Feeling Good About the Iron Rice Bowl:

Economic Sectors and Happiness in Post-Reform Urban China*

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Abstract

Situated in China's market transition, this study examines the relationship between economic sectors and individuals' happiness in post-reform urban China. Using datasets from the Chinese General Social Surveys 2003, 2006 and 2008, we find that workers in the state sector enjoy a subjective premium in well-being – reporting significantly higher levels of happiness than their counterparts in the private sector. We also find that those remaining in the state sector report being significantly happier than do former state sector workers who moved into the private sector, whether the move was voluntary or involuntary. Sectoral disparity in the allocation of social welfare benefits serves as the primary nexus linking state-to-private mobility and happiness. Those who made voluntarily state-to-private moves experienced a trade-off in enjoying higher payoffs while losing job security, whereas involuntary downward mobility left long-term psychological scars on those who experienced layoffs or unemployment.

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Introduction

Past research on both industrialized and transitional societies has well documented the detrimental effects of job displacement and unemployment, clearly showing that job security is important for individuals' subjective well-being and health (e.g., Brand, Levy and Gallo 2008; Burgard, Brand and House 2007; Darity and Goldsmith 1996; Frijters, Haisken-DeNew, and Shields 2004; Gallo et al. 2006; Hayo and Seifert 2003; Namazie and Sanfey 2001; Winkelmann and Winkelmann 1998; Young 2012). However, individuals who experience job displacement and unemployment constitute only a small fraction not only of the total labor force but also of those exposed to insecure working conditions. That is, job security can be viewed broadly as a spectrum of employment-related structural resources and protections allocated differentially across economic sectors. For example, and as discussed more below, researchers have long argued that the U.S. and other western countries have dual labor markets characterized by large disadvantages for workers in the secondary compared to the primary sector in terms of wages, working conditions, and employment stability (Bulow and Summers 1986; Cain 1976; Doeringer and Piore 1971; Reich, Gordon and Edwards 1973; Wachter 1974). A similar distinction also exists in transitional countries such as Russia and Poland, where the private sector exposes workers to greater risks than the state sector, including higher job termination rates and fewer opportunities to obtain permanent positions (Acquisti and Lehmann 2000; Lehmann and Wadsworth 2000; Lehmann, Wadsworth and Acquisti 1999). In general, workers in relatively weak labor market positions tend to have lower perceptions of job security, lower wages and fewer fringe benefits, and thus to have lower subjective well-being than their counterparts (Linz and Semykina 2008; Yu 2008; Zhao 2012).

China provides researchers with a valuable opportunity to examine the role that job security plays in determining individuals' subjective well-being. China's

economic reform has achieved remarkable success over the past three decades, dramatically shifting employment markets and initiating as well large-scale and striking social changes. One such change during the market reform was the smashing of the iron rice bowl – or the displacement of guaranteed life-time job security, medical benefits, housing, education, and other elements of social welfare given to all public workers by the uncertain potential of jobs in the market economy (Tang and Parish 2000). Today, about 40 percent of China's population has no job-related benefits (Kuruvilla, Lee and Gallagher 2011). In addition, China's market reform is progressing gradually and unevenly, with social groups affected differentially by the destruction of the iron rice bowl. Recent studies argue that "fragmented markets" have emerged in China, characterized by heterogeneous institutional arrangements, inconsistent practical logic, and distinctive allocation mechanisms between the state and private sectors (Zhao 2012; Zhao and Zhou 2012). Workers in the private sector in urban China enjoy significantly fewer fringe benefits than their counterparts in the state sector, especially those working in government agencies and public institutions (Wu 2013).

In addition to representing a fruitful research setting, China is a country that has reason to be interested in empirical findings on how changing employment markets are affecting subjective well-being. From 1978 to 2010, the employment share of state- and collective-owned units declined from nearly 100% to less than 50%, while the share of private and other non-state enterprises grew concomitantly from nearly nothing to over 50% (*China Statistical Yearbook* 2011). How this shift has affected perceived well-being, and how well-being may vary by employment sector and sociodemographic group are highly salient questions. For instance, a recent rise in the number of college graduates taking China's national civil service exam suggests that differences between the state and private sectors have become important factors for youth making career choices (Li, H. 2013).

Using data from the Chinese General Social Surveys, this study investigates the relationship between economic sector employment and subjective well-being.[1] We attempt to address two research questions. First, does workers' subjective well-being

differ by economic sector? Second, if yes, does job security or some other factors explain the observed difference?

Theoretical Issues

Subjective Well-being and Economic Factors

Researchers in psychology, sociology, and economics have been long interested in what makes individuals feel happy (e.g., Argyle 2001; Diener et al. 1999; Easterlin 1974, 1995, 2001; Easterlin et al. 2012; Kahneman et al. 2006; Wu and Li 2013; Yang 2008). While psychologists tend to focus on individuals' personalities or social relationships, sociologists and economists look at the influences of external factors, such as socioeconomic status and macroeconomic institutions (Di Tella, MacCulloch and Oswald 2003; Frey and Stutzer 2000, 2002a, 2002b; Frijters, Haisken-DeNew, and Shields 2004; Knight and Gunatilaka 2010). The relationship between income and happiness is an intriguing question for both sociologists and economists, and one that has been recently and hotly debated. On the one hand, the well-known "Easterlin Paradox" posits no link between a society's economic development and its long-term average level of happiness (Easterlin 1974, 1995, 2001). On the other hand, studies using a variety of datasets have reported a positive relationship between average levels of subjective well-being and indicators of economic development, such as GDP per capita differences across countries, across regions within countries, and/or by time within countries (Deaton 2008; Sacks, Stevenson and Wolfers 2010, 2012; Steveson and Wolfers 2008, 2013).

In focusing on the potential causal influence of income, the current literature overlooks the importance of other social determinants of subjective well-being, in particular security. Psychologists posit that safety/security is a basic human need. In his famous hierarchy-of-needs theory, Maslow (1943) proposed that the need for safety belongs on the second level of the hierarchy, just above physiological needs, and that individuals' actions are partially motivated by safety-seeking. Only after safety needs are well satisfied will people pursue higher forms of needs such as love and belonging, esteem and self-actualization.

