Job Satisfaction and Relative Income in Economic Transition: Status or Signal?

The Case of Urban China

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Abstract

We use two datasets for urban China to examine whether an increase in reference group income lowers or increases job satisfaction. The former is consistent with a status effect – an increase in the income of others lowers my satisfaction because I feel jealous. The latter is consistent with a signal effect – an increase in the income of others might make me jealous, but it also provides an information signal about my future prospects. We find evidence consistent with a status effect. We consider the components of job satisfaction through which the status effect operates uses a psychometrically valid instrument for job satisfaction. We find that the status effect operates through satisfaction with co-workers, satisfaction with operating procedures, satisfaction with pay and satisfaction with supervision.

JEL Codes: I31, J28

Keywords, Job satisfaction, Relative income, Urban China.
Introduction

A large economics literature on the determinants of subjective well-being has focused on the role of relative income in explaining job or life satisfaction (see Clark et al., 2008 for a survey). This literature has generally concluded that relative income is important for determining job and life satisfaction. An important implication of this result is that the neoclassical utility function, in which one’s utility is a function of the individual’s own consumption or income should be extended to incorporate relative consumption or income.

The relationship between relative income and job satisfaction is important for several reasons. First, within the firm the link between relative income and job satisfaction is important for human resource managers. Job satisfaction has been shown to be associated with absenteeism (Leicht & Shapelak, 1994); labour turnover (Crampton & Wagner, 1994) and productivity (Harder, 1992). Second, income comparisons are important for the functioning of the labour market and public policy. Concern about relative status affects the supply of labour and wage profiles (Frank, 1984); savings (Kosicki, 1997) and optimal tax policy (Oswald, 1983). Income comparisons are relevant for whether policies should be put in place to smooth income distribution (Luttmer, 2005). If relative income matters, the case for economic growth becomes less clear and the case for progressive taxation is strengthened (Oswald, 1983). Akerlof and Yellen (1990) argue that involuntary unemployment and other macroeconomic phenomena can be explained in a model in which relative income matters.

Third, job satisfaction is positively correlated with life satisfaction (see eg. Knight et al., 2009). Thus studying the relationship between relative income and job satisfaction is relevant to the broader economics literature examining the economics of happiness.

Conceptually relative income could have a negative or positive effect on job satisfaction. The former refers to a status effect, while the latter refers to a signal effect. The status effect is
where the higher earnings of my reference group make me jealous, lowering my sense of well-being. The signalling effect is where the higher earnings of my reference group increase my sense of well-being: the more others earn, the happier I am. The signalling effect is consistent with Hirschman’s (1973) tunnel effect – while others wage increases might make me jealous, it also provides information about my own future prospects. If others are doing well, this acts as a signal that I too have better prospects of doing well in the near future.

To this point most studies for stable industrialized capitalist studies have found evidence consistent with a status effect. However, Clark et al. (2009) and Panos and Theodossiou (2007) find support for the signal effect using Danish and British panel data respectively. It is likely that there will be more evidence of the signal effect in transitional economies, than stable western industrialized economies. Senik (2004, 2008) finds evidence of a signalling effect in transitional economies. In an unstable labour market, as is often the case in transitional economies, what happens to others who have similar characteristics to me today might be thought of as providing a signal about my own future labour outcomes. In this respect, Senik (2008) argues that the respective importance of status and signalling effects depend on the level of economic uncertainty and labour market mobility. China represents an interesting case study to examine the signalling and status effects of relative income on job satisfaction. Senik (2004, p. 2100) describes transition in Russia “as a natural experiment characterized by an unusually high variance in absolute and relative incomes”. This is also true for China. China’s market reforms have created tremendous opportunities for people to climb the labour market ladder, not only through fast wealth creation in the non-state sector, but also through more flexible labour markets in the state-sector. At the same time, China’s market reforms have generated marked increases in income inequality.
We examine the effect of relative income on job satisfaction in urban China using two datasets. Both have their advantages and disadvantages. The first is matched employer-employee data from Shanghai for a sample of 784 employees in 78 firms. The advantage of this dataset is that earnings of all workers in the same establishment can be used to examine the role of reference income. Others working in the same establishment is arguably a more appropriate reference group to examine the effect of relative income on job satisfaction than other potential peer groups, such as friends, neighbours or those living in the same city, given that what others in the same establishment earn will be a better signal of my future earning capacity than what my neighbours can earn. A disadvantage of the Shanghai sample, however, is that it is relatively small and to measure worker well-being it uses a single item indicator of job satisfaction in the form, “how satisfied are you with your job”?

