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Feeling good about the iron rice bowl: Economic sector 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 sector and a worker's 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 during a period when a large wave of workers moved from the state sector to the private sector, those remaining in the state sector reported being significantly happier than did former state sector workers who had moved, whether the move was voluntary or involuntary. We attribute the higher level of reported happiness in the state sector than in the private sector to the disparity by sector in the provision of social welfare benefits. Those who made voluntary state-to-private moves experienced a trade-off in enjoying higher payoffs while losing job security, whereas involuntary mobiles experienced downward mobility and suffered a long-term psychological penalty.

1. 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 workers' subjective well-being and health (e.g., Brand et al., 2008; Burgard et al., 2007; Darity and Goldsmith, 1996; Frijters et al., 2004; Gallo et al., 2006; Hayo and Seifert, 2003; Namazie and Sanfey, 2001; Winkelmann and Winkelmann, 1998; Young, 2012). Workers who experience job displacement and unemployment, however, 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, 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

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(Bulow and Summers, 1986; Cain, 1976; Doeringer and Piore, 1971; Reich et al., 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 secure permanent positions (Acquisti and Lehmann, 2000; Lehmann and Wadsworth, 2000; Lehmann et al., 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 in strong positions (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 in achieving rapid economic growth over the past three decades, while dramatically changing employment relationships and dislocating large numbers of workers in the process. One such change during the market reform was the smashing of the "iron rice bowl" – or the displacement of jobs in the public sector with guaranteed life-time job security, medical benefits, housing, education, and other elements of social welfare by uncertain jobs in the market economy (Tang and Parish, 2000). 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% (National Bureau of Statistics, 2011). Today, about 40% of China's working population has no job-related benefits (Kuruvilla et al., 2011). It has been argued 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). Indeed, observers have cited these differences between the state and private sectors as the main explanation for a recent rise in the number of college graduates taking China's national civil service exam (Li, H., 2013).

Using data from the Chinese General Social Surveys, this study investigates the relationship between economic sector employment and subjective well-being, measured by self-reported happiness.[1] We attempt to address two research questions. First, does workers' level of happiness differ by economic sector? Second, if yes, does job security or some other factor(s) explain the observed difference?

2. Theoretical issues

2.1. Subjective well-being and economic factors

Researchers in psychology, sociology, and economics have long been interested in what makes individuals feel happy (e.g., Alber et al., 2008; Argyle, 2001; Böhnke, 2008; Diener et al., 1999; Easterlin, 1974, 1995, 2001; Di Tella et al., 2003; Easterlin et al., 2012; Frey and Stutzer, 2000, 2002a, 2002b; Frijters et al., 2004; Han, 2015; Kahneman et al., 2006; Wu and Li, 2013; Yang, 2008; Zhou and Xie, 2015). The relationship between income and happiness is an intriguing question that has long been debated, especially in economics, but still without a clear answer. 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 various measures 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 et al., 2010, 2012; Stevenson and Wolfers, 2008, 2013).

In focusing mostly on the potential causal influence of income, the current literature on subjective well-being overlooks the importance of other social determinants of subjective well-being, particularly 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 people's safety needs are well satisfied will they pursue higher-level 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, a multi-faceted concept with both objective and subjective dimensions. We are not the first to pay attention to the importance of job security for subjective well-being, as a literature already exists on this research topic, where job security is measured either subjectively by reported/perceived job security (e.g., Clark and Postel-Vinay, 2008; Blanchflower and Oswald, 1999) or objectively by temporary contracts, job separation, and fringe benefits (e.g., Lehmann et al., 1999; Lehmann and Wadsworth, 2000; Mitchell, 1982, 1983). It is known that employment security is a key factor when workers evaluate job desirability (Mitchell, 1982, 1983). However, we do not know yet whether the systematic differences in job security by economic sector that exist in contemporary China have led to a disparity in subjective well-being by sector. Our study aims to fill this gap by examining the interplay between economic sector and self-reported happiness, focusing on the role of fringe benefits – or non-wage employment compensations – as determinants. We choose fringe benefits as

