose:

> Hypothesis 1: *danwei* still influences benefits, as well as earnings, in contemporary urban China.

We recognize, however, that the influence of *danwei* on benefits in post-reform urban China should be much smaller than that on earnings, for several reasons. First, the economic reform has strategically diminished the ties of these benefits to *danwei* as impediments to a true labor

market. Second, unlike earnings, benefits are entitlements, subject to membership boundary restrictions but otherwise given on a formulaic basis. That is, they are supposed to be distributed equally. Third, while earnings can be easily fluctuated according to a *danwei*'s financial condition, perhaps on a monthly basis, benefits are usually set on relatively long terms and cannot be easily changed. For example, no family can easily change a housing situation on a short-term basis. Wang (2008, p.81) shows that, using per-capita living space as a measure, inequality in housing has been relatively stable between 1986 and 2000, a period that witnessed a rapid increase in earnings inequality. For these reasons, we propose:

> Hypothesis 2: *danwei's* effects on benefits, if still present, are smaller than those on earnings.

Besides these two key hypotheses that motivate the study, we also consider the possibility that the role of *danwei* may vary by region or sector. It may vary by region because the economic reform in China has been regionally uneven, with some regions far ahead of others (Xie and Hannum 1996). It may vary by sector because *danwei* were an institutional legacy from socialist planned economy, and its role should be more pronounced there than in the newly emerged private sector. Thus, we propose:

> Hypothesis 3: *danwei* effects are smaller in more marketized regions or sectors than less marketized regions or sectors.

Research Design

While Xie and Wu's (2008) study has confirmed the important role of *danwei* in determining earnings inequality, a question remains as to whether *danwei* affect other indicators of well-being that are associated with workers' benefits. A study of the influence of *danwei* on benefits is important because, prior to the economic reform, the strong influence of *danwei* on workers' well-being was most clearly manifested through benefits rather than through directly earnings (Bian 1994; Lin and Bian 1991; Liu 2000; Walder 1986; Whyte and Parish 1984). As discussed earlier, following the economic reform, *danwei* have been able to use discretionary funds to reward workers directly. It is thus possible that the economic reform has changed the *mechanism* by which *danwei* affect workers from being benefits-based to earnings-based. This conjecture is sensible given that many benefits previously available only through *danwei* (such as housing and medical insurance) can now be purchased through the open market. This paper represents our effort to study the potential roles of *danwei* in affecting worker's benefits as well as their earnings. We ask whether or not *danwei* continue to serve as a major agent of social stratification in affecting not only earnings but also benefits in urban China.

We attempt to answer this question in the following analysis of data from a survey, "Study of Family Life in Urban China," which we conducted in the summer of 1999 in three Chinese cities: Shanghai, Wuhan, and Xi'an. We also refer to the study as the "Three-City Survey." In the Three-City Survey, we designed a few items that specifically allowed us to address our research question.

At each of the research sites, the Three-City Study initially targeted a probability sample of 1,000 households, with a two-stage probability sampling method. At the first stage, 50 neighborhood communities were randomly chosen in proportion to size. Within each selected neighborhood community, 20 households were randomly chosen. A Kish table was used to select an adult respondent (18 years or older) within each selected household. If the person being interviewed was younger than 60, we first interviewed the person with Questionnaire A. We then interviewed one of his/her parents with Questionnaire A+, which was specifically tailored to the elderly. If the person initially selected was 60 years or older, we interviewed the person with Questionnaire B, which is similar to Questionnaire A+ for elderly respondents.

We then randomly selected one of his/her children for an interview with Questionnaire B+, which is very similar in content to Questionnaire A for adult respondents.

There were four outcome variables for the four separate analyses in our study. For the first analysis, we measured earnings by the total annual earnings in 1998. The earnings were composed of three parts: monthly salary from regular job, monthly bonus, and year-end bonus. This variable was analyzed in Xie and Wu (2008). The analytical sample for the analysis of earnings consisted of respondents across the forms between ages 20 and 60 who earned at least 1000 RMB yuan in 1998 regular salary and had valid responses to other independent variables. After the restriction, we were left with a total of 1,771 cases. For the second analysis, we measured medical benefit from responses to the question "*If you were hospitalized and your medical costs were 1000 Yuan, how much would the state or your work unit pay towards this expenditure, either by paying directly or by reimbursing you later?*" For the study of medical benefit, we further restricted the sample to observations for which responses to this outcome variable were valid, resulting in 1,753 cases. For the third analysis, we measured housing size by the area (in square meters) of apartment divided by the total number of persons living in it. Again, for the analysis of housing size, we deleted observations which had missing values for the outcome variable, reducing the number of cases to 1,745. For the fourth analysis, we measured pension amount by the annual amount of total pension that was received by a retiree. Here, we utilized a particular strength of the data and focused on retired persons receiving pensions among the elderly population in the study (i.e., those responding to Form A+ and Form B). After deleting missing values, we obtained an analytical sample with 1,449 cases.