While economists have almost universally used single item indicators of job satisfaction of this form to measure worker well-being and this research has been published in the leading journals (see eg. Clark et al., 2009), such an approach has been criticized in the psychology literature on job satisfaction, in which multi-item indicators have long been widely used on two grounds. The first is that the researcher cannot estimate the internal consistency of a single item indicator, with the result being that such indicators are subject to low levels of internal reliability (see Pollard, 1996; Wanous et al., 1997; Oshagbemi, 1999). Andrews and Whithey (1976) found single item indicators of personal well-being to have relatively low reliabilities (test-retest correlation 0.40-0.66), even when asked twice in the same session one hour apart. Test-retest correlations for multi-item indicators tend to be much higher – in the range 0.82 to 0.84 for temporal intervals of up to 10 weeks (Krueger & Schkade, 2007). The second is that single item indicators are not able to capture the multidimensionality of psychological constructs and hence construct validity is compromised.
The second sample that we employ is from a survey of job satisfaction among approximately 2800 employees across six Chinese cities; namely, Chengdu, Dalian, Fushun, Fuxin, Fuzhou and Wuhan. The advantage of this dataset is that the sample size is larger and, to measure job satisfaction, it contains data from the Job Satisfaction Survey (JSS) (Spector, 1997). The JSS, which is a 36 item multidimensional measure, subsumes nine components of job satisfaction and is one of the most widely used instruments to measure job satisfaction in the psychology literature. The disadvantage of this dataset is that it does not contain information on average establishment earnings in the firm in which the respondent works. Thus, to measure relative income, we adopt two approaches. One approach, following Clark and Oswald (1996), among others, is to estimate a conventional earnings equation on the whole cross-section of employees and then use this regression equation to predict an earnings level for each person. These predicted earnings levels correspond to the income of ‘typical’ employees with given characteristics. The other approach, following Blanchflower and Oswald (2004) and Luttmer (2005), among others, is use a geographical definition of reference group.

**The Chinese context**

The economic reforms that commenced in the late 1970s have not only led to rapid economic growth, but have had a profound effect on the structure of the Chinese economy. On the eve of the economic reforms, the state-owned enterprise sector was dominant, while the non-state sector lurked on the fringes of the economy. In 1978, state-owned enterprises accounted for almost 80 per cent of industrial value added, while there were just 140,000 individuals engaged in the private sector (Qin, 2008). There was no urban labor market and urban laborers were paid according to wage grades. These wage arrangements were equalitarian, over-centralized and insensitive to variations in performance (Ding *et al.*, 2006). Moreover, the appointment and promotion process was based on political considerations, rather than
performance (Bian, 2002). But, in the three decades since economic reforms commenced the non-state sector has increased in importance relative to the state-owned sector.

The outcome of these reforms have been significant changes in employment policies and practices for urban workers, previously characterized by strict bureaucratic control, a monopoly on labor allocation through lifetime employment policies and severe restrictions on labor mobility (Knight & Yueh, 2004). The demise of allocated, lifelong jobs in the push towards a market economy has resulted in the materialization of a competitive urban labor market in urban China. The compensation structure has been reformed with the objective of linking wages with performance. While the precise compensation structure varies across ownership forms, the wage differential between position levels has increased and a number of market-oriented performance-based components have been introduced such as position wages, skill wages, subsidies, bonuses and profit sharing (Ding et al., 2006). The emergence of the non-state sector has created a strong demand for skilled workers. Increased competition amongst non-state sector employers and the freedom to diverge from a state administered labor system has led to the introduction of on-the-job training and performance based promotion guidelines as non-state firms vie to attract and retain skilled staff.

Increased opportunities for urban residents to improve their occupational and social status are not restricted to the non-state sector. In the pre-reform period and in the early stages of market reforms, party membership was an important predictor of professional attainment (Bian et al., 2001). However, promotion patterns have changed over time, even in the state-owned sector. According to an official report (Office of Organization Reform), between 1985 and 1995 in the state-owned sector college educated managers increased from 22 per cent to
32 percent; managers aged below 35 increased from 39 per cent to 43 per cent and the number of professionals increased 16 per cent per annum. Using data from 20 cities collected in 1993 and 1994, Zhao and Zhou (2004) found that although there was some evidence of continuing political selection, promotion processes in the state-owned sector had become increasingly rationalized, reflected in the growing importance of education as a criteria for promotion and the active replacement of old bureaucrats with a new generation of managers. These findings have been confirmed in studies of specific state-owned enterprises which have found that promotion is based on good performance (eg. Smyth & Zhai, 2003).