[1] Individuals' subjective well-being is a multi-dimensional concept, and happiness mostly just reflects the positive affective components of subjective well-being (Frey and Stutzer, 2002a, 2002b), 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.

a proxy for job security for the following reasons: First, job security is highly correlated with fringe benefits, as employers typically use fringe benefits as an incentive to entice workers not to change employers. Some employers even provide generous benefits for employees' family members, such as education for children, to tie workers to the firm (Reich et al., 1973). Second, fringe benefits are important to individuals' subjective well-being in ways that go beyond their monetary values. Individuals place different values on specific benefits, and attachment to benefits may strengthen workers' continuous commitment to and satisfaction with the organization (Weathington and Jones, 2006). In transitional China, where there is much uncertainty in the labor market, jobs in the state sector – iron rice bowls – are widely perceived as highly desirable because they offer advantageous benefits and associated job security.[2]

2.2. Labor market segregation and the dual labor market

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 conditions 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, several researchers (Dickens and Lang, 1992) advanced this theory as an alternative to human capital theory. From the perspective of labor market dualists, the primary and secondary segments are differentiated mainly by job stability/security and operationalized by 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 (i.e., 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 raising the separation cost to workers. In contrast, secondary sector jobs are more tied to the ups and downs of the external job market, with lower job security and stability and less return for job tenure, and fewer benefits.

2.3. China's market transition and inequality in job security

China has followed an incremental strategy in rolling out its economic reforms. As a result, the private sector has grown gradually in replacing the state sector. In the early stage before 1993, the reform focused primarily on incentives to improve work efficiency without disruption to employment relationships (Qian, 2000). Job mobility was low (Knight and Yueh, 2004; Zhou et al., 1997), with most workers still tied to their work units, or *danwei*[3] (Xie and Wu, 2008), 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 et al., 2006).

China's current economy is now characterized by "fragmented markets," the co-existence of a large state sector and a large 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. This is shown in Fig. 1, where we plot the logged ratio of average non-state to state sector wages, a measure of the earnings premium in the private sector relative to the state sector. We observe that the premium declined from 1992 to 2008 and disappeared

[2] *Nanfang zhoumo* (Southern Weekly), 24 February 2011.

[3] In pre-reform China, *danwei* played an all-encompassing role for urban citizens: one's *danwei* defined one's work life, political life, economic well-being and membership in society. In today's urban China, *danwei* is one of the most important determinants of earnings.

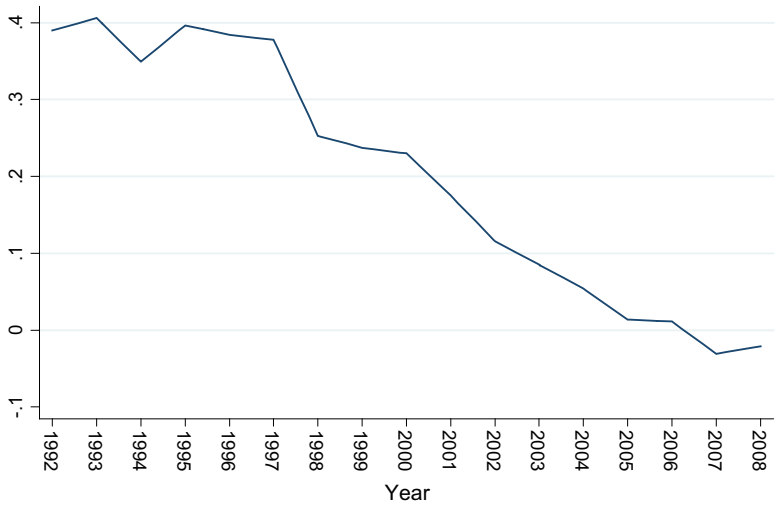

Fig. 1. Logged ratio of average non-state to state sector wages, urban China. *Data Sources*: National Bureau of Statistics (2009, 2013).

after that.[4] 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 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 an advantage.