One concrete way to incorporate Maslow's theory into studies of subjective well-being is to study the effects of job security. It is known that employment security is a key factor when people evaluate job desirability (Mitchell 1982, 1983). It is also well established that job displacement and unemployment have deleterious effects on individuals' subjective well-being and health (e.g., Brand, Levy and Gallo 2008; Burgard, Brand and House 2007; Darity and Goldsmith 1996; Gallo *et al*. 2006; Frijters et al. 2004; Hayo and Seifert 2003; Namazie and Sanfey 2001). However, we do not know yet whether the systematic differences in job security by economic sector that exist in contemporary China have resulted in corresponding differences in subjective well-being by sector. Our study aims to fill this gap by examining the interplay between economic sectors and subjective happiness, focusing on the role of fringe benefits – or non-wage employment compensations – as happiness determinants.

Labor Market Segregation and the Dual Labor Market

The dual labor market theory, or labor market segmentation theory, was introduced in the United States in the mid-1960s to account for the poor working situation of black workers in northern central cities, and since then it has been extended to cover a number of other disadvantaged groups in different national contexts (Berger and Piore 1980). In the early 1970s this theory was advanced as an alternative to human capital theory by several researchers (Dickens and Lang 1992). From the perspective of labor market dualists, the primary and secondary segments are differentiated mainly by job stability/security characteristics, that is, a broad spectrum of job-related resources and protections. For example, in their classic book, Doeringer and Piore (1971) argued that the labor market is divided into a primary sector and a secondary sector. Jobs in the primary sector are characterized by high wages, good working conditions, employment stability, opportunities for advancement, equity, and due process in the administration of work rules. In contrast, jobs in the secondary sector tend to have low wages and few fringe benefits, poor working conditions, high labor turnover, little chance of advancement, and often arbitrary and capricious supervision.

Jobs in the primary sector may also have an internal labor market that enhances

job security by virtue of limiting employment access to outsiders (reliance on promotion from within) and protecting jobs from the fluctuations of external labor markets (Cain 1976; Doeringer and Piore 1971; Wachter 1974). Some firms in advanced industries use the strategy of "welfare capitalism" to strengthen their internal market and its influence on employees; for instance by restricting certain benefits to continued employment and thus raise the cost to workers of leaving the job. In contrast, secondary sector jobs are more tied to the ups and downs of the external job market, with relatively lower job security and stability and less impact for job tenure in promotions and benefits within the hiring firm.

China's Market Transition and Inequality in Job Security

In part to prevent the creation of a disadvantaged job sector and the resultant social instability, China followed an incremental strategy in rolling out its economic reforms. As a result, the private sector has grown gradually in replacement of the state sector. In the early stage before 1993, the reform focused primarily on incentives to improve work efficiency (Qian 2000). Job mobility was low (Knight and Yueh 2004; Zhou,Tuma, and Moen 1997), with most workers still tied to their *danwei* (Xie and Wu 2008), or work units, in the state sector, and still enjoying the iron rice bowl. At this point, only a small portion of workers voluntarily took the risk of entering the market sector, gave up the fringe benefits and job security of the state sector, and "jumped into the sea" (*xia hai*) (Wu and Xie 2003; Wu 2010). As the market reform advanced to a later stage, profound structural changes took place in the state sector, accompanied by rapid expansion of the private sector. Since the mid-1990s especially after 1997, a huge number of state sector workers were involuntarily laid off (*xia gang*) or became unemployed due to the economic restructuring of state-owned enterprises (SOEs), and most of them were pushed into the private sector. With the loss of their secure state jobs that provided decent salaries, fringe benefits, and prestigious social positions, these workers had their iron rice bowls snatched away (Giles, Park and Cai 2006).

China's market reform remains incomplete, as shown by the continued presence of "fragmented markets," a state sector and a private sector (Zhao and Zhou 2012).

Employment relationships are structurally different between the two sectors, with the state sector providing much more social welfare to workers than the private sector, indicating strong socialist legacies and undeveloped market mechanisms still at work in the state sector (Zhao 2012; Zhao and Zhou 2012). A recent empirical study reveals that workers in the private sector in urban China enjoy significantly fewer fringe benefits than their counterparts in the state sector, especially state workers in government agencies and public institutions: In terms of total number of fringe benefits, workers in government agencies and public institutions enjoy 3.21 on average while the former receive only 0.60 (Wu 2013).

While workers in the private sector have less access to fringe benefits, previous studies have shown that they may earn more than workers in the state sector (e.g., Walder 1992; Zhou 2000). However, more recent evidence indicates that the economic premium of working in the private sector has significantly declined over the later reform years. As shown in Figure 1, the ratio of average non-state to state wages declined from 1992 to 2008, from a high of 1.59 in 1992 to 1.15 in 2008, and the ratio of average non-state to state-owned wages even became less than 1 after 2003. Using data from the Chinese General Social Survey in 2005, Wu (2013) argues that the distinctive boundaries among work units have been redrawn and that workers in the government and public institutions now enjoy an income advantage over their counterparts in the private sector, while workers in both state-owned and collective enterprises do not enjoy such advantage.

[Figure 1 About Here]

In summary, like labor market segmentation in western countries such as the United States, a dual labor market exists in transitional China, characterized by sharp differences in benefits between the state and private sectors, with *danwei*, or work unit in the state sector providing generous fringe benefits (Xie, Lai, and Wu 2009). While the earnings advantage enjoyed by workers in the private sector over those in the state sector has diminished, more social welfare benefits now become a salient feature of the state sector, making it more desirable than the private sector. Workers in the state sector continue to enjoy, among many other benefits, lifetime job security, or

the iron rice bowl.

Analytical Framework

For our analyses, we first conduct a simple comparison between individuals' self-reported happiness in the state and private economic sectors to document the association between sector and happiness. We realize that this comparison is crude for it does not account for structural forces that may select workers into different sectors (Haltiwanger, Lehmann, and Terrell 2003), and thereby influence their self-reported happiness. Empirical findings from Eastern Europe reveal that substantial unemployment, as well as labor mobility from the state sector to the private sector, occurred when a market transition took place (e.g., Campos and Coricelli 2002; Sorm and Terrell 2000). Job mobility in China also accelerated after the mid-1990s, most of it occurring either within the non-state sector or from the state to the non-state sector (Li, J. 2013).