For all the four analyses, we took the natural logarithm of the four outcome variables – earnings, medical benefit, housing size, and pension amount --- to form the dependent variables in regression analyses. Besides correcting for skewness in distribution for these variables, dependent variables after the logarithm transformation rendered the regression coefficients easily interpretable, as their exponentials represented multiplicative effects. Thus, regression coefficients had comparable interpretations across regressions with the four different dependent variables, as relative effects.

The independent variables in this study included the following: city in which the respondent resided and was interviewed, the highest education level attended, years of work experience, gender, cadre status for the job worked at the survey time in 1999, sector of the job worked at the survey time in 1999, and *danwei's* financial situation for the job worked at the survey time in 1999. For the third analysis on housing, we added the logged total annual household income in 1998 as a control variable. For the fourth analysis on pension, we included three additional independent variables: (1) a dummy indicating *lixiu* status as those who belonged to this category held higher official positions and were given retirement privileges; (2) number of years since retirement; and (3) a crude measure of pre-retirement income in 1989, which was imputed from responses to interval categories retrospectively ascertained in 1989. We presented the descriptive statistics of the variables used in the study in Appendix by analyses.

The cities were Shanghai (reference category), Wuhan, and Xian. There were six categories of the highest education level attended: no schooling, primary school, junior high school, senior high school or technical senior high school, junior college, and four-year college or graduate school. This variable was obtained from a sequence of questions of respondents' education history. Work experience was measured in years and was calculated by subtracting the year beginning the first job from the year ending the last job or from the survey year, 1999, for those who were still working. If the year ending the last job was missing, the year retired was used. For those who never worked before, year of work experience was coded 0. Gender is a dichotomous variable, with male as the reference group. Cadre status is a dichotomous variable and was coded 1 if one's job rank at the survey time was a cadre at the rank of department level

(*ke ji*) or above, and 0 if the rank was below *ke ji* or not a cadre. Sector is a categorical variable with four groups: government or public sector (reference category), state owned enterprise, collectively owned enterprise, and privately owned enterprise, which includes Chinese private firms, foreign firms, joint-ventures and the self-employed. There were three cases of peasant work or doing odd jobs without a work unit, and these were excluded from this study. The information for work experience, cadre status, and sector was obtained from questions about respondent's job history.

The key explanatory variable in this study pertains to a measure of *danwei*'s financial situation. On the questionnaire, we asked the respondent to answer the question: "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?" The respondent was given five options: "Much better," "Better," "About the same," "Worse," and "Much Worse." Note that the respondent was instructed to interpret *danwei* broadly, as the work unit that issued "worker's card" (*gongzuo zheng*). It thus covered all types of work organizations, including government agencies, institutions, state firms, collective firms, and private firms, for which there was no single objective measure of extra revenue generated. Obviously, the measure employed here was a very crude way to assess a *danwei*'s financial situation, as it provided no more than a subjective assessment on the part of the respondent. To make things worse, it was possible that the respondent's subjective assessment of the *danwei*'s financial situation could be influenced by the amount of earnings he/she received, our dependent variable in this study. We reverse coded the variable so that a higher number/category represents better financial conditions. We used the measures in two specifications, as a set of dummy variables (with "Much Worse" as the reference category) and as an interval variable from 1 to 5. The methodological limitation of this measure was discussed in Xie and Wu (2008).

The statistical analyses proceeded in three stages. In the first stage, we examined the amount of variance in earnings that could be explained by the *danwei* financial condition measure, relative to amounts of variance explained by other variables. We did this both separately (i.e., variable by variable) and jointly in a regression analysis. Second, we examined the net impact of the *danwei* financial condition on the three benefit outcome variables, as well as earnings, in a regression framework controlling for other covariates. Third, we tested the interaction effects of the *danwei* financial condition with city and sector of employment. These tests revealed whether *danwei*'s financial situation mattered more in a more marketized region/ sector than in a less marketized region/sector. Throughout the three analytical stages, we compared the results across the four analyses with four different outcome variables.

Results

In Table 1, we present results that compare the explanatory power of different determinants of the four outcome variables. The table is divided into four panels, with results for each outcome variable presented in a separate panel. The first column, labeled "DF," is the degrees of freedom for a particular determinant. For *danwei* financial condition, we use both a linear function (1 DF) and a set of dummies (4 DF). The second column, labeled as "R^2," is the proportion of the variance in logged earnings that is explained by a determinant, without control of any other variables. In the third column, "$\Delta R^2(1)$," we give the net proportion of the variance explained by a determinant after the inclusion of *danwei* financial condition in its linear form. Finally, the fourth column, "$\Delta R^2(2)$," represents the net proportion of the variance explained by a determinant after the inclusion of *danwei* financial condition in its linear form and all the other predictors considered in the study.

Several notable findings emerge from Table 1. First, *danwei* financial condition is a statistically significant predictor of all the four outcomes. Second, the explanatory power of *danwei*

financial condition varies, its effect on earnings <u>being much more pronounced</u> than its effects on the three benefit outcomes. Specifically, while *danwei* financial condition explains between 9 and 13 percent of the variation in logged earnings, depending on specification, it explains around 3 percent of the variation in medical benefit and 1 percent or lower of the variations in housing size and pension amount. Third, while the variation in the three benefit outcomes across cities is statistically significant, these regional variations are much smaller than those for earnings.