**Existing Literature**

There is a large literature on the determinants of job satisfaction by psychologists (see Warr, 1999 for a comprehensive review). Compared with psychologists, economists’ interest in job satisfaction is relatively recent, with the early studies dating from the late 1970s (Hamermesh, 1977; Freeman, 1978; Borjas, 1979). Recent interest amongst economists in job satisfaction was reignited by a series of articles by Clark and Oswald (eg. Clark, 1996, 1997; Clarke & Oswald, 1996; Clark et al., 2009). Economists have focused on a range of issues, including how trade union membership effects job satisfaction (Borjas, 1979) and the gender gap in job satisfaction (see eg. Bender et al., 2005; Clark, 1997). One of the most studied topics by economists is how relative income affects job and life satisfaction.

Most studies for western countries have found that job satisfaction and personal well-being is negatively correlated with reference group income ie. support for the existence of a status effect. These studies include Clark and Oswald (1996), who employ British panel data and Ferrer-i-Carbonell (2004), who employ German panel data. There are also a series of studies
using data for the United States that reach the same conclusion (see eg. Blanchflower & Oswald, 2004; Luttmer, 2005; McBride, 2001). Senik (2008) finds that personal well-being is negatively correlated with reference group income in Western Europe, but positively associated with reference group income in Central and Eastern Europe.

Using Russian data Senik (2004) finds a positive relationship between reference income and life satisfaction. Senik (2008) argues that such a result makes sense in an uncertain economic environment, such as Russia or Central and Eastern Europe, where it is reassuring to know that others are doing well. The reason is that in a volatile economic environment, where there are large fluctuations in income, there are good prospects that you will find yourself in their shoes in the not too distant future. Kingdon and Knight (2007) using South African data, similarly find a positive relationship between reference income, defined as average income of others in the local residential cluster, and subjective well-being. Clark et al., (2009), using Danish panel data, and Panos and Theodossiou (2007), using British panel data find a positive relationship between job satisfaction and reference group income where the reference group is others working in the same firm. Both studies find that if the income of one’s co-workers increases relative to one’s own income, this increases job satisfaction.

There are several studies examining the determinants of job satisfaction among urbanites in China by both economists and psychologists. Some studies have focused on one or two major cities such as Beijing, Guangzhou, Hangzhou or Tianjin (see Donald and Siu, 2001; Fielding and Tang, 1995; Jamal, 2005; Siu, 2002; Siu et al., 1998; Siu et al., 2005; Xie, 1996). Studies of job satisfaction confined to workers in specific sectors include Leung et al. (1996, 2001) (hospitality); Fielding and Tang (1995) (healthcare); Leung, et al. (2000) (education) and
Shanfa et al., (1998) (steel). Studies focused exclusively on job satisfaction and/or job stress among managers include Lu et al., (2005), Spector et al. (2004) and Siu et al. (2002). Nielsen and Smyth (2008) is one study broader in coverage which examines the determinants of job satisfaction among urban residents across 32 cities for a range of industries and ownership forms. However, none of these studies examine the effect of reference group income on job satisfaction. Smyth et al. (2009b) examines the effect of reference group income on job satisfaction for a sample of off-farm migrants and find that reference group income, defined as average income in the workshop in which the respondent is employed, has a status effect for females and signal effect for males. The sample in that study, however, was restricted to migrants working for one firm in a single locale. There are also related studies that examine the effect of reference group income on life satisfaction in urban and rural China. Smyth & Qian (2008); Appleton & Song (2009) and Knight & Gunatilaka (2008a, 2008b) all find evidence that higher reference group income lowers life satisfaction in urban China. Knight et al. (2009) reaches similar conclusions with respect to rural China. Thus, the evidence that does exist for China, which examines the effect of relative income on life satisfaction, finds support for the existence of a status effect, rather than a signal effect.

