

**WHO WANTS SAFER CITIES?
PERCEPTIONS OF PUBLIC SAFETY AND ATTITUDES TO
MIGRANTS AMONG CHINA'S URBAN POPULATION**

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Abstract

Most extant research in the economics of crime literature has focused on explaining variations in crime rates. Public action to prevent crime, however, is often dependent on the level of concern about public safety that is expressed in public perceptions surveys. The economics of crime literature has largely overlooked responses to such surveys as data sources and therefore it has not accounted for the role that public opinion might have in mobilizing public action against crime. We use a unique survey administered in 2003 in 32 Chinese cities to examine the determinants of perceptions of public safety among China's urban population. One of our major findings is that individuals who have a negative perception of rural-urban migrants living in their city have a poor perception of public safety. We also find that the unemployment rate, the masculinity ratio and expenditure on armed police in the city in which the individual resides, whether the individual lives in the coastal region as opposed to the central or western region and average changes in housing prices and average changes in rental prices in the city in which the individual lives are important predictors of perceptions of public safety.

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INTRODUCTION

From the founding of the People's Republic up until the start of economic reform China had a very low crime rate (Dutton 1997; Deng and Cordilia 1999). Between 1951 and 1965 the official crime rate in China dropped from 90 per 100,000 people to 30 per 100,000 people (Yu 1993, pp. 43-44). Crime statistics were not collected from 1966 to 1971 at the height of the Cultural Revolution. From 1972 to 1976 the crime rate increased to 60 per 100,000 people (Yu 1993, pp. 43-44). This latter increase has been blamed on the fact that the majority of young people had no school to attend or job to keep them occupied (Liang and Shapiro 1983), although crime rates were still low compared to the market reform period (Deng and Cordilia 1999). Since the beginning of the 1990s the official crime rate has hovered between 140 per 100,000 people and 200 per 100,000 people most years, peaking at 215 per 100,000 people in 1991 (Guo 1996, p. 3). The rate of serious crime has shown a marked increase between the late 1980s and mid-1990s. For example, between 1988 and 1995 homicides increased 71 per cent, assaults 171 per cent, robbery 351 per cent, serious theft 237 percent and larceny 72 per cent (Guo 1996, p. 4). The sharp increase in the crime rate has fueled government and public concerns of a crime wave. As one commentator put it, "the government leadership [considers] China [is] currently experiencing a period of criminal 'high-tide'" (Ma 1995, p. 247).

Nevertheless, despite the existence of official crime estimates, Silverman and Della-Giustina (2001) observed that such objective measures do not always bear in any substantial way upon community fear of crime. In fact, several studies have shown that the fear of personal crime is actually greater than its objective incidence (Borooah and Carcach 1997; Ito 1993). The frequent lack of correspondence between actual crime rates and the fear of crime has led to a strong research focus on the latter (Busselle 2003). While most existing research on fear of crime has been undertaken in the Anglo-American context (Ito 1993), the tendency for people to display a divergence between perceptions of objective crime rates and subjective crime vulnerability has been observed in China by Guo *et al* (2001). These authors found that among residents of Guangzhou, recourse to "official crime statistics was almost irrelevant to people's crime estimates" (p.415). Yin (1985) made the point that in the Chinese context, few people make use of actual crime rate sources when assessing their community's vulnerability. This supported an earlier study by Tyler (1980) on the origins of crime-related judgments, which concluded that people are both willing and able to separate their beliefs about personal vulnerability to crime from objective rates of crime in their community.

Beginning with Becker (1968) and Ehrlich (1973), the economics of crime literature has focused most of its attention on explaining determinants of crime within a rational actor framework. There are several studies employing a 'supply of offences' function where the crime rate per capita is the dependent variable and explanatory variables include the probability of apprehension, severity of sentence and proxies for returns to legitimate and illegitimate earnings activities (see Cameron 1988 for a review). Economists have also examined the interaction between average crime rates and public spending on crime prevention across space and time as well as the substitutability between private and public spending on crime prevention (see eg. Behrman and Craig 1987; Gyimah-Brempong 1989; Clotfelter 1977). Support for taking an economic approach to the study of perceptions of public safety comes from Pradhan and Ravillion (2003), who examined determinants of public safety in Brazil. Apart from that study, however, there has been no research in the economics literature on concern about public safety. This is true more generally for the determinants of public safety in transitional economies. It is important to begin to address this apparent gap in the literature because public perceptions of safety bear substantially upon both subjective quality of life and on further objective life quality measures, such as government spending on crime prevention and victimization support. Presumably politicians also care about

perceptions because how people perceive crime rates is important for political survival for politicians and/or their policies. This is true irrespective of whether perceptions of crime are an accurate reflection of crime rates.¹

The current paper adds to the scant literature on economic models of the determinants of public safety by drawing on a large survey of urban residents conducted in 2003 to examine the determinants of people's perceptions of public safety in Chinese cities. Public opinion polls have consistently shown that public safety is an important concern for people all over the world (Pradhan and Ravillion 2003) and public safety is a major issue in transitional economies such as China. A 1991 national survey of 15,000 people in China reported that two-thirds of respondents were seriously worried about the level of public safety (Research Institute of Ministry of Public Security 1991). As Situ and Liu (1996) have graphically described the fear of crime among residents in Guangzhou:

"In Guangzhou, the residents' fear of victimization has turned them into 'prisoners at home'. To prevent burglary, which is the number one type of crime in the city, they install iron bars to protect their windows and balconies (even those who live in the upper stories do this), replace their wooden doors by steel doors, install intercom systems at the entrance of their apartment buildings, and some even hire round-the-clock safety guards for their houses".