Now let us compare the role of the determinants across the four outcome variables. Results pertaining to earnings were discussed in Xie and Wu (2008). We find that the determinants as a whole play a much stronger role for earnings than for benefits. Across the three measures of benefits, they are more important in determining medical benefits and least important in determining pension amount, with housing size in between. These results make sense, because by definition benefits are distributed as entitlements and are thus more subject to equal distribution than earnings are. For example, while a large portion of earnings for many workers consists of bonuses and subsidies that are flexible depending on many factors such as assigned tasks and business cycle, pension amounts are basically set formulaically by the local government based on such hard factors as position prior to retirement, pre-retirement salary, work experience, and *lixiu* status.

For medical benefit, the most significant explanatory factor is sector, contributing 11 to 14 percent of variation. This is because, while universally provided by all state employers, medical benefits were still at the discretion of employers in the private and collective sectors in 1999. Thus, workers in the private and collective sectors were at a severe disadvantage compared to workers in the state sector. In addition to the sector differences, *danwei* financial condition still plays a large role— indeed larger than individual-level attributes such as education and work experience. There is also a relatively large regional variation.

For both housing and pension, *danwei* financial condition claims little explanatory power (ranked 6th and 7th, respectively). Sector of employment is more important. Between these two outcomes, individual characteristics play a more important role in determining housing outcome. The estimated effects of education on pension are not even statistically significant. Therefore, in terms of housing size and pension amount, *danwei* are no less important as individuals' personal attributes.

To evaluate the influence of various factors on the four outcomes more directly, we present the estimated coefficients from four multivariate regression models in Table 2. The regression models we choose to present are simple additive models. They differ slightly across the four outcome variables, as additional control variables are included for the analysis of housing size and pension amount.

As we observed before, there are regional variations in all the four outcomes across the cities. However, the directions of the variations are different. For earnings and medical benefit, we see the expected order of Shanghai – Wuhan – Xi'an, as would be predicted by their relative levels of economic development. Given the log scale of the dependent variable, we estimate that the average earning in Wuhan is at the 58% (exp(−0.539)) level compared with that in Shanghai, and that the average earning in Xi'an is at the 52% (exp(−0.658)) level compared with that in Shanghai. For housing size, residents in Shanghai are disadvantaged relative to those in Wuhan and Xi'an, reflecting crowding and a very high housing cost in Shanghai. Retirees in Wuhan and Xi'an have lower pensions (at about 40% less) than those in Shanghai.

While education has very strong monotonic effects on earnings, it has no influence on benefits, except that workers with college educations enjoy significantly more medical benefits. This is not surprising, given our earlier discussion that benefits are usually given equally to all workers

within *danwei*. The estimated relationship between experience and housing size is U-shaped in that those in the middle years of work experience (around 15–25 years) are most disadvantaged. There are two reasons for this U-shaped curve. The first is compositional, as the outcome measure is per-capita living space. Both old and young residents may not have children living with them at home, boosting per-capita living space. The second is rooted in the history of the housing reform. While older residents were able to purchase apartments that were assigned to them by their *danwei* at deeply discounted rates, some middle-class young Chinese may have purchased apartments in the open housing markets in recent years. The advantage of a cadre for earnings and housing is apparent, at a premium respectively at 20% and 15%. Further, sector of employment appears to affect different outcomes differently. It is interesting that workers in the private sector have highest earnings but receive the least amount of medical benefit, as if they trade for their less generous medical benefit with higher earnings. Workers in the collective sector are disadvantaged relative to workers in the public sector, except for housing, for which they have an advantage.

Of particular interest to our study are the coefficients of *danwei* financial condition. Here, we observe large effects on earnings and medical benefit but small effects on housing and pension. The coefficients mean that one unit change in *danwei* financial condition is associated with a 25% increase in earnings and a 77% increase in medical benefit. For housing size and pension amount, the corresponding change is only 4% and 11%, respectively. Still, for all three benefit outcomes, the effect of *danwei* financial condition is statistically significant at the 5% level. This result supports our first hypothesis that *danwei* still plays a role in influencing benefits in contemporary urban China.

Results in Table 1 and Table 2 also shed light on our second hypothesis. By bivariate R^2 and incremental R^2 (reported in columns 2 through 4 in Table 1), we know that *danwei* financial condition is a very important determinant of earnings, second only to region, explaining between 9 and 12 percent of the total variation. In contrast, *danwei* financial condition explains a very small amount of variation in benefit outcomes (between 0 and 3 percent). In term of estimated effect sizes, we commented earlier that *danwei* financial condition has the highest effect on medical benefit, followed by its effect on earnings. The effects on housing and pension are small. Taken as a whole, the results confirm the second hypothesis that *danwei* affects earnings more strongly than benefits.