Next, we consider selectivity in mobility into the private sector. Recent entrants into China's private sector represent both voluntary and involuntary mobility, the latter of which has resulted from massive layoffs and job eliminations in the state sector (Wu and Xie 2003). In addition to former state sector workers, the private sector also includes those who always worked in the private sector (private stayers), and thus never experienced nor felt the loss of the iron rice bowl benefits as did those who entered from the state sector. Given this distinction, state-to-private sector workers (mobiles) and extant state sector workers (state stayers), who all share experience with the state wage structure and social welfare benefits, are counterfactually comparable in terms of how their sector-based self-reported happiness may be influenced by the presence/absence of resources attached to state employment. Thus, our main comparisons in this analysis are restricted to state-sector stayers and state-to-private-sector mobiles.

If we further consider reasons for sectoral mobility, we can distinguish three groups for income and fringe benefits comparison, as shown in the Figure 2 typology. State sector stayers located in the upper right-hand cell have the highest level of fringe

benefits and lower incomes than the voluntary state-to-private mobiles in the lower left-hand cell, who have the highest incomes of all three groups, but fewer fringe benefits than state stayers. Previous studies have shown that higher earnings returns to education in the market sector are limited only to voluntary state-to-private mobiles (Wu and Xie 2003; Wu 2010). People in the upper left-hand cell are those who experienced layoffs or unemployment with relatively low income and low fringe benefits. Workers with high incomes and high fringe benefits – the lower right cell of Figure 2 – do not exist in our analytical framework.

This three-group typology obviously oversimplifies the reality. For example, voluntary state-to-private movers enjoy higher incomes on average than the two other groups, but with more intragroup variation. This heterogeneity results from the higher potential risk and reward for those who decide to move into the private market rather than staying in, or being forced out of, the state sector, where income distribution is less dispersed. Also, not all involuntary movers to the private sector experienced losses in both income and benefits. However, we believe this typology captures the essential differences of interest across the three groups of workers, and thus serves as a useful analytical framework for our study.

[Figure 2 About Here]

Research Methodology

Data

Our analyses are based on three cross-sectional datasets from the Chinese General Social Surveys (CGSS) fielded in 2003, 2006, and 2008. The CGSS are multistage stratified national probability surveys of the Chinese population in mainland China. CGSS-2003 was sampled from the urban adult population from all provinces except Ningxia, Qinghai, and Tibet; CGSS-2006 was sampled from the entire adult population from all provinces except Ningxia, Qinghai, and Tibet; and CGSS-2008 was sampled from the entire adult population from all provinces except Hainan, Qinghai, and Tibet. For this study, urban samples of workers aged 20 and above at the time of each survey are used to investigate the relationship between economic sectors

and happiness.

Variables and Measurement

Dependent Variable

We measure subjective well-being by a happiness variable derived from responses to a survey question in all three surveys: "Generally speaking, how do you feel about your life?" In 2003 and 2006, potential responses occur on a five-point scale: 1=very unhappy; 2=unhappy; 3=so-so; 4=happy, to 5=very happy. Because the 2008 five-point response scale is presented in the opposite order, ranging from 1=very happy to 5=very unhappy, we reverse coded these answers for comparison to answers in the previous datasets.

Independent Variables

Our key independent variable is economic sector. First, we use a dummy variable for the two economic sectors distinguished by ownership of work unit: either state sector (Party, government/government agencies, public institutions, SOEs, and collective enterprises) or private sector (cooperative or jointly-run enterprises, individual or private enterprises, foreign enterprises, Sino-foreign joint ventures, township and village enterprises, and other).

Our secondary independent variable uses work history data[3] to categorize individuals based on their job sector origin and destination and the volitional nature any state-to-private sector moves. The year 1992 serves as the starting point. For those who had entered the labor market by 1992, we define origin as their work sector in 1992; for those who entered after 1992, we define origin as the work sector of their first job. The destination is defined as respondents' work sector at the time of the survey. We also categorize state-to-private mobiles by whether their move was voluntary or involuntary -- whether respondents experienced layoffs or unemployment between 1992 and the survey time. Thus we obtain four categories: state stayers, voluntary state-to-private mobiles, involuntary state-to-private mobiles, and private stayers, the first three of which are our main target comparison groups.

We also include control variables that affect happiness and may also be correlated with sector: personal annual total income and current International Socio-Economic

Index of Occupational Status (ISEI) score, gender, age, marital status, years of schooling,[2] political affiliation, work status, work hours per week, *hukou* status, and province, as well as year dummies to capture potential period fluctuations. Appendix Table A1 presents descriptive statistics for these variables by survey year.

Table 1 shows comparisons between state and private sectors in terms of happiness, personal annual total income, and fringe benefits. While Table 1 shows average levels of happiness increasing in both sectors from 2003 to 2008, it also indicates that workers in the private sector are significantly less happy than their counterparts in the state sector in all three survey years. Although workers in the state sector earned slightly (statistically insignificant) less than workers in the private sector over the period, they enjoyed significantly more fringe benefits, as measured by the total number of benefits and proportions of people entitled to benefits. These analyses confirm earlier research findings that the income advantage of the private sector over the state sector is diminishing, and also lend support to our hypothesis that social welfare benefits have become a salient indicator of between-sector social inequality and an underlying cause of sectoral differences in happiness.

[Table 1 About Here]

Methods

We use ordinary least squares regression as the main analytical strategy in our study. For supplementary analysis, we also use the propensity score matching method to examine the causal effect of sector in a counterfactual framework. As the number of movers in each survey year is relatively small, we pool all three datasets together for multivariate analyses. We obtain similar results, albeit with much less statistical power, if we break up the analyses by survey years.

Empirical Results

Observed Sectoral Differences in Happiness

First we conduct simple comparisons in happiness between state- and private-sector workers, the results of which are reported in Table 2. Model 1, which presents simple sectoral difference in happiness without any controls, indicates that workers in the

private sector are significantly less happy than their counterparts in the state sector, with a disparity of 0.083. In Model 2 controlling for covariates that may influence happiness as well as year dummies, the between-sector disparity in happiness decreases to 0.051, but still remains significant. Model 3, which adds province controls to account for unobserved contextual effects, reduces the happiness gap even further, but it remains marginally significant in favor of the state sector.