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 units in the state sector providing generous fringe benefits (Xie et al., 2009). The earnings advantage enjoyed by workers in the private sector over those in the state sector has diminished or even disappeared altogether. In addition to a secular trend of improvement in relative earnings, workers in the state sector have always enjoyed, among many other benefits, lifetime job security, or the iron rice bowl.

3. Analytical framework

For our analyses, we first conduct a simple comparison in self-reported happiness between workers in the state sector and those in the private sector 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 et al., 2003) and also influence 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, mostly 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 or felt the loss of iron rice bowl benefits as did those who entered from the state sector. Given this distinction, state-to-private sector workers (mobiles) and continuing state sector workers (state stayers) all had prior experiences working in the state sector and thus constitute appropriate counterfactuals in terms of how their sector-based self-reported happiness may be influenced by the current 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 typology given in Fig. 2. 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;

[4] According to the official data, state sector includes state-owned units and urban collective-owned units, and a weighted average wage was calculated. Non-state sector includes cooperative units, joint ownership units, limited liability corporations, share-holding corporations Ltd., foreign funded units (including Hong Kong, Macao and Taiwan) and others, while private enterprises and self-employed individuals were excluded. Thus the logged ratio of wages in two sectors used in this study is a crude and tentative measure.

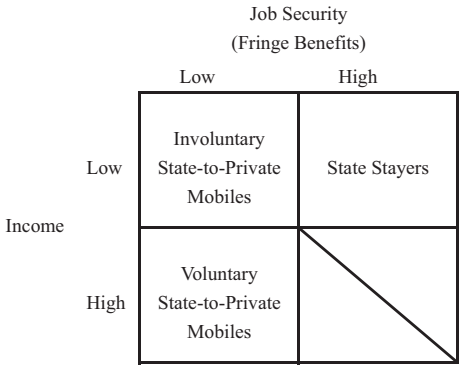

Fig. 2. Typology of three comparison groups with state sector origin.

Wu, 2010). People in the upper left-hand cell are those who experienced layoffs or unemployment with relatively low incomes and low fringe benefits. Workers with high incomes and high fringe benefits – the lower right cell of Fig. 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 moved into the private sector (Zhou, 2014). 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.

4. Research methodology

4.1. 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.[5] 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.

4.2. Variables and measurement

4.2.1. Dependent variable

Self-reported happiness is measured by 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.

4.2.2. 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).[6]

[5] As a survey program launched jointly by the Hong Kong University of Science and Technology and Renmin University, the CGSS has been conducted since 2003 through face-to-face interviews using a structured questionnaire survey, which aims to monitor systematically the changing relationship between social structure and quality of life in urban and rural China (Bian and Li, 2012). See http://www.cssod.org/cgss/login.php for more information.

[6] Although SOEs and collective enterprises have fared differently in China's economic reform, economic sector is coded as a dummy variable mainly for two reasons: (1) Theoretically consistent with the literature on "the dual labor market" in western societies, our argument is based on the "fragmented markets" between the state and private sector (Zhao, 2012; Zhao and Zhou, 2012); (2) from the perspective of work mobility, the state sector origin of state-to-private mobiles includes government agencies, public institutions, SOEs and collective enterprises. The dichotomous treatment makes the group typology based on mobility much easier to interpret.