In the final step of the data analysis, we add to the additive models presented in Table 2 the interaction effects between *danwei* financial condition and two structural measures that approximate marketization: city and sector. We know that Shanghai is more marketized than Wuhan, and Wuhan is more marketized than Xi'an (Xie and Wu 2008). If marketization weakens the importance of *danwei* in earnings determination, we would expect a significant difference in the effect of *danwei*'s financial condition among the three cities. Similarly, we expect the following order from more marketization to less marketization among the sectors: privately owned, collectively owned, state-owned, and government/public. Again, if marketization weakens the role of *danwei*, we would expect significant interaction terms between *danwei* financial condition and sector. To test these interactions, we ran a total of eight new models. Out of the total of 20 interaction parameters in the eight models, only one coefficient is statistically significant: the interaction effect between Xi'an and *danwei* financial condition on medical benefit (estimated coefficient = 0.612, with standard error of 0.168). This interaction effect means that *danwei* financial condition is much more important for medical benefit in Xi'an than in Shanghai. By and large, however, the results of the interaction analysis reveal that the effect of *danwei* financial condition does not vary much by city or sector. This finding means that *danwei* continues to play a strong role in determining earnings among Chinese workers, irrespective of city and sector. In particular, we reject our third hypothesis

that *danwei* is much less important in a more developed city than in a less developed city, or less important in a more marketized sector than in a less marketized sector.

Conclusion

In this paper, we examine the role of *danwei* in social stratification in contemporary urban China, extending the focus from mere earnings to benefits plus earnings. Our analysis of survey data collected in 1999 in three major Chinese cities (Shanghai, Wuhan, and Xi'an) has yielded three main findings. First, *danwei* financial condition still exerts positive effects on worker's benefits, as well as earnings. Second, *danwei* financial condition affects earnings more strongly than it affects benefits. Third, *danwei*'s effects on benefits and earnings do not vary by region or sector.

The first finding shows that *danwei* continues to play a very important role in determining the economic well-being of workers in urban China. This finding corroborates well with the observation that *danwei* serves an important function as the mediating agent between the individuals on the one hand and the very large society of China as a whole on the other hand (Liu 2000;Sun 2004;Xie and Wu 2008). It is also used effectively as a boundary to protect group interests (Wang 2008). While the economic reform has dramatically changed many facets of the economic and social structure, this mediating function of *danwei* is still relevant today.

The second finding suggests that the concrete mechanism through which *danwei* affect workers has changed in post-reform China. In pre-reform China, *danwei* were largely responsible for generating inequality in benefits, but not in earnings. During the economic reform, the central role of *danwei* in determining benefits has been displaced either by the private market (in the case of housing) or by social welfare (in the case of medical benefit and pension). As a result, *danwei* financial condition now holds much smaller explanatory power for benefits than for earnings.

The third finding indicates that *danwei* remains an important agent of social stratification, irrespective of region and sector. We conjecture that this surprising finding confirms the structural, mediating role of *danwei* in China. As we commented earlier, one possible difference between private firms and state-owned or state-controlled work units is that income redistribution in the former is directly reflected in salaries and wages rather than hidden in bonuses and other forms of welfare benefits as in the latter.

For *danwei* to remain an important stratification agent, labor mobility needs to be low. This was the case until in recent years (Naughton 1997; Wang 2008). Not until the late 1990s did the Chinese government begin to change social conditions that would facilitate labor mobility. While competitive labor markets have existed in China in recent years, particularly for the two extremes of very low-skilled workers and very highly-skilled workers, mobility has been relatively low for ordinary Chinese middle class workers, for whom a job with a good employer still means lifetime employment. As reviewed by Wang (2008, p.177), "a 1999 national survey of urban Chinese workers found that as many as 78 percent of respondents had only held one job, and only 6 percent had held three or more jobs." In this low-mobility regime, securing a job with a good employer is the surest way of securing one's economic wellbeing (Bian 1994). While an individual's personal attributes associated with productivity, such as education, have become more and more important in China (Hauser and Xie 2005), they are confounded and constrained by *danwei* as a social institution. Hence, we conclude by quoting Xie and Wu (2008, p.580): "one cannot truly understand social stratification in China without properly understanding the important role played by *danwei*."

Acknowledgments

REFERENCES

Baron, James N. Organizational Perspectives on Stratification. Annual Review of Sociology 1984;10:37–69.

Baron, James N.; Bielby, William T. Bring the Firms Back in: Stratification, Segmentation, and the Organization of Work. American Sociological Review 1980;45:737–765.

Benjamins, Maureen Reindl; Hummer, Robert A.; Eberstein, Isaac W.; Nam, Charles B. Self-Reported Health and Adult Mortality Risk: An Analysis of Cause-Specific Mortality. Social Science Research 2004;59:1297–1306.

Bian, Yanjie. *Work and Authority in Urban China*. Albany: State University of New York Press. 2002. "Chinese Social Stratification and Social Mobility". Annual Review of Sociology 1994;28:91–116.