An examination of control variables finds that a higher ISEI score and higher income of current position are strongly linked to self-reported happiness – a not unexpected result – but that many other factors also play a role in happiness. Female workers are happier than male workers. People less than 30 years old are the happiest age group. Higher human capital and political capital, measured by years of schooling and party membership, are positively associated with happiness. Married people are happier. Temporary work status is associated with lower happiness; however, number of work hours per week is unrelated to happiness. With an insignificant coefficient, *hukou* status plays a weak role in determining people's happiness, perhaps because the majority of our respondents are urban local residents. Finally, findings indicate that Chinese people's happiness in each sector increased over the survey years.

[Table 2 About Here]

Comparisons in Happiness Considering Selectivity in Mobility

Regression results in the previous section are informative but may suffer from potential biases without taking into account selectivity in mobility into the private sector. Our next set of analyses uses the refined job mobility groups, comparing reported happiness among state-sector stayers, voluntary state-to-private mobiles (*xia hai*), involuntary state-to-private mobiles (*xia gang*/unemployment), and private-sector stayers. Our focus is on the first three groups, which share state-sector job origins.

The net differences in happiness among groups are reported in Table 3. Columns 2 and 3 present the OLS regression results for state-to-private mobility, 1992-2008. The significantly negative coefficients for both voluntary and involuntary state-to-private mobiles suggest that those in the private sector with a state-sector

origin are less happy than those who remained in the state sector, no matter why the transition was made. Compared with state-sector stayers, the average happiness scores of voluntary and involuntary state-to-private mobiles are 0.091 lower and 0.229 lower, respectively, holding all other variables in the model constant. Although the coefficient of private-sector stayers has a negative sign, it is not statistically significant. Thus, the primary sectoral differences in happiness exist between state-sector stayers and state-to-private sector mobiles. Or put another way, only workers who suffered *the loss* of the iron rice bowl are significantly less happy than those who did not.

To test the robustness of the results, we further restrict the mobility period to 10 years prior to the survey year: 1993-2003 for CGSS-2003, 1996-2006 for CGSS-2006, and 1998-2008 for CGSS-2008. We obtain similar results using these restrictions, as reported in columns 4 and 5 of Table 3. To test whether sectoral differences in happiness were stable during this time period, we added year-mobility group interaction terms to the above models, but found no significant interactions (results not shown here).

[Table 3 About Here]

Robustness Checks

The preceding results could be influenced by two sets of factors. First, state-to-private moves may be biased by pre-mobility individual characteristics that affect workers' tendency of mobility. For instance, people holding different administration or technical positions in job origins in state sector may have distinct propensities to make mobility transition. Second, unobserved personal traits that simultaneously influence individuals' choices of mobility and happiness may also bias estimates. For example, those who tend to take risks may have been more likely to move to the private sector in the early reform period as well to be more optimistic and happy people. While data limitations do not allow us to completely resolve these potential bias issues, further robustness checks help us to adjust for some potentially confounding factors.

Due to population heterogeneity, there is no guarantee that the group that actually

receives the treatment is comparable, in observed and particularly in unobserved contextual and individual characteristics, to the group that does not receive the treatment (Xie, Brand and Jann 2012). Individuals may self-select into state-to-private mobility based on anticipated monetary and nonmonetary benefits and costs of mobility. To make sure we are comparing apples with apples, we employ propensity score matching method (PSM) to make the mobility and immobility groups more similar across a wide range of characteristics. This is accomplished by matching on the conditional probability of mobility given a vector of observed covariates (Guo and Fraser 2010). Here the ignorable treatment assignment assumption is invoked, denoting that an individual's assignment to one treatment condition or another is independent of the potential outcomes if observable covariates are held constant.[4] Thus, any difference between the mobility and immobility groups after propensity matching can be understood to be an effect of mobility itself rather than covariates.

For this analysis, we restrict the sample to respondents with an original job in the state sector, and two treatments are distinguished: voluntary state-to-private mobility and involuntary state-to-private mobility. We make two pairwise comparisons: (1) voluntary state-to-private movers as the treatment group and state-sector stayers as the control group, and (2) involuntary movers as the treatment group and state-sector stayers as the control group. Nearest neighbor matching with replacement is employed to obtain PSM estimators for each paired comparison.[5] Variables entered into the logistic regression models predicting state-to-private mobility include gender, cumulative work experience in original job, cumulative work experience squared, education level before starting work, and characteristics of original job, including party membership, managerial position, technical titles, administrative position, organizational bureaucratic rank, and ISEI indicator.

Logistic regression results predicting propensity scores are reported in Appendix Table A2. The PSM results, which prove similar to the previous regression results, are reported in Table 4. For comparison between voluntary state-to-private movers and state-sector stayers, the ATT (average treatment effect on the treated), ATU (average treatment effect on the untreated), and ATE (average treatment effect) are all negative

and significant, with a higher magnitude than previous OLS results. Treatment effects for comparison between involuntary state-to-private movers and state-sector stayers are also negative and significant, consistent with previous OLS results. These analyses, which account for a variety of sociodemographic characteristics, buttress our findings that people in the private sector who moved from the state sector – whether involuntarily or not – have lower levels of happiness than those who remained in the state sector.

[Table 4 About Here]

To further address concerns about the potential influence of unobserved factors, we also control for personal trait variables in multivariate models. The CGSS-2006 includes a battery of questions concerning personal attitudes. For example, "How important are these factors to a successful career?" Factors include: "a wealthy family," "highly educated parents," "receiving a good education," "age," "talent and appearance," "gender," "good birthplace," "intelligence and wisdom," "ambition," "hardworking," "large social network" "political connection," "political performance," and "destiny." Ten items about self-control and psychological condition were asked in the CGSS-2008, including: "I can complete all plans that I made," "Generally speaking, I work well, just like most people," "I try my best to do a good job completing things that are due today even when I feel physically uncomfortable," "I can make my best effort even when faced with things I don't like," "I perform consistently, although it often takes a long time for my work to pay off," "I often do things well so as to be praised by others (colleagues and friends)," "I get along well with others," "I find it difficult to deal with conflicts with others about interests," "I feel that I have few things to be proud of," "I can control things that happen to me."