**Data Sets**

*Shanghai data set*

The Shanghai sample is a matched worker-firm data set from Minhang district in Shanghai collected by the Chinese Academy of Social Sciences in 2007. The dataset, which contains information on 784 employees from 78 firms, was selected by Probability Proportion to Size sampling according to a list of all manufacturing firms in Minhang district whose annual sales were at least 5 million RMB. Table 1 provides descriptive statistics for the sample.
Job satisfaction is measured using a single item indicator, in which respondents were asked: ‘how satisfied are you with your job?’ Respondents answered on a five point scale ranging from 1 (‘very dissatisfied’) to 5 (‘very satisfied’). About 41 per cent of the sample indicated they were satisfied or very satisfied, while only about 6 per cent indicated they were very unsatisfied or unsatisfied. The proportion of the sample who are satisfied with their jobs is similar to that reported in previous studies of China’s urban workforce. For example, in a study of approximately 10,000 urban residents across 32 cities, Nielsen and Smyth (2008) found that 43 per cent of the sample was satisfied. The proportion who were actually dissatisfied with their jobs is a little lower than the figure reported in previous studies for western countries. For example, based on the United States General Social Surveys, Oswald (1997) reported that in the United States in 1990, 13.9 per cent were either ‘a little dissatisfied’ or ‘very dissatisfied’. A similar picture emerges in the United Kingdom from data from the General Household Surveys. Oswald (1997) reported that in 1983 12.3 per cent were either ‘rather dissatisfied’ or ‘very dissatisfied’. Similar findings have been reported using more recent data for the European Union. Using data from the European Working Conditions Survey (EWCS) for 2000, Bauer (2004) reported that in 15 European Union countries, 16.6 per cent were either ‘not at all satisfied’ or ‘not very satisfied’.

Six cities dataset

A written survey containing Spector’s (1997) JSS and questions on the personal characteristics of respondents was administered to individuals with an urban hukou (household registration) working in a variety of blue collar and white collar jobs across a
range of sectors including government, heavy and light manufacturing, mining and services in six Chinese cities: Chengdu, Dalian, Fushun, Fuxin, Fuzhou and Wuhan. The survey was administered by Chinese academics in each city working with the second author in 2007. The industries in which surveyed employees worked reflected the importance of specific sectors in specific cities. For example, Fuxin has an extensive coal mining industry, while Fushun has predominantly heavy industries so most of the employees surveyed in those two cities worked in those industries. Chengdu, Wuhan and Fuzhou are representative of the western, central and coastal regions of China and Dalian, Fushun and Fuxin are three major cities in Liaoning province in China’s north-east. Individuals were selected using stratified random sampling based on the demographic profile of the city as per information contained in SSB (2008). Altogether, 3390 surveys were completed, consisting of 500 in Chengdu, 558 in Dalian, 515 in Fushun, 498 in Fuxin, 500 in Fuzhou and 819 in Wuhan. The personal characteristics of the respondents in the sample broken down according to city are given in Table 1. The descriptive statistics for the sample are reported in Table 3. Overall, there were approximately 2800 to 2900 valid surveys, depending on the exact specification employed.

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Insert Tables 2 & 3
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The JSS is a 36 item, multidimensional measure which subsumes nine components of job satisfaction; namely, satisfaction with pay, promotion, supervisors, fringe benefits, contingent rewards, operating procedures, co-workers, nature of work and communication (Spector, 1997). The response format of the JSS is a six-point scale, ranging from ‘disagree very much’ (1) to ‘agree very much’ (6). Descriptive statistics for the JSS in this sample are reported in Table 3. The internal consistency of the JSS has been shown to range from $\alpha = 0.60$ for the co-worker scale to $\alpha = 0.91$ for the total scale, when a sample of 3067 individuals completed
the survey (Spector, 1997). This indicates good internal consistency given that the conventionally accepted minimum standard for internal consistency is 0.70 (Spector, 1997). Test-retest reliability has ranged from \( r = 0.37 \) to \( r = 0.74 \) for a sample of 43 employees (Spector, 1997). The validity of this measure has been established with the multi-trait, multi-method design using the Job Descriptive Index as a validity instrument (Saane et al., 2003).

**Empirical Specification, Expected Signs and Econometric Methodology**

We use three separate specifications to examine the determinants of job satisfaction:

\[
SATISFACTION = f(X, OWN INCOME, \varepsilon) \tag{1}
\]

\[
SATISFACTION = f(X, OWN INCOME, AVERAGE INCOME, \varepsilon) \tag{2}
\]

\[
SATISFACTION = f(X, AVERAGE INCOME, RELATIVE INCOME, \varepsilon) \tag{3}
\]