Bian, Yanjie; Logan, John. Market Transition and Persistence of Power: The Changing Stratification System in Urban China. American Sociological Review 1996;61:739–758.

Bian, Yanjie; Logan, John R.; Lu, Hanlong; Wang, Ying. Work Units and Housing Reform in Two Chinese Cities. In: Lu, X.; Perry, EJ., editors. Danwei: the Changing Chinese Workplace in Historical and Comparative Perspective. Armonk NY: M. E. Sharpe; 1997. p. 223-250.

China Data Online. 2007 [Accessed November 21, 2007]. http://chinadataonline.org/

Cook, Sarah. Readjusting Labor: Enterprise Restructuring, Social Consequences and Policy Responses in Urban China. In: Warner, M., editor. Changing Workplace Relations in the Chinese Economy. London: McMillan; 2000. p. 227-246.

Dittmer, Lowell; Lü, Xiaobo. Personal Politics in the Chinese Danwei under Reform. Asian Survey 1996;36:246–267.

Francis, Corinna-Barbara. Reproduction of *Danwei* Institutional Features in the Context of China's Market Economy: The Case of *Haidian* District's High-Tech Sector. The China Quarterly 1996;147:839–859.

Hauser, Seth; Xie, Yu. Temporal and Regional Variation in Earnings Inequality: Urban China in Transition between 1988 and 1995. Social Science Research 2005;34:44–79.

Huang, Weituan. China's Hidden Economy. Beijing: Zhongguo Shangye Press; 1992. (in Chinese)

Hussain, Athar. The Social Role of the Chinese State Enterprises. In: Warner, Malcolm, editor. Changing Workplace Relations in the Chinese Economy. London: Macmillan Press; 2000. p. 57-76.

Gerber, Theodore. Structural Change and Post-Socialist Stratification: Labor Market Transitions in Contemporary Russia. American Sociological Review 2002;67:629–659.

Guthrie, Douglas. Between Market and Politics: Organizational Responses to Reform in China. American Journal of Sociology 1997;102:1258–1304.

Guthrie, Douglas. Dragon in a Three-Piece Suit. Princeton, NJ: Princeton University Press; 1999.

Kalleberg, Arne L. Comparative Perspectives on Work Structure and Inequality. Annual Review of Sociology 1988;14:203–225.

Kalleberg, Arne L.; Sorensen, Aage B. The Sociology of Labor Markets. Annual Review of Sociology 1979;5:351–379.

Kalleberg, Arne L.; Wallace, Michael; Althauser, Robert. Economic Segmentation, Worker Power, and Income Inequality. American Journal of Sociology 1981;87:651–683.

Khan, Azizur Rahman; Griffin, Keith; Riskin, Carl; Zhao, Renwei. Household Income and its Distribution in China. The China Quarterly 1992;132:1029–1061.

Khan, Azizur R.; Riskin, Carl. Income and Inequality in China: Composition, Distribution and Growth of Household Income, 1988 to 1995. The China Quarterly 1998;154:221–253.

Khan, Azizur R.; Riskin, Carl. Inequality and Poverty in China in the Age of Globalization. Oxford: Oxford University Press; 2001.

Korzec, Michel; Whyte, Martin King. Reading Notes: The Chinese Wage System. The China Quarterly 1981;86:248–273.

Kornai, Janos. Contradictions and Dilemmas: Studies on the Socialist Economy and Society. Cambridge, Massachusetts and London, England: The MIT Press; 1986.

Lee, Ching Kwan. From Organized Dependence to Disorganized Despotism: Changing Labor Relations in Chinese Factories. The China Quarterly 1999;157:44–71.

Li, Lulu; Li, Hanlin. China's Work Unit Organization. Hangzhou: Zhejiang Renmin Press; 2000. (in Chinese)

Lin, Nan; Bian, Yanjie. Getting Ahead in Urban China. American Journal of Sociology 1991;97:657–688.

Lin, Nan. Local Market Socialism: Local Corporatism in Action in Rural China. Theory and Society 1995;24:301–354.

Liu, Jianjun. Danwei China. Tianjin, China: Tianjin People's Press; 2000. (in Chinese)

Lu, Xueyi, editor. A Research Report on the Social Stratification in Contemporary China. Beijing: Social Science Documents Press; 2002. (in Chinese)

Lü, Xiaobo. From Rank-Seeking to Rent-Seeking: Changing Administrative Ethos and Corruption in Reform China. Crime, Law and Social Change 1999;32(4):347–370.

Lü, Xiaobo; Perry, Elizabeth. Introduction: The Changing Chinese Workplace in Historical and Comparative Perspective. In: Lü, Xiaobo; Perry, Elizabeth, editors. Danwei: The Changing Chinese Workplace in Historical and Comparative Perspective. Armonk, NY: M. E. Sharpe; 1997. p. 3-17.

Mincer, Jacob. Schooling, Experience and Earnings. New York: Columbia University Press; 1974.

Naughton, Barry. Danwei: The Economic Foundations of a Unique Institution. In: Lü, Xiaobo; Perry, Elizabeth, editors. Danwei: The Changing Chinese Workplace in Historical and Comparative Perspective. Armonk, N.Y.: M. E. Sharpe; 1997. p. 169-194.