We proxy these questions for personal traits, and regression results after adjusting for these show that personal traits exert influence on happiness levels. For example, those who believe that hard work is important to career success are significantly happier than those who place more importance on destiny; and strong self-control and a better psychological state are also positively associated with happiness. However, happiness coefficients by mobility group changed very little

after controlling for personal traits, indicating that at least this group of characteristics did not significantly bias our main results and conclusions.[6]

Underlying Mechanisms: Psychosocial Factors vs. Institutional Arrangements in Job Security

Once we established to our satisfaction that mobility selectivity did not significantly bias our main findings that state-to-private sector mobiles have lower self-reported happiness than state sector stayers, we looked for possible causal mechanisms to explain the disparity. Because workers in the private sector are simultaneously less happy and enjoy significantly fewer employment benefits, we posited that their relative lack of job security/social welfare support contributes to their sense of disadvantage as manifest in lower levels of reported happiness. A contextual explanation for this association is that, particularly in China's fragmented market environments, social welfare benefits exert an important causal impact on individuals' happiness (Zhao 2012; Zhao and Zhou 2012).

Two alternative explanations involve psychosocial factors at the individual level. The salient hypotheses in the literature are (1) that mobility *per se* may cause social relationships and social ties to deteriorate (Durkheim [1897]1951; Kessin 1971; Sorokin 1959), which may cause unhappiness, and (2) that perceived changes in socioeconomic status associated with mobility or economic expectations can exert strong impacts on subjective well-being (Frijters, Liu and Meng 2012; Zhao 2012).

To analyze the first of these three potential causal pathways between mobility and happiness – employment benefits – we use information collected on social welfare benefits connected to jobs in the CGSS, including the total number and types of fringe benefits. To address the second potential pathway, we use data from the three survey years to proxy social relationships. From the CGSS-2003, we use self-reported quality of social interaction with family and friends, with responses ranging from 1 to 5. From the CGSS-2006 dataset, we use the average score of satisfaction with family relations and interpersonal relations, with responses ranging from 1 to 4. From the CGSS-2008, we use level of agreement with the statement "I get along well with the people around me," with responses ranging from 1 to 4. In all cases, higher scores

represent better social relationships. For the third potential causal pathway, we analyze data on subjective changes in socioeconomic status. The 2003 and 2006 CGSS include questions about perceived changes in socioeconomic status compared with three years earlier, with response choices of lower, similar, and higher. The CGSS-2008 asks respondents to compare their current place in the social hierarchy with that of ten years earlier, using the same three response choices.

The final sample size with complete information on these job benefit, relationship, and social status variables is 5,905. These data provide suggestive evidence that sectoral mobility harms relationships with family and friends, for both voluntary and involuntary mobile individuals report significantly lower scores for social relationships than state stayers. Significant differences from state stayers also exist in perceived changes in socioeconomic status, with a larger proportion of mobile individuals reporting negative status changes while smaller proportions of mobile individuals reporting similar or positive changes.

We present further results on causal mechanisms in Table 5 with regression models testing the mediating effects of social relationships, social status changes, and fringe benefits. Model 1, the baseline, shows significant happiness disparities among groups. Model 2, which tests the potential mediating effects of social relationships, shows that although social relationships have a strong positive effect on happiness, the main effects of mobility on happiness hardly change. This result indicates that any psychological cost of mobility does not operate through social relationships.

In Model 3, we examine perceived changes in socioeconomic status as a channel linking mobility groups and happiness. As expected, perceived declines in social status are associated with lower levels of self-reported happiness, whereas perceived increases are associated with higher self-reported happiness, other things being held constant. However, the psychological costs of mobility remain in this model. Using an alternative specification, we restrict mobility to a prior 3-year period in the 2003 and 2006 CGSS because these two surveys ask respondents to characterize status changes from three years earlier; and we restrict mobility to a prior 10-year period in the CGSS-2008 because this survey asks respondents to characterize status changes from

ten years earlier. Re-analyses based on these restricted samples (not reported here) are similar to Model 3, and thus do not support perceived social status changes as a possible channel for underlying happiness disparities.

Finally we test the mediating role of social welfare benefits as shown in Models 4a and 4b. In Model 4a, the total number of benefits is positively associated with happiness, and more important, the psychological cost of voluntary state-to-private mobiles almost disappears, with the coefficient dropping from 0.091 in the baseline to an only marginally significant 0.063. However, the negative coefficient for involuntary state-to-private mobiles remains significant at the 0.01 level. In Model 4b, we test each fringe benefit separately and find similar results. Voluntary state-to-private mobiles are only marginally less happy after controlling for benefits. However, results for involuntary state-to-private movers did not change much. Among the fringe benefits, only housing subsidies have a significantly positive effect on happiness.

These analyses indicate that the lower levels of happiness displayed by workers who moved from the state sector to the private sector are mainly caused by a loss of the iron rice bowl – the social welfare benefits associated with employment in the state sector. Furthermore, loss of social welfare benefits is not a main contributor to lower happiness for *involuntary* state-to-private movers, for whom the layoff or unemployment experience as a kind of downward mobility itself seems to have had a negative psychological impact that led to lower self-reported happiness. These results suggest that distinct sectoral job-related social welfare benefits, rather than psychosocial factors, lead to sectoral happiness disparities.

[Table 5 About Here]

Conclusion and Discussion

Situated in the institutional transformation of China's economic transition, this study contributes to the literature by examining the relationship between economic sectors and workers' subjective well-being as measured by happiness. We focus on the important role of sectoral disparities in job benefits in this relationship.

Consistent with an earlier study showing that workers in the public sector

perceived lower economic deprivation than those in the private sector (Hu 2013), our study further reveals sectoral differences in happiness and finds that workers in the private sector are significantly less happy than their state sector counterparts in transitional China. More refined group comparisons further suggest that workers remaining in the state sector are significantly happier than former state sector workers who moved into the private sector either voluntarily to pursue market opportunities or involuntarily through layoffs or unemployment. Although private sector stayers have lower levels of happiness, the difference is not statistically significant compared to state-sector stayers. Robustness checks are conducted to mitigate concerns about selection bias and omitted variables, and results strengthen the finding that workers in the private sector who experienced state-to-private mobility and loss of the iron rice bowl have reduced levels of happiness.