Equation (1) is the baseline specification. The dependent variable, \( SATISFACTION \), represents either responses to the single item indicator (Shanghai sample) or the nine components of the JSS (six city sample). \( OWN INCOME \) is the respondent’s own income and \( X \) is a vector of demographic and job characteristics. In the Shanghai sample, the demographic and job characteristics are age, age squared, education, gender, marital status, health status, whether the respondent was a migrant, whether the respondent was a trade union member, whether the respondent was paid by piece rates, position in the firm, hours of work per week and size and ownership type of the firm for which the respondent works (see Table 1). In the six cities sample there are a more restricted set of demographic and job variables reflecting what was asked in the survey - age, age squared, education, gender, marital status, position in the firm and ownership type of the firm for which the respondent works (see Table 3). \( \varepsilon \) is the error term, encapsulating unobserved random factors.
Equations (2) and (3) are used to examine the effect of reference income on job satisfaction controlling for own income. In the Shanghai sample, \textit{AVERAGE INCOME} is the average income of the firm in which the respondent works and \textit{RELATIVE INCOME} is the difference between the respondent’s own income and the average income of the workshop in which the respondent works. We take the log of both the respondent’s own income and reference income. In the six cities sample, data on average income of the firm in which the respondent works is not available. Thus, to obtain reference group income, we estimate a Mincer wage function for the sample and use the results to predict an earnings level for each person, corresponding to the income of ‘typical’ employees with given characteristics (see eg. Clark & Oswald, 1996). An objection to formulating reference group income in this manner is that the reference group is derived within the data set. The difference between own income and predicted income is the residual from an earnings regression equation, so the significance of this residual in a satisfaction equation might reflect mis-specification (Clark & Oswald, 1996). Thus, we also use average income in the geographical locale in which the respondent lives as the reference point. Ideally, we would like the reference group to be at a more localized level as in Luttmer (2005), because the earnings of my close neighbours are more likely to be a stronger reference point than those living further away. However, data on income of those in the same neighbourhood as the respondent was not available. Thus, we use average income in the city in which the respondent lives as the reference point.

Note that equations (2) and (3) are equivalent, with Equation (3) having the advantage that it makes explicit the effect of average and relative income on job satisfaction. Equation (2) is used by Clark \textit{et al.} (2009) and Smyth \textit{et al.} (2009b) in studies of the determinants of job satisfaction and by Luttmer (2005) and Graham and Felton (2006) in studies of the
determinants of life satisfaction. Equation (3) has been employed by Smyth et al. (2009b) in a study of job satisfaction and Di Tella and MacCulloch (2003), Graham and Felton (2006) and Smyth & Qian (2008) in studies of the determinants of life satisfaction.

Turning to the other variables, own income is expected to have a positive effect on job satisfaction (Clark et al., 2009). We expect a U shape relationship between age and job satisfaction (Clark et al., 1996). The ‘paradox of the educated worker’ predicts an inverse relationship between education and job satisfaction. Education raises expectations to an extent that is not matched by intrinsic work rewards (for instance, challenging and interesting jobs) or extrinsic work rewards (income and fringe benefits), which leads to job dissatisfaction (Nielsen & Smyth, 2008). We expect that women will have higher levels of job satisfaction than men. Two explanations have been offered for the ‘paradox of the contented female worker’ (see Bender et al., 2005; Clark, 1997). First, satisfaction is a function of expectations and women have lower expectations about labour market outcomes than men. Second, the bundle of characteristics associated with women’s jobs may appeal to them sufficiently to overcome the satisfaction lost from lower earnings.

We expect that people who are married will have higher levels of job satisfaction. The effect of marriage on job satisfaction in western countries has been found to be ambiguous, but in Taiwan, there is evidence that married individuals have higher job satisfaction (Su & Huang, 1992) and that single workers have more job-related stress than married workers (Hsu & Chen, 1981). A possible explanation for this finding could be that married couples have two incomes and this allows them to be more selective in choosing a job that they like, while individuals who are single are more likely to be forced to take, and remain in, jobs with low
job satisfaction. We expect those who have better self-reported health to have higher job satisfaction, although nothing can be implied about causality (Clark et al. 2009). We expect that migrants will have lower job satisfaction given the existence of segmentation in the Chinese urban labour market, in which migrants are forced to do so-called ‘Three D’ (dangerous, dirty and demeaning) jobs, which local urbanites refuse to do.

We expect that cadres/managers will have higher levels of job satisfaction than manual workers because white collar workers have physically easier and, at the same time, more interesting jobs than blue collar workers (Linz, 2004). The effect of union membership on job satisfaction is unclear. Some studies have found being a union member lowers job satisfaction (eg. Borjas, 1979; Clark & Oswald, 1996), while others have found no negative relationship (Bryson et al. 2004). Blanchflower and Oswald (1998) find that being a union member increases life satisfaction. We expect that those who work longer hours will have lower job satisfaction (Clark & Oswald, 1996). Of the firm characteristics, individuals who work in smaller firms are expected to be more satisfied than those who work in larger firms (Clark & Oswald, 1996; Clark et al., 2009) and that individuals who work in the non-state sector are expected to have higher job satisfaction than those in the state-owned sector.