Nee, Victor. A Theory of Market Transition: From Redistribution to Markets in State Socialism. American Sociological Review 1989;54:663–681.

Nee, Victor. Social Inequalities in Reforming State Socialism: Between Redistribution to Markets in China. American Sociological Review 1991;56:267–282.

Nee, Victor. Organizational Dynamics of Market Transition: Hybrid Forms, Property Rights, and Mixed Economy in China. Administrative Science Quarterly 1992;37:1–27.

Nee, Victor. The Emergence of a Market Society: Changing Mechanisms of Stratification in China. American Journal of Sociology 1996;101:908–949.

Nee, Victor; Cao, Yang. Path Dependent Societal Transformation: Stratification in Hybrid Mixed Economies. Theory and Society 1999;28:799–834.

Nee, Victor; Mathews, Rebecca. Market Transition and Societal Transformation in Reforming State Socialism. Annual Review of Sociology 1996;22:401–436.

Nylan, Michael. Confucian Piety and Individualism in Han China. Journal of the American Oriental Society 1996;116.1:1–16.

Pan, Guangjun. The Process of Chinese Housing Reform. Chinese Reform 2000;No.11:15–19. (in Chinese).

Parish, William L.; Michelson, Ethan. Politics and Markets: Dual Transformations. American Journal of Sociology 1996;101:1042–1059.

Oi, Jean C. Fiscal Reform and the Economic Foundations of Local State Corporatism in China. World Politics 1992;45(1):99–126.

Oi, Jean C. The Role of the Local State in China's Transitional Economy. The China Quarterly 1995;144:1132–1149.

Song, Xiaowu; Zhang, Zhongjun; Zheng, Dingquan. 20 Years of Chinese Social Welfare Institution. Zhengzhou: Zhongzhou Guji Chubanshe; 1998. (in Chinese)

Song, Xiaowu. Chinese Social Welfare Institutional Reform and Development Report. Beijing: Zhongguo Renmin Daxue Chubanshe; 2001. (in Chinese)

Steinfeld, Edward S. Forging Reform in China. London: Cambridge University Press; 1998.

Sun, Liping. Transition and Breakup. Beijing: Qinghua University Press; 2004. (in Chinese)

Szelényi, Ivan; Kostello, Eric. The Market Transition Debate: Toward a Synthesis. American Journal of Sociology 1996;101:1082–1096.

Walder, Andrew G. Communist Neo-Traditionalism: Work and Authority in Chinese Industry. University of California Press; 1986.

Walder, Andrew G. Wage Reform and the Web of Factory Interests. The China Quarterly 1987;109:22–41.

Walder, Andrew G. Economic Reform and Income Distribution in Tianjin, 1976–1986. In: Davis, D.; Vogel, EF., editors. Chinese Society on the Eve of Tiananmen: the Impact of Reform. Cambridge, MA: East Asian Council, Harvard University; 1990. p. 135-156.

Walder, Andrew G. Workers, Managers and the State: The Reform Era and Political Crisis of 1989. The China Quarterly 1991;127:467–492.

Walder, Andrew G. Property Rights and Stratification in Socialist Redistributive Economies. American Sociological Review 1992;57:524–539.

Walder, Andrew G. Markets and Inequality in Transitional Economics: Towards Testable Theories. American Journal of Sociology 1996;101:106–173.

Walder, Andrew G. Markets and Income Inequality in Rural China: Political Advantages in an Expanding Economy. American Sociological Review 2002;67:231–253.

Wang, Feng. Boundaries and Categories: Rising Inequality in Post-Socialist China. Stanford, CA: Stanford University Press; 2008.

Weber, Max. The Religion of China: Confucianism and Taoism. Glencoe, IL: Free Press; 1951.

Warner, Malcolm. Changing Workplace Relations in the Chinese Economy. London: Macmillan; 2000.

Will, Pierre-Étienne. Bureaucracy and Famine in Eighteenth-Century China. Elborg Forster, Tr, editor. Stanford: Stanford University Press; 1990.

Wu, Xiaogang. Work Units and Income Inequality: The Effect of Market Transition in Urban China. Social Forces 2002;80(3):1069–1099.

Wu, Xiaogang; Xie, Yu. Does the Market Pay Off? Earnings Returns to Education in Urban China. American Sociological Review 2003;68:425–442.

Wu, Ximing; Perloff, Jeffrey. China's Income Distribution, 1985–2001. Berkeley: CUDARE Working Papers, University of California; 2005. (http://www.uoguelph.ca/~xiwu/china_wu&perloff.pdf)

Whyte, Martin K.; Parish, William. Urban Life in Contemporary China. Chicago: University of Chicago Press; 1984.

Xie, Yu; Hannum, Emily. Regional Variation in Earnings' Inequality in Reform-Era Urban China. American Journal of Sociology 1996;102:950–992.