To buttress our position that lower happiness among state-to-private movers is caused by the loss of advantageous fringe benefits rather than other factors, we considered two potential alternative mechanisms, perceived social relationships and perceived changes in socioeconomic status at the individual level, as a counter to inequality in fringe benefits at the institutional level. Analyses showed that voluntary and involuntary state-to-private mobiles feel less happy mainly because they suffered loss of job benefits rather than because their social relationships deteriorated or they perceived worsening in their social status. Specifically, voluntary state-to-private mobiles experienced a trade-off by making such a transition: they enjoyed higher earnings payoffs while lost a sense of security usually attached with work units in state sector, but higher incomes does not make up for this non-pecuniary cost in subjective well-being. In the larger context, the advantage in earnings enjoyed by private sector workers over state sector workers is diminishing, and the income distribution of voluntary mobiles has larger variation than that of state stayers, indicating that voluntary movers endure larger risks of socioeconomic change, both of which contribute to the salience of fringe benefits as a new indicator of socioeconomic inequality in determining individuals' happiness. For involuntary mobile individuals, inequality in job security can explain away part of the

psychological cost they endure, but the layoff or unemployment as a negative life event and downward mobility *per se* nonetheless leaves them with long-term psychological scars. People in this group are losers in both economic and subjective well-being in transitional urban China.

This study may have policy implications for transitional economies such as China. The Chinese government adopted gradual and differentiated strategies to develop markets in various economic domains, resulting in a fragmented market with highly advantageous social welfare benefits remaining in the state employment sector while being undeveloped for the private sector (Zhao 2012; Zhao and Zhou 2012). This institutional segmentation is the breeding ground for inequalities in social welfare benefits to impact subjective well-being. This analysis indicates that further privatization of the economy without a concomitant growth in welfare benefits in the private sector is a cause for concern, as suggested in prior studies (Campos and Coricelli 2002). It also specifies the level and scope of subjective happiness at stake for workers in the private sector. These findings highlight the need in contemporary China for a social safety net – including unemployment support – both to reduce the hardship of those displaced from the state sector and to motivate state-sector workers to take a chance on the private sector.

Finally, we acknowledge certain limitations of this study. First, cross-sectional datasets used in this study provide individuals' happiness levels solely at the survey points, and specifically do not assess happiness at a pre-mobility stage during the 1990s. There is no guarantee that respondents who were in the same sector some time ago had the same level of happiness. This problem can be resolved only by having available and assessing longitudinal or panel data in the future. Second, although we have happiness data from 2003 to 2008, the effect of voluntary state-to-private mobility on happiness may vary across reform stages. Third, happiness mainly reflects affective components of subjective well-being that involve positive emotional aspects (Frey and Stutzer 2002a, 2002b), which is mood-related and sensitive to changes in environment (Diener et al. 1999). Studies of social determinants of other related outcomes, such as life satisfaction, depression, and anxiety, will provide a

more comprehensive understanding of the relationship between economic sectors and subjective well-being. Hence, we welcome future research examining the relationship between sector and subjective well-being in China using more comprehensive indicators and longitudinal data.

Notes

1. Individuals' subjective well-being is a multi-dimensional concept, and happiness mostly just reflects positive affective components of subjective well-being (Frey and Stutzer 2002), which are mood-related and sensitive to sudden changes in the environment (Diener et al. 1999). Some studies use life satisfaction while others use happiness as a measure, and most studies use these two terms interchangeably. In this study we use happiness as a measure of subjective well-being.
2. Both CGSS-2006 and CGSS-2008 asked respondents how many years of schooling they have received from primary school, and we impute missing values of this variable using respondents' highest level of education. CGSS-2003 only asked individuals their highest level of education, based on which we construct the variable years of schooling as follows: illiterate=0, primary school=6, junior high school=9, senior high school/technician secondary school=12, vocational school=11, junior college=14, 4-year college=16, graduate school and above=18.
3. CGSS-2003 and CGSS-2008 have detailed information about respondents' work history, including 12 work records and 10 work records respectively; CGSS-2006 only recorded respondents' first job, first non-rural job, and current or last job before unemployment/retirement.
4. The ignorable treatment assignment assumption, or the ignorability assumption, is also called the "conditional independence assumption," "unconfoundedness," or "selection on observables" (Xie 2011).
5. One-to-one nearest neighbor matching with replacement is used in the contrast between voluntary state-to-private movers and state-sector stayers, while one-to-five nearest neighbor matching with replacement is used in the contrast between involuntary state-to-private movers and state-sector stayers due to the small size of the involuntary group.
6. Detailed regression results are available upon request. We also take into account health as another confounding factor. Since only the CGSS-2008 asked about health, we conducted analysis controlling for health status using the CGSS-2008 data and found that workers in the private sector are less happy even after adjusting for health status.

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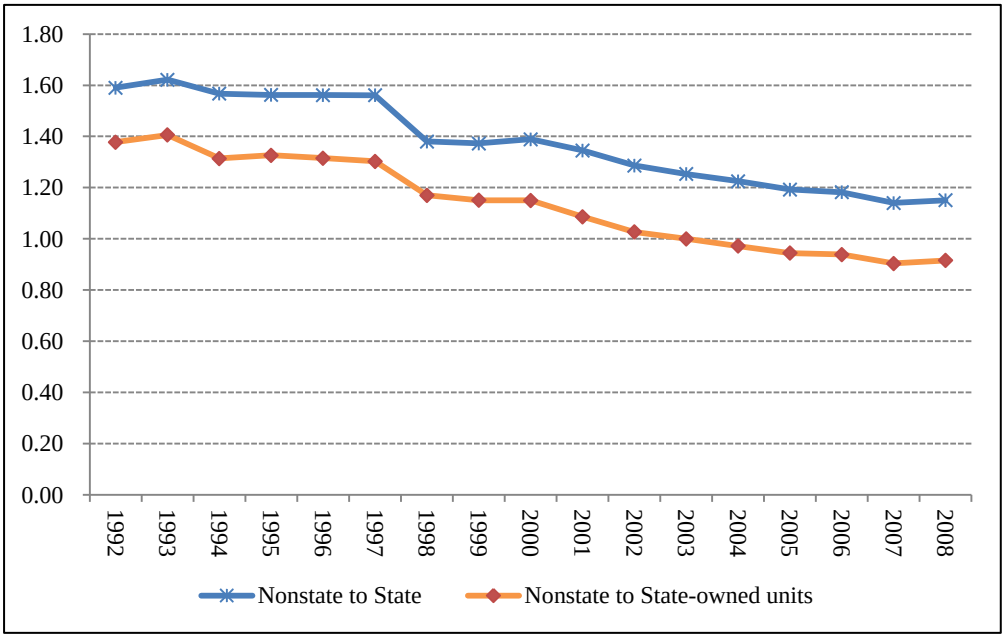

Figure 1: Ratios of Average Wages for Nonstate Sector to State Sector and Nonstate Sector to State-owned units, Urban China

Source: *China Statistical Yearbooks*.