Our secondary independent variable uses work history data to categorize individuals based on their job sector origin and destination and the volitional nature of any state-to-private sector moves.[7] The year 1992 serves as the starting point because while the government began to allow privately-owned enterprises that employ workers in 1988, the private sector experienced rapid growth only after Deng Xiaoping's famous political tour of southern China in 1992. For this reason, the year 1992 marked a milestone in the history of China's economic reform when further market-oriented measures were called for (Wu, 2010).[8] 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 and other covariates that affect happiness and may also be correlated with sector: gender, age groups (measured at the survey years), marital status, years of schooling,[9] political affiliation, *hukou* status,[10] personal annual total income, current International Socio-Economic Index of Occupational Status (ISEI) score, work status, work hours per week, as well as province and year dummies to capture potential period fluctuations. Only respondents with complete information on all variables are included in multivariate analyses and the final sample size is 5915. 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.

4.3. Methods

We use ordinary least squares regression as the main analytical strategy in our study.[11] For supplementary analysis, we also use the propensity score matching method to check for the robustness of regression results. 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.

5. Empirical results

5.1. 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 with only year dummies, indicates that workers in the private sector are significantly less happy than their counterparts in the state sector, with a disparity of 0.148. In Model 2 after controlling for covariates that may influence happiness, the between-sector disparity in happiness decreases to 0.072, 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 significant in favor of the state sector. The reported happiness of workers in the private sector is from 0.191 to 0.076 standard deviations lower than that of their counterparts in the state sector (0.191 = 0.148/0.776; 0.076 = 0.059/0.776; 0.776 = one standard deviation of the dependent variable). While these differences are not huge, they are substantial when interpreted together with other variables such as income. In Model 3, for instance, the effect of logged personal annual total income is 0.034 and the effect of sector is −0.059. Ignoring standard error, this means that if the increase of earnings for moving from the state sector to the private sector is 5.67-fold, or 74% in log

[7] CGSS-2003 and CGSS-2008 collected detailed information about respondents' work histories, 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. Work history measures in each survey provided timing and some types of position changes in respondents' job mobility.

[8] Our results are insensitive to whether we choose 1992 or one or two years later.

[9] Both CGSS-2006 and CGSS-2008 asked respondents how many years of schooling they had received in 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.

[10] In 1955 the Chinese government established the *hukou* system to control population migration, and all households registered in the locale where they resided were categorized as either agricultural or nonagricultural, or as rural or urban households.

[11] In an earlier draft of this paper, we used ordered logit regression and the outcome was happiness with three categories: unhappy, so-so, happy (the percentages of respondents reporting "very unhappy" and "very happy" were very small, and we combined them with adjacent categories). Since the main findings are the same as those from OLS models, we use the OLS method for easier interpretation.

Table 1
Sectoral differences in happiness, income and benefits, urban China ($N = 5915$).

	Overall		2003		2006		2008	
	State	Private	State	Private	State	Private	State	Private
Happiness[a]	3.609	3.519	3.423	3.311**	3.609	3.462***	3.982	3.788***
	(0.750)	(0.806)	(0.690)	(0.785)	(0.684)	(0.700)	(0.813)	(0.890)
Personal annual total income (yuan)[b]	16459.579	18880.644	13237.217	13963.537	17118.179	17718.283	21980.511	24863.588
	(17615.674)	(30807.778)	(11426.562)	(21863.503)	(19279.699)	(26166.689)	(23100.299)	(41145.783)
No. of fringe benefits[c]	3.324	1.059	3.353	0.930***	3.790	0.863***	2.626	1.457***
	(1.963)	(1.706)	(1.837)	(1.656)	(2.310)	(1.752)	(1.409)	(1.614)
Medical insurance	0.828	0.293	0.838	0.248***	0.831	0.224***	0.805	0.433***
	(0.377)	(0.455)	(0.368)	(0.432)	(0.375)	(0.417)	(0.396)	(0.496)
Pension	0.773	0.284	0.775	0.249***	0.775	0.201***	0.765	0.435***
	(0.419)	(0.451)	(0.418)	(0.433)	(0.418)	(0.401)	(0.424)	(0.496)
Unemployment insurance	0.527	0.225	0.443	0.152***	0.502	0.126***	0.729	0.432***
	(0.576)	(0.488)	(0.497)	(0.360)	(0.500)	(0.332)	(0.748)	(0.676)
House or housing subsidies[d]	0.448	0.100	0.536	0.132***	0.540	0.104***	0.144	0.066***
	(0.497)	(0.300)	(0.499)	(0.339)	(0.499)	(0.305)	(0.352)	(0.248)
N	3387	2528	1547	682	1064	1087	776	759