Xie, Yu; Wu, Xiaogang. *Danwei* Profitability and Earnings Inequality in Urban China. The China Quarterly 2008;195:558–581.

Yang, Xiaomin; Zhou, Yihu. China's Danwei System. Beijing: Chinese Economy Press; 1999. (in Chinese)

Yeh, Wen-hsin. The Republican Origins of *Danwei*: The Case of Shanghai's Bank of China. In: Lu, X.; Perry, E., editors. Danwei: The Changing Chinese Workplace in Historical and Comparative Perspective. Armonk, NY: M.E. Sharpe; 1997. p. 60-90.

You, Ji. China's Enterprise Reform: Changing State/Society Relationship after Mao. London and New York: Routledge; 1998.

Yuan, Zhigang; Fang, Ying. The Change of Employment System in China 1978–1998. Taiyuan: Shanxi Jingji Press; 1998. (in Chinese)

Zang, Xiaowei. Urban Housing Reforms in China. In: Zang, X., editor. China in the Reform Era. Commack, N.Y.: Nova Science Publishers; 1999. p. 49-79.

Zhao, Renwei. Three Features of the Distribution of Income during the Transition to Reform. In: Griffin, K.; Zhao, R., editors. The Distribution of Income in China. New York: St Martin's Press; 1993. p. 74-94.

Zhao, Zhenyu. On Several Issues of Inequality in Social Distribution. Shehui Kexue Zhanxian (Changchun) 1994;1:112–121. (in Chinese).

Zhou, Xueguang. Economic Transformation and Income Inequality in Urban China. American Journal of Sociology 2000;105:1135–1174.

Table 1

Percent Variance Explained in Earnings, Medical Benefit, Housing Size, and Pension Amount

Variables	DF	R^2	$\Delta R^2(1)$	$\Delta R^2(2)$
Earnings(N=1771)				
City	2	17.47 ***	18.11 ***	19.12 ***
Education Level	5	7.82 ***	5.49 ***	4.46 ***
Experience+Experience^2	1	0.23	0.17	0.05
Gender	1	4.78 ***	4.84 ***	3.05 ***
Cadre Status	1	3.08 ***	2.27 ***	0.63 ***
Sector	3	3.54 ***	2.18 ***	1.80 ***
Danwei Financial Condition (linear)	1	12.52 ***		9.30 ***
Danwei Financial Condition (dummies)	4	12.89 ***		
Medical Benefit (N=1753)				
City	2	8.33 ***	13.52 ***	8.08 ***
Education Level	5	2.54 ***	2.08 ***	1.10 ***
Experience+Experience^2	1	2.41 ***	3.20 ***	0.87 ***
Gender	1	0.26 *	0.27 *	0.01
Cadre Status	1	1.69 ***	1.39 ***	0.14
Sector	3	13.79 ***	13.63 ***	11.23 ***
Danwei Financial Condition (linear)	1	3.09 ***		2.92 ***
Danwei Financial Condition (dummies)	4	3.76 ***		
Housing Size (N=1745)				
City	2	4.13 ***	4.00 ***	3.86 ***
Education Level	5	3.51 ***	3.17 ***	0.80 **
Experience+Experience^2	1	3.40 ***	3.15 ***	1.77 ***
Gender	1	0.04	0.04	0.04
Cadre Status	1	2.17 ***	1.98 ***	0.47 **
Sector	3	1.86 ***	1.73 ***	1.00 ***
Danwei Financial Condition (linear)	1	1.02 ***		0.30 *
Danwei Financial Condition (dummies)	4	1.09 ***		
1998 Household Income	1	0.33 *	0.12	0.42 **
Pension Amount (N=1449)				
City	2	1.45 ***	1.37 ***	1.53 ***
Education Level	5	0.64	0.59	0.47
Experience+Experience^2	1	2.15 ***	1.81 ***	0.61 **
Gender	1	1.74 ***	1.49 ***	0.08
Cadre Status	1	0.90 ***	0.69 **	0.11

Variables	DF	R^2	$\Delta R^2(1)$	$\Delta R^2(2)$
Sector	3	2.01 ***	1.47 ***	0.87 **
Danwei Financial Condition (linear)	1	1.18 ***		0.30 *
Danwei Financial Condition (dummies)	4	1.58 ***		
Lixiu (privileged retirement)	1	1.11 ***	0.94 ***	0.21
Years since Retirement	1	1.55 ***	1.71 ***	2.45 ***
1989 Salary	1	1.47 ***	1.06 ***	0.50 **

Source: 1999 Three-City Survey.

Note: DF refers to degrees of freedom. ΔR^2 (1) refers to the incremental R^2 after the inclusion of *danwei*'s financial situation (linear). ΔR^2 (2) refers to the incremental R^2 after the inclusion of all the other variables.

***
   $p < 0.001$,

**
   $p < 0.01$,

*
 $p < 0.05$, based on F-tests.