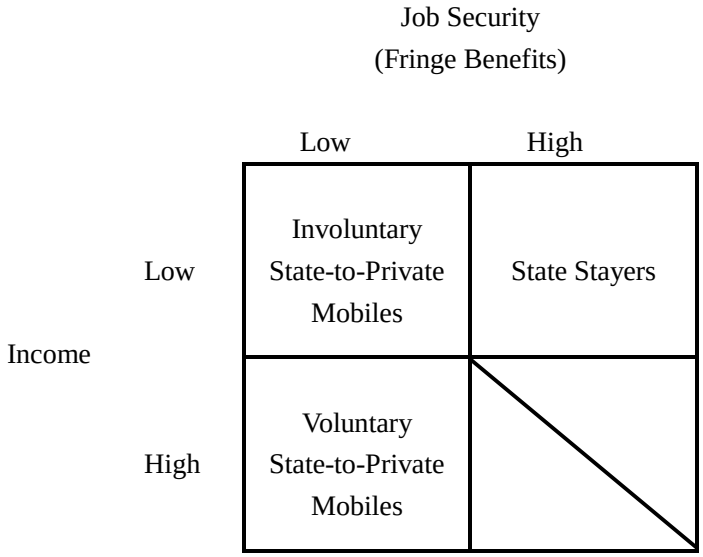

Figure 2: Typology of Three Comparison Groups with State Sector Origin

Table 1: Sectoral Differences in Happiness, Income and Benefits, Urban China

	2003		2006		2008	
	State	Private	State	Private	State	Private
Happiness[a]	3.412	3.311**	3.594	3.444***	3.938	3.778***
Personal annual total income (yuan)[b]	13102.426	13911.507	16919.591	17549.706	25624.855	27661.777
No. of fringe benefits[c]	3.268	0.897***	3.713	0.852***	2.567	1.438***
Medical insurance	0.821	0.239***	0.814	0.217***	0.753	0.415***
Pension	0.760	0.242***	0.761	0.199***	0.718	0.412***
Unemployment insurance	0.430	0.150***	0.484	0.125***	0.596	0.359***
House or housing subsidies[d]	0.521	0.125***	0.516	0.098***	0.156	0.071***
N	1657	678	1288	1260	868	816

Notes: [a] Happiness is measured on a five-point scale ranging from 1-5, with higher scores indicating greatest happiness.

[b] Personal annual total income is constant at 2002 level.

[c] CGSS-2003 and CGSS-2006 asked respondents whether they had the following seven types of benefits: free medical service, basic medical insurance, supplementary medical insurance, basic pension insurance, supplementary pension insurance, unemployment insurance, housing or housing subsidies. CGSS-2008 asked general questions on pension insurance, medical insurance, unemployment insurance, and housing type instead of asking separate questions on insurances.

[d] CGSS-2008 only asked housing type, and only those who were renting houses from work units, or purchased houses from work units with partial or full ownership are viewed as people who enjoyed benefits.

+p<0.10, *p<0.05, **p<0.01, ***p<0.001 (two-tailed tests).

Table 2: OLS Regressions of Happiness on Economic Sectors, Urban China

	Model 1		Model 2		Model 3	
	B	Robust	B	Robust	B	Robust
Variables		S.E.		S.E.		S.E.
Private Sector	-0.083***	0.020	-0.051*	0.021	-0.039+	0.022
Personal annual total income			0.035***	0.006	0.037***	0.006
(logged)						
Male			-0.120***	0.018	-0.122***	0.018
Age cohorts (20-29=0)						
30-39			-0.249***	0.028	-0.244***	0.028
40-49			-0.312***	0.030	-0.296***	0.030
50 an above			-0.259***	0.037	-0.240***	0.037
ISEI of current job			0.004***	0.001	0.004***	0.001
Years of schooling			0.020***	0.004	0.022***	0.004
Single/divorced/widowed			-0.319***	0.027	-0.303***	0.027
Party member			0.090**	0.026	0.081**	0.026
Temporary work			-0.290***	0.044	-0.290***	0.044
Working hours per week			-0.001	0.001	-0.001	0.001
Rural *hukou*			-0.040	0.031	-0.038	0.031
Year dummies (2003=0)						
2006			0.174***	0.020	0.174***	0.020
2008			0.470***	0.026	0.465***	0.027
Province dummies			NO		YES	
R^2	0.003		0.142		0.155	
N	6567		6567		6567	

*Note: +p<0.10, *p<0.05, **p<0.01, ***p<0.001* (two-tailed tests).

Table 3: OLS Regressions of Happiness on Economic Sectors Considering Mobility, Urban China

	Mobility between 1992-2008		Mobility within 10 Years	
Variables	B	Robust S.E.	B	Robust S.E.
State stayers (reference)				
Voluntary state-to-private mobiles	-0.091**	0.033	-0.090*	0.035
(*xia hai)*				
Involuntary state-to-private mobiles	-0.229***	0.062	-0.237**	0.071
(*xia gang*/unemployment)				
Private stayers	-0.019	0.026	-0.022	0.027
Personal annual total income (logged)	0.034***	0.007	0.035***	0.007
Male	-0.116***	0.019	-0.122***	0.020
Age cohorts (20-29=0)				
30-39	-0.217***	0.029	-0.210***	0.030
40-49	-0.284***	0.032	-0.276***	0.032
50 an above	-0.241***	0.040	-0.241***	0.041
ISEI of current job	0.003***	0.001	0.003***	0.001
Years of schooling	0.023***	0.004	0.023***	0.004
Single/divorced/widowed	-0.288***	0.029	-0.271***	0.029
Party member	0.088**	0.027	0.087**	0.027
Temporary work	-0.268***	0.048	-0.249***	0.049
Working hours per week (x10)	-0.003	0.007	-0.003	0.008
Rural *hukou*	-0.044	0.032	-0.036	0.034
Year dummies (2003=0)				
2006	0.172***	0.021	0.171***	0.022
2008	0.492***	0.027	0.496***	0.028
Province dummies	YES		YES	
R^2	0.161		0.163	
N	5915		5617	

*Note: +p<0.10, *p<0.05, **p<0.01, ***p<0.001* (two-tailed tests).