Notes: Standard deviations in the parentheses.
* $p < 0.05$ (two-tailed tests).
** $p < 0.01$ (two-tailed tests).
*** $p < 0.001$ (two-tailed tests).
[a] Happiness is measured on a five-point scale ranging from 1 to 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.

Table 2
OLS regressions of happiness on economic sectors, urban China.

Variables	Model 1		Model 2		Model 3	
	B	Robust S.E.	*B*	Robust S.E.	*B*	Robust S.E.
Private sector	−0.148***	0.020	−0.072*	0.022	−0.059*	0.023
Personal annual total income (logged)			0.032***	0.006	0.034***	0.007
Male			−0.114***	0.019	−0.117***	0.019
Age groups (20–29 = 0)						
30–39			−0.237***	0.028	−0.230***	0.029
40–49			−0.319***	0.031	−0.301***	0.031
50 and above			−0.279***	0.040	−0.256***	0.040
ISEI of current job			0.003***	0.001	0.003***	0.001
Years of schooling			0.020***	0.004	0.022***	0.004
Single/divorced/widowed			−0.308***	0.029	−0.289***	0.029
Party member			0.100**	0.027	0.090**	0.027
Temporary work			−0.275***	0.048	−0.279***	0.048
Working hours per week ($\times 10^{-1}$)			0.002	0.007	−0.003	0.007
Rural *hukou*			−0.028	0.032	−0.027	0.032
Year dummies (2003 = 0)						
2006	0.176***	0.022	0.173***	0.021	0.173***	0.021
2008	0.525***	0.027	0.491***	0.026	0.485***	0.027
Province dummies	No		No		Yes	
Constant	3.434***	0.016	3.054***	0.086	3.007***	0.097
R^2	0.073		0.146		0.159	
N	5915		5915		5915	

* $p < 0.05$ (two-tailed tests).
** $p < 0.01$ (two-tailed tests).
*** $p < 0.001$ (two-tailed tests).

scale (exp(0.059/0.034)), the benefiting effect from an increase in income would offset the estimated negative effect of moving from the state sector to the private sector. However, in our analyzed sample, the ratio of average personal annual total income in the private sector to that in the state sector is only around 1.147, resulting in a tiny increase in happiness of 0.005 ($\log(1.147) * 0.034$).

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.

5.2. Comparisons in happiness considering selectivity in mobility

Regression results in the previous section are informative but may suffer from potential biases without taking selectivity in mobility into the private sector into account. 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).

5.3. 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' tendencies toward mobility. For instance, people holding different administrative or technical positions in job origins in the state sector may have distinct propensities to make mobility transition. Second, unobserved personal traits that simultaneously influence individuals' mobility choices 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 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 et al., 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 the 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.[12] 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.[13] Variables entered into the logistic regression models predicting state-to-private mobility include gender, cumulative work experience in original job, cumulative work

[12] The ignorable treatment assignment assumption, or the ignorability assumption, is also called the "conditional independence assumption," "unconfoundedness," or "selection on observables" (Xie, 2011).

[13] 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.

Table 3
OLS regressions of happiness on economic sectors considering mobility, urban China.