Table 2

Estimated Regression Coefficients for Four Outcome Variables (Logged)

Variables	Earnings β	Medical Benefit β	Housing Size β	Pension Amount β
Intercept	8.237 ***	2.540 **	1.700 ***	5.310 ***
City (Shanghai = excluded)				
Wuhan	−0.539 **	−1.222 ***	0.288 ***	−0.534 ***
Xi'an	−0.658 ***	−2.035 ***	0.285 ***	−0.566 ***
Education (none = excluded)				
Primary	0.414 *	0.799	−0.155	0.244
Junior High	0.447 **	1.490	−0.209	0.156
Senior High	0.592 ***	1.606	−0.217	−0.049
Junior College	0.778 ***	1.886 *	−0.107	0.154
College	0.923 ***	2.515 **	−0.027	0.480
Experience				
Experience ($*$1000)	2.421	78.816 **	−24.838 ***	33.558
Experience^2 ($*$1000)	−0.017	−1.240 *	0.728 ***	−0.207
Gender (male=excluded)				
Female	−0.225 ***	−0.056	0.026	−0.134
Cadre Status(non-cadre=excluded)				
Cadre	0.185 ***	0.395	0.151 **	0.213
Sector (government+institution=excluded)				
State owned	−0.043	−0.223	−0.057	−0.060
Collectively owned	−0.224 ***	−1.118 ***	0.153 **	−0.546 **
Privately owned	0.114 **	−2.723 ***	−0.048	−0.577
Danwei Financial Condition (linear)	0.227 ***	0.572 ***	0.040 *	0.107 *
1998 Household Income (logged)			0.076 **	
Lixiu (privileged retirement)				0.406
Years Since Retirement				0.052 ***
1989 Salary (logged)				0.192 **
R^2	43.92%	28.05%	12.17%	9.98%
Sample Size	N = 1771	N = 1753	N = 1745	N = 1449

Source: 1999 Three-City Survey.

Note: Results are derived from multivariate regressions with different dependent variables.

***
p<0.001,

**
p<0.01,

*
p<0.05, based on two-side t-tests.

Appendix

Descriptive Statistics

Variable	Analysis 1: Earnings		Analysis 2: Medical Benefit		Analysis 3: Housing Size		Analysis 4: Pension Amount	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Dependent Variable	9.027	0.624	5.073	2.819	2.429	0.594	8.028	1.967
Independent Variables								
City								
Shanghai	0.312	0.463	0.309	0.462	0.312	0.464	0.289	0.454
Wuhan	0.353	0.478	0.353	0.478	0.351	0.477	0.376	0.485
Xi'an	0.335	0.472	0.338	0.473	0.337	0.473	0.335	0.472
Education								
No Schooling	0.005	0.071	0.005	0.071	0.005	0.072	0.239	0.426
Primary	0.030	0.170	0.030	0.170	0.030	0.172	0.260	0.439
Junior High	0.298	0.457	0.297	0.457	0.299	0.458	0.246	0.431
Senior High	0.439	0.496	0.440	0.497	0.437	0.496	0.167	0.373
Junior College	0.158	0.365	0.156	0.363	0.158	0.365	0.041	0.199
College	0.071	0.256	0.071	0.257	0.070	0.256	0.046	0.210
Experience								
Experience	20.107	8.973	20.110	8.965	20.201	8.923	31.335	8.816
Experience^2	484.752	375.857	484.712	376.124	487.667	374.893	1059.581	542.861
Gender								
Male	0.577	0.494	0.578	0.494	0.575	0.494	0.411	0.492
Female	0.423	0.494	0.422	0.494	0.425	0.494	0.589	0.492
Cadre Status								
Cadre (*Ke Ji* or above)	0.094	0.292	0.095	0.293	0.095	0.293	0.155	0.362
Sector								
Government & public institution	0.219	0.414	0.218	0.413	0.219	0.414	0.174	0.379
State owned	0.516	0.500	0.517	0.500	0.517	0.500	0.635	0.482
Collectively owned	0.094	0.292	0.095	0.293	0.092	0.289	0.160	0.367
Privately owned	0.172	0.377	0.170	0.376	0.171	0.377	0.031	0.174

Variable	Analysis 1: Earnings		Analysis 2: Medical Benefit		Analysis 3: Housing Size		Analysis 4: Pension Amount	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Danwei Financial Condition (linear)	2.954	0.862	2.952	0.863	2.955	0.860	2.605	1.052
Danwei Financial Condition (dummies)								
Very poor	0.076	0.265	0.076	0.266	0.075	0.264	0.190	0.393
Relatively poor	0.147	0.355	0.147	0.354	0.147	0.354	0.236	0.425
Average	0.545	0.498	0.546	0.498	0.547	0.498	0.373	0.484
Fairly good	0.211	0.408	0.209	0.407	0.211	0.408	0.179	0.383
Very good	0.021	0.143	0.021	0.144	0.021	0.142	0.021	0.145
1998 Household Income					9.728	0.604		
Lixiu (privileged retirement)							0.060	0.238
Years Since Retirement							10.773	7.163
1989 Salary (logged)							7.678	0.801
	N = 1771		N = 1753		N = 1745		N = 1449	

Source: 1999 Three-City Survey.