To estimate Equations (1) to (3) we use an ordered probit model. This means that job satisfaction is assumed to be a categorical variable; that the answer to the job satisfaction question provides an ordinal (and not cardinal) ranking and that ordinal interpersonal comparability is assumed (Ferrer-i-Carbonell & Frijters, 2004).
Results

Shanghai data set

Table 4 presents the results for the Shanghai sample. The first column contains the baseline specification in Equation (1). Own income has a positive and significant effect on job satisfaction. Of the control variables, self-reported good health and trade union membership have a positive effect on job satisfaction, while hours worked has a negative effect on job satisfaction. Compared with working in a state-owned or collective-owned enterprise, we find that those working in Foreign/Hong Kong or Taiwanese enterprises have lower job satisfaction. The latter result might reflect the documented finding in the literature that the working conditions in Taiwanese firms in China are generally harsh (Chan & Wang, 2005).

The second column of Table 4 presents the results for Equation (2). Own income continues to have a positive and significant effect on job satisfaction, but average income is statistically insignificant. The final column of Table 4 reports the results for Equation (3). Compared with Equation (2), Equation (3) has the advantage that it makes explicit the effects of average and relative income on job satisfaction. We find that the coefficient on average income is positive and significant (albeit weakly significant at the 10 per cent level) and the coefficient on relative income is positive and significant. A Wald test rejected the hypothesis that the coefficient for average and relative income is equal and positive. The coefficient on relative income is larger than the coefficient on average income. Thus, relative income contributes more to job satisfaction than average income in the firm. This conclusion also holds if we take 5 per cent as the appropriate cut-off for statistical significance. This result indicates that relative differences are important to the job satisfaction of the Shanghai respondents over and
above their being a product of total individual income. To be specific, relative income contributes to greater than average job satisfaction for those earning above average firm income and less than average job satisfaction for those earning less than average in the firm, since the value on relative income for those below average income is negative, making them much less satisfied (see Graham & Felton, 2006). The results for the demographic and job characteristics in Equations (2) and (3) are similar to those in Equation (1).

*Six cities dataset*

As discussed above, the Shanghai data set is limited in that it employs a single item indicator to measure job satisfaction and the sample is restricted to one city. In this section, we present the results for the nine components of Spector’s (1997) JSS using data collected from six cities. Table 5 reports the baseline specification for Equation (1). Own income has a positive and significant effect on job satisfaction for six of the nine components of job satisfaction; namely, satisfaction with pay, satisfaction with promotion, satisfaction with fringe benefits, satisfaction with contingent rewards, satisfaction with the nature of the work and satisfaction with communication. Own income has no statistical effect on satisfaction with supervisors, satisfaction with operating procedures or satisfaction with co-workers. Of the demographic and job characteristics, the expected U shape in aging is found for satisfaction with promotion, satisfaction with supervisors, satisfaction with contingent rewards and satisfaction with communication. Job satisfaction is generally higher in the non-state sector and among cadres. Higher education has a negative effect on satisfaction with pay, fringe benefits and operating procedures, but increases satisfaction with co-workers. Males are less satisfied than females with co-workers and communication, but more satisfied with promotion, reflecting the existence of a glass ceiling for females in the Chinese urban workforce.
Table 6 presents the results for Equation (2), where reference income is the predicted earnings of typical employees with given characteristics calculated through estimating a Mincer earnings equation. Following, the approach in Clark and Oswald (1996) the Mincer wages equation has several more variables than the job satisfaction equation. The ‘reduced controls’ in the job satisfaction equation in Table 6 are age, age squared, gender and education. Predicted income is determined by regressing log (own income) on education, age, aged squared, gender, occupation, ownership form and city dummies. The additional variables entering the wages equation can be thought of as identifying the job satisfaction equation (see Clark & Oswald, 1996). Own income is positive and significant for six of the nine components of the JSS. Reference income is also negative and significant for six of the nine components of the JSS. This is evidence of a status effect. The higher the predicted earnings of someone with my observed demographic and job characteristics, the lower my satisfaction with six of the nine components of the JSS. The results for the controls are not reported in Table 6, but are similar in sign and significance to those reported in Table 5.