Variables	Mobility between 1992 and 2008		Mobility within 10 years[a]	
	B	Robust S.E.	*B*	Robust S.E.
State stayers (reference)				
Voluntary state-to-private mobiles (*xia hai*)	−0.091**	0.033	−0.090*	0.035
Involuntary state-to-private mobiles (*xia gang*/unemployment)	−0.229***	0.062	−0.237**	0.071
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 groups (20–29 = 0)				
30–39	−0.217***	0.029	−0.210***	0.030
40–49	−0.284***	0.032	−0.276***	0.032
50 and 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 (×10)	−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	
Constant	2.991***	0.097	2.960***	0.101
R^2	0.161		0.163	
N	5915		5617	

* $p < 0.05$ (two-tailed tests).
** $p < 0.01$ (two-tailed tests).
*** $p < 0.001$ (two-tailed tests).
[a] The sample size for mobility within 10 years is slightly smaller due to a shorter time period.

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.

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.[14]

[14] 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 an 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.

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		

* $p < 0.05$ (two-tailed tests).
** $p < 0.01$ (two-tailed tests).
*** $p < 0.001$ (two-tailed tests).
[a] $E(Y)$ indicates the average happiness score for corresponding group.
[b] Treatment effects means 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.

5.4. Underlying mechanisms: psychosocial factors vs. institutional arrangements in job security

Having 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 now examine potential causal mechanisms for the disparity. Because workers in the private sector are simultaneously less happy and enjoying significantly fewer employment benefits, we posit that their relative lack of job security/social welfare contributes to their sense of disadvantage as manifested in lower levels of reported happiness. We base this conjecture on the observation that social welfare benefits exert an important causal impact on individuals' happiness in China's fragmented market environment (Zhao, 2012; Zhao and Zhou, 2012).

Two alternative explanations involve psychosocial factors at the individual level. The salient hypotheses in the literature assert (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 et al., 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 their place 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 5905. 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 between movers and 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 report 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 asked respondents to

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
Private 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	
Constant	2.988***	0.097	2.286***	0.111	2.990***	0.097	2.941***	0.098	2.947***	0.099
R^2	0.161		0.188		0.170		0.163		0.163	
N	5905		5905		5905		5905		5905	

* $p < 0.05$ (two-tailed tests).
** $p < 0.01$ (two-tailed tests).
*** $p < 0.001$ (two-tailed tests).
[a] As with Tables 2 and 3, other controls include personal annual total income, other social demographic characteristics, year dummies and province dummies.

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 importantly, the psychological cost of voluntary state-to-private mobiles disappears, with the magnitude of coefficient dropping around 31% from 0.091 in the baseline to 0.063. To see whether the drop is substantial, we did a formal test following the method proposed by Clogg et al. (1995), and the results suggest that the difference in the coefficients of voluntary state-to-private mobiles is a substantial change ($t = -3.5$). 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. Although voluntary state-to-private mobiles are less happy after controlling for benefits, the difference is insignificant at the conventional level. 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 loss of the iron rice bowl – the loss of social welfare benefits associated with employment in the state sector – is an important factor leading to lower levels of happiness displayed by workers who moved from the state sector to the private sector. However, 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 downward mobility itself has a negative psychological impact that led to lower self-reported happiness. These results suggest two distinct pathways for a lower level of happiness for the state-to-private mobility: job-related social welfare benefits among voluntary movers and the downward mobility itself among involuntary movers.

6. Conclusion and discussion

Situated in the institutional transformation of China's economic transition, this study has examined the relationship between economic sector and workers' subjective well-being as measured by self-reported happiness, focusing 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 levels of 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 levels of happiness among state-to-private movers are more likely to be caused by the loss of advantageous fringe benefits rather than by other factors, we considered two potential alternative mechanisms – perceived social relationships and perceived changes in socioeconomic status at the individual level. Analyses showed that voluntary and involuntary state-to-private mobiles feel less happy. Specifically, voluntary state-to-private mobiles experienced a trade-off: they enjoyed higher earnings payoffs while losing security usually attached to work units in the state sector. However, voluntary state-to-private mobiles' higher incomes do not make up for their non-pecuniary cost in subjective well-being. For involuntary mobile individuals, job security explains away a smaller part of the psychological cost they endure, but their downward mobility experience itself, such as layoff or unemployment leaves them with long-term psychological scars. People in this group are losers in both economic and subjective well-being in transitional urban China.