Table 4: Propensity Score Matching Estimators of the Effect of State-to-Private Mobility on Happiness, Urban China

	Treated E(Y)[a]	Controls E(Y)[a]	Difference (Treatment Effects)[b]	Bootstrap S. E.
Voluntary S-P Mobiles vs. State Stayers				
ATT	3.486	3.618	-0.132**	0.048
ATU	3.631	3.516	-0.115*	0.048
ATE	------	------	-0.118*	0.054
N[c]	623	3150		
Involuntary S-P Mobiles vs. State Stayers				
ATT	3.349	3.529	-0.180*	0.071
ATU	3.632	3.346	-0.286**	0.106
ATE	-------	-------	-0.281**	0.092
N[c]	172	3134		

Notes: [a] E(Y) indicates the average happiness score for corresponding group.

[b] Treatment effects mean the differences in average happiness scores between treated and control groups.

[c] Number of cases in the common support area is reported. Only 1 case is off support out of 3774 cases in the comparison between voluntary S-P mobiles and state stayers, while only 16 cases are off support out of 3322 cases in the comparison between involuntary S-P mobiles and state stayers.

*+p<0.10, *p<0.05, **p<0.01, ***p<0.001* (two-tailed tests).

Table 5: Potential Mechanisms Underlying Association between Happiness and Economic Sectors, Urban China

Variables	Model 1		Model 2		Model 3		Model 4a		Model 4b	
	B	Robust S.E.	B	Robust S.E.	B	Robust S.E.	B	Robust S.E.	B	Robust S.E.
State stayers (reference)										
Voluntary state-to-private mobiles (*xia hai)*	-0.091**	0.033	-0.090**	0.032	-0.081*	0.033	-0.063+	0.034	-0.065+	0.035
Involuntary state-to-private mobiles (*xia gang*/unemployment)	-0.231***	0.062	-0.215***	0.062	-0.233***	0.063	-0.207**	0.063	-0.209**	0.063
Nonstate stayers	-0.018	0.026	-0.015	0.026	-0.019	0.026	0.011	0.028	0.009	0.029
Social relationship			0.208***	0.017						
Perceived social status changes										
Lower					-0.065*	0.027				
Higher					0.143***	0.023				
No. of fringe benefits							0.017**	0.005		
Pension insurance									0.017	0.031
Medical insurance									0.011	0.032
Unemployment insurance									0.015	0.021
Housing subsidies									0.051*	0.024
Other controls[a]	YES		YES		YES		YES		YES	
R^2	0.161		0.188		0.170		0.163		0.163	
N	5905		5905		5905		5905		5905	

*Notes: +p<0.10, *p<0.05, **p<0.01, ***p<0.001* (two-tailed tests).

[a] Same with Table 2 and Table 3, other control variables include personal annual total income and other social demographic characteristics.

Table A1. Un-weighted Summary Statistics (Mean and Standard Deviations) for Variables

Variables	Overall	CGSS-2003	CGSS-2006	CGSS-2008
Happiness	3.558	3.383	3.520	3.860
	(0.778)	(0.729)	(0.698)	(0.867)
Economic Sector				
State sector	0.581	0.710	0.506	0.515
Private sector	0.419	0.290	0.495	0.485
Personal annual total income(logged)[a]	9.258	8.939	9.229	9.746
	(1.723)	(1.879)	(1.780)	(1.232)
Male	0.575	0.589	0.562	0.575
Age Cohorts				
20-29 (reference)	0.229	0.179	0.260	0.249
30-39	0.357	0.363	0.353	0.357
40-49	0.288	0.326	0.272	0.262
50 and above	0.126	0.132	0.115	0.132
ISEI of current job	46.586	48.109	45.555	46.034
	(14.785)	(15.070)	(12.784)	(16.894)
Years of schooling	11..280	11.421	11.011	11.493
	(3.195)	(2.920)	(3.229)	(3.472)
Single/divorced/widowed	0.184	0.137	0.219	0.196
Party membership	0.169	0.234	0.106	0.172
Temporary work	0.057	0.056	0.063	0.051
Working hours per week	48.909	47.866	49.955	48.775
	(15.093)	(15.466)	(15.080)	(14.480)
Rural *hukou*	0.138	0.060	0.193	0.163
N	6567	2335	2548	1684

[a] Personal annual total income is constant at 2002 level.

Table A2. Binary Logistic Regression Predicting State-to-Private Mobility, Urban China

	Voluntary S-P Mobility		Involuntary S-P Mobility	
Variables	B	S.E.	B	S.E.
Male	0.035	0.095	-0.047	0.166
Cumulative work experience in original job	-0.066***	0.016	0.011	0.033
Cumulative work experience in original job^2 (x10)	0.007	0.005	-0.002	0.001
Education levels before starting work (Junior school and less=0)				
Senior school and technical school	-0.271*	0.128	-0.618**	0.196
Junior college	-0.286	0.186	-1.532***	0.412
Bachelor and higher	-0.460*	0.204	-1.981***	0.553
Non-degree training and other	0.226	0.166	-0.413*	0.281
Party membership in original job	-1.096***	0.198	-0.702	0.343
Manager or not in original job	-0.093	0.141	0.129	0.254
Holding technical titles or not in original job	-0.400***	0.111	-0.462*	0.210
Administrator or not in original job	-0.033	0.229	0.098	0.434
Organizational bureaucratic rank of original job (no government affiliation=0)				
Central government	-1.303***	0.262	-0.618	0.497
Province-level government	-0.973***	0.202	-0.476	0.412
City-level government	-0.694***	0.172	-0.049	0.358
County-level government	-0.405*	0.182	0.212	0.372
Town-level government and lower	-0.177	0.236	0.462	0.458
ISEI of original job	-0.013***	0.004	-0.028*	0.007
LR chi2	309.85		155.30	
Pseudo R2	0.092		0.115	
N	3774		3322	

*Note: +p<0.10, *p<0.05, **p<0.01, ***p<0.001* (two-tailed tests).