Table 7 reports the results for Equation (2) using average income in the city in which the respondent lives as the reference point, rather than the predicted earnings of the typical employee with the respondent’s characteristics. Table 7 contains a full set of ‘extended controls’, which are the same as those in Table 5. Own income has a positive and significant effect on job satisfaction for six of the nine components of the JSS. Average income in the
city has a negative and significant effect on satisfaction with pay, supervisors, operating procedures and co-workers. This result is supportive of the existence of a status effect, at least for some components of job satisfaction. The higher the average income of those in the city in which I live, the lower my sense of well-being with the four components of the JSS.

Insert Table 7

Table 8 reports the results for Equation (3) using average income in the city in which the respondent lives as the reference point. For satisfaction with pay, satisfaction with promotion and satisfaction with nature of the work, the coefficient on relative income is positive and significant, while the coefficient on satisfaction with average income is insignificant. Thus for these components of the JSS, consistent with the results for the Shanghai sample, there is evidence of a status effect. Relative income contributes to greater than average job satisfaction for those earning above average city income and less than average job satisfaction for those earning less than average city income, since the value on relative income for those below average income is negative, reducing their satisfaction. For satisfaction with contingent rewards, satisfaction with fringe benefits and satisfaction with communication, the coefficients on average income and relative income are positive and significant. A Wald test could not reject the null hypothesis that the coefficients were equal, suggesting that for these components of the JSS, job satisfaction is increasing with income, with no regard to relative status. For satisfaction with supervisors, satisfaction with operating procedures and satisfaction with co-workers average city income is negative and significant while relative income is statistically insignificant, indicating that an increase in average income of those in the city reduces job satisfaction for those above and below the mean.
Discussion of results

The results for the Shanghai sample are consistent with relative income having a status effect on job satisfaction. An increase in relative income increases job satisfaction for those in the Shanghai sample earning above the average wage in their firm and lowers job satisfaction for those earning less than the average wage in their firm. The use of the JSS in the six cities sample allows us to examine the effect of relative income on different aspects of job satisfaction. Here, we concentrate on the results in Tables 7 and 8 because the results in these tables use a reference group external to the sample. Taken together, Tables 7-8 suggest that status effects of relative income on job satisfaction operate through satisfaction with co-workers, satisfaction with operating procedures, satisfaction with pay and satisfaction with supervision. Marketization and increases in wage inequalities has made the Chinese urban labour force more competitive. Satisfaction with pay is the most obvious component of job satisfaction through which workers would express dissatisfaction with rising income inequality. However, the results for the other components of job satisfaction also make sense. Labour market reform means that workers compete with each other for promotion. Managerial reform in the state-owned sector in the North-east in cities such as Dalian and Fushun, has meant that poor performing managers go into a pool to compete for their positions with new talent within the firm who can apply for their jobs (see eg. Smyth & Zhai, 2003). This development is likely to have an adverse effect on worker collegiality and reduce satisfaction with one’s colleagues and supervisors at work. Similarly, an increase in wage inequality is likely to have an adverse effect on satisfaction with operating procedures for low income earners because they may perceive bureaucratic red tape as the reason why they are
not able to move up the labour market ladder, while high income earners may feel that the need to comply with operating procedures is preventing them from earning even more.

For satisfaction with co-workers, satisfaction with operating procedures and satisfaction with supervisors, Tables 7 and 8, suggest that an increase in geographical reference group income lowers satisfaction, irrespective of whether the individual is earning above or below the average city income. For satisfaction with pay the effects are not symmetrical; rather an increase in relative income increases the satisfaction of those earning above average city earnings and lowers the satisfaction of those earning less than average city earnings. Relativities seem to be less important for satisfaction with communication, contingent rewards, fringe benefits and nature of work. There is some evidence of a status effect for nature of work in Table 8, but it is only significant at the 10 per cent level.