Our study makes important contributions to the broader market transition literature. In examining how market transition has affected inequality, previous studies have overwhelmingly focused on objective outcomes such as income (e.g., Cao and Nee, 2005; Gerber and Hout, 1998; Wu and Xie, 2003; Xie and Hannum, 1996), employment (e.g., Gerber and Hout, 1998; Wu and Xie, 2003), or housing (Song and Xie, 2014). We expand the research scope of how market transition may have affected social inequalities in life chances by adding the subjective well-being as a topic of study. Our empirical work reveals how and why the rapid rise of the private sector, an important structural change in China's market transition, has negatively affected workers' subjective well-being. Our findings suggest that an exclusive focus on objective social measures without consideration of subjective dimensions is potentially misleading and incomplete. Moreover, we follow a well established tradition in the area (Gerber, 2002, 2012) in examining how structural factors (economic sector) shape individuals' life outcomes. Our study has yielded evidence in support of the crucial role of structural factors in China's reform era, consistent with earlier studies that have also found strong structural influences on such outcomes as job shifts, job loss and wage arrears in Russia (Gerber, 2002, 2006, 2012).

This study also has policy implications for China and other countries with similar transitional economies. 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 sector while not being developed 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). 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 encourage workers to work in the private sector.

Finally, we acknowledge certain limitations of this study. First, cross-sectional datasets used in the study provide individuals' happiness levels solely at the survey points and thus do not assess happiness at a pre-mobility stage during the 1990s.

Table A1
Un-weighted summary statistics (mean and standard deviations) for variables.

Variables	Overall	CGSS-2003	CGSS-2006	CGSS-2008
Happiness	3.571	3.389	3.535	3.886
	(0.776)	(0.722)	(0.696)	(0.857)
Economic sector				
State sector	0.573	0.694	0.495	0.506
Private sector	0.427	0.306	0.505	0.495
Personal annual total income (logged)[a]	9.229	8.954	9.220	9.641
	(1.735)	(1.845)	(1.868)	(1.219)
Male	0.573	0.590	0.562	0.565
Age groups				
20–29 (reference)	0.238	0.172	0.293	0.258
30–39	0.365	0.360	0.371	0.362
40–49	0.280	0.333	0.245	0.252
50 and above	0.117	0.135	0.091	0.128
ISEI of current job	46.859	48.163	45.729	46.548
	(14.903)	(15.195)	(12.802)	(16.938)
Years of schooling	11.390	11.428	11.199	11.602
	(3.198)	(2.930)	(3.242)	(3.483)
Single/divorced/widowed	0.188	0.131	0.236	0.203
Party membership	0.167	0.229	0.100	0.170
Temporary work	0.055	0.056	0.055	0.052
Working hours per week	48.642	47.659	49.794	48.455
	(14.744)	(15.294)	(14.587)	(14.029)
Rural *hukou*	0.136	0.064	0.192	0.164
N	5915	2229	2151	1535

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

Table A2
Binary logistic regression predicting state-to-private mobility, urban China.

Variables	Voluntary state-to-private mobility		Involuntary state-to-private mobility	
	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 ($\times 10^{-1}$)	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 chi^2	309.85		155.30	
Pseudo R^2	0.092		0.115	
N	3774		3322	

* $p < 0.05$ (two-tailed tests).
** $p < 0.01$ (two-tailed tests).
*** $p < 0.001$ (two-tailed tests).

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 analyzing longitudinal data that may become available 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, our study is only concerned with self-reported happiness, which mainly reflects affective components of subjective well-being that involve positive emotional aspects (Frey and Stutzer, 2002a, 2002b) and 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 sector 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.

Appendix A

See Tables A1 and A2.

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