The finding that there is a status effect is inconsistent with the results for other transitional economies reported in Senik (2004, 2008) and recent findings for industrialized market economies such as Britain and Denmark (Clark et al., 2009; Panos & Theodossiou, 2007). These studies find that an increase in reference income can increase well-being through acting as an information signal. This said, the findings reported in this study are consistent with the results of several studies that have examined the relationship between relative income and life satisfaction in China. Smyth & Qian (2008); Appleton & Song (2009), Knight & Gunatilaka (2008a, 2008b) and Knight et al. (2009), which all examine the relationship between relative income and life satisfaction, find support for the existence of a status effect, rather than a signal effect, using Chinese rural and urban samples.
The most likely reason for finding that relative income affects well-being in China via a status effect is concern about the massive increase in urban income inequality that has accompanied marketization. Income inequality rose sharply during the initial reform period (Knight & Song, 2003). The Gini measure of income inequality increased from 0.31 at the beginning of the economic reforms to 0.45 in 2004, which is a similar level to the United States (Dollar, 2007). Graham and Felton (2006) find evidence that relative income exhibits a status effect on life satisfaction in Latin America, where income inequality is very high. They suggest (at p.115): “The high levels of inequality in Latin America may underlie our respondents’ higher levels of concern for relative than absolute differences”.

One possibility is that in countries in which income inequality is high, low income earners may feel that they are unable to ‘catch up’. The existence of a status effect might reflect a perception amongst those who are not as well-off that those who have higher incomes have realized that income through corruption or other illegal means. Addressing corruption is at the forefront of the notion of an ‘harmonious society’ championed by the Chinese leadership team of Hu Jintao and Wen Jiabao. In this respect, Smyth and Qian (2008b) found that those who perceived corruption to be more rampant had lower levels of well-being and were more likely to support redistributive policies. Alternatively, people who perceive higher inequality might report lower well-being if they have quasi-aesthetic preferences for more equal distributions of wealth (Thurow, 1971). In the Chinese case, the lingering effects of communist ideology may have a role to play. Smyth et al. (2009a) found that communist ideology affected preferences for redistribution in urban China. Several studies have also found that Marxist beliefs or socialist heritage are important in influencing people’s belief formation. Alesina et al., (2001) emphasise the influence of Marxist ideology in explaining differences in preferences for redistribution between Europe and the United States. In a
comparison of six Eastern European countries and six Western countries, Corneo and Gruner (2002) find that the Eastern Europeans have stronger preferences for income redistribution than the Western Europeans. Similarly, Corneo (2001) and Alesina and Fuchs-Schundeln (2007) find that following reunification, people living in the former East Germany have stronger preferences for redistribution than people living in the former West Germany.

Conclusions

China’s market reforms have resulted in a substantial improvement in the living standards of most of the urban population. However, at the same time they have also generated marked increases in income inequality. And while many have benefited from the marketization process there are also those who have been left behind, who have become increasingly vocal in criticizing rising income inequality and reminding the state of its socialist claim to legitimacy and of promises of egalitarianism made during the Maoist past. The findings reported here are evidence that China’s urban population are concerned about rising income inequality and that the signalling effect of higher wages has not been sufficient to outweigh the status effect of relative deprivation with rising reference group income. These results support policies to smooth income distribution and adopt a more balanced growth strategy consistent with promoting a ‘harmonious society’. One of the contributions of this study has been to highlight the need to examine the effects of changes in reference group income on different components of job satisfaction, using a psychometrically valid instrument. The results suggest that the status effect operates through some components of job satisfaction associated with a more competitive work environment, but not others.

A potential limitation of this study is that we do not control for personality traits. One approach to controlling for personality traits has been to use panel data, which we do not
have. The other approach has been to control for personality traits by including variables to measure attitudes on social issues (Smyth et al., 2008), mood (Knight et al., 2009) or mental health indicators (Ferrer-i-Carbonell & Gowdy, 2007). However, none of these variables accurately depict personality traits as they are conceptualized in the psychology literature. Future research should control for stable aspects of the personality, such as the locus of control and dispositional optimism. Locus of control, defined by Rotter (1966) as a person’s perception of their control over event outcomes, has been found to impact on personal well-being in a range of cultural contexts (see e.g., Garcia et al., 2002; Kulshrestha & Sen, 2006; Spector et al., 2001). Dispositional optimism, defined by Scheier and Carver (1985) as the propensity to generally expect favourable outcomes over unfavourable ones, has also been demonstrated to co-vary with perceived well-being (see e.g., Isaacowitz, 2004). We would encourage future studies to use psychometrically valid and reliable measures of these psychological constructs which capture the complex conceptualisation of these variables.

Clark et al (2009) emphasise the composition of the reference group and that finding a signal effect is more likely if the reference group is work colleagues than neighbours. A possible reason why we fail to find a signal effect is that our Shanghai sample with which we investigated the effect of establishment earnings on job satisfaction was too small. A useful avenue for future research would be to combine the use of the JSS (or some other psychometrically valid instrument to measure JSS) with matched employee-employer data for a large sample, in order to combine the advantages of both datasets employed here.
References