In this paper we test the effect of both individual and neighbourhood effects on perceptions of current safety and perceived changes in public safety among the urban population in the two years prior to the survey. In the Chinese context much attention has been given to the perceived role of migrants in contributing to urban crime rates (Solinger 1999). Thus, we also examine the effect of attitudes to migrants on people's perceptions of crime rates. Because we find 'attitudes to migrants' to be an endogenous variable, we correct for endogeneity and report both corrected and uncorrected results.

The paper is set out as follows. The next section discusses stereotypes of migrants in China. Section 3 provides an overview of the data, presents the empirical specification and considers the expected signs on the explanatory variables from an economic perspective. The empirical results are presented in section 4. Foreshadowing our main results, we find that the respondent's attitudes to migrants and whether he or she lives in the coastal region, plus the masculinity ratio, unemployment rate and expenditure on armed police in the locale in which the respondent resides are statistically significant predictors of perceptions of public safety, irrespective of how the dependent variable is defined. The final section suggests some avenues for future research.

ATTITUDES TO MIGRANTS AND PERCEPTIONS OF PUBLIC SAFETY IN CHINA

One of the central hypotheses that we test in this paper is that urbanites' perceptions of public safety is influenced by their attitudes to migrants. It is estimated that 120-150 million peasant workers have relocated to China's cities (Pan 2002), with this number expected to increase to around 300 million by 2010 (Lague 2003). These rural to urban migrants are termed the 'floating population' (*liudong renkou*) because migrants' stays are typically temporary and follow work opportunities within and between locations. One result of the temporary nature of these migrants' stays in the city is that they tend to remain socially isolated from the indigenous urbanites, and relationships between the groups are, at best, strained. The predominant attitude towards the migrant population is one of suspicion (Roberts 2002). Chai and Chai (1997) noted that there is often outright hostility towards migrants and that this perception seems to have translated into the development of broad negative attitudes towards temporary migrants. Another result of this massive migration phenomenon is the heterogenisation of China's cities. As Rountree and Land (2000) and Austin *et al* (2002) observed, the social dynamics and demographic composition of urban centres affect residents' attitudes towards crime and their perceptions of public safety. China's urban centres have undergone substantial changes in demographic composition over the last few decades with the influx of the floating population being a major contributing factor. It is

likely that these demographic changes may be important contributors to perceptions of compromised public safety in urban China, following Taylor and Covington's (1993) study, in which higher levels of fear were reported in environments that had undergone recent demographic change.

Migrants are often blamed for contributing to escalating crime rates in urban China. As Wang and Zuo (1999) have put it: "The stereotype of rural migrants is that they are uneducated, ignorant, dirty, and also have high propensities to be criminals" (p.278). Situ and Liu (1996) suggested that "new migrants constitute a large majority of the [crime] problem in the major Chinese cities" (p.295). Several studies have found that urban residents hold migrants responsible for a disproportionate amount of crime. A survey in the mid-1990s found that 74 per cent of Shanghai residents held migrants responsible for at least three of the following four problems: crime, transport, employment and environmental degradation (Solinger 1999, p. 101). In the same survey, 81 per cent of respondents rated reduced safety of property as the most troubling effect of the presence of migrants in Shanghai, with 14 per cent of respondents terming it "serious". The main reason these people felt insecure was that they had personally experienced theft in the recent past (Solinger 1999, p. 131). Another survey, also in the mid-1990s, of residents in Beijing, Guangzhou and Shanghai found that poor social order has become the "number one public enemy" and that respondents considered migrants to be the "root cause" of their insecurity and rising crime rates (Solinger 1999, p. 131).

However, as Roberts (2001) noted "knowledgeable observers think migrants are scapegoats". Solinger (1999, p. 102) stated "the ills associated with incipient markets: competitive labor markets, inflation, crowded transport vehicles and scarcer water and electricity, not surprisingly, became linked to migrants as well". Statistics for some specific localities suggest that migrants commit a disproportionate amount of crime in some big cities. According to official statistics, in Beijing 44 per cent of crimes solved by the police in 1995 were committed by transients (Xu 1995). In Guangzhou 80 per cent of burglaries in the mid-1990s were recorded by the police as being committed by transients and in Guangdong as a whole, 90 per cent of those charged with drug trafficking and prostitution were recorded as migrants (Chen and Luo 1995). Solinger (1999), however, has argued that the figures are often unreliable. Not all crimes attributable to migrants in the official statistics can necessarily be reliably attributed to migrants because, as Solinger (1999) has argued, authorities are often prejudiced against migrants and record crimes committed by urban vagrants as being committed by migrants.

Underpinning these stereotypes is the transformation of urban China into an hierarchical society, with well-defined and socially differentiated 'us' versus 'them' groups. Turner *et al.*, (1987) term such discrete and hierarchically arranged social groups as 'in-groups' and 'out-groups'; an in-group being a more superior, or socially powerful group, and an out-group being a socially inferior, or less powerful, group. In urban China, the hierarchical arrangement of urban indigenous and migrant groups are good examples respectively of in- and out-groups that we argue are borne in part of the residential registration (*hukou*) system's clear social power differential favouring urbanites over rural migrants. One of social psychology's more reliable phenomena is the propensity of group members to favour their own over other-group members. This is referred to as in-group favouritism (Schaller 1992). In a study conducted by Malloy *et al.* (2004) among Chinese in-group and out-group samples, there was greater consensus in trait judgments within the in- and out-groups than there was between the in- and out-groups, indicating that the phenomenon of in-group favouritism extends to Chinese culture.

Apart from their structural origins within the *hukou* system, another explanation for the emergence of highly discrete in- and out-groups in urban China may be, as Roberts (1997, p.268) observed, the fact that "native place identity (*tongxiang*) is a critical component of personal identity in China". Roberts argued that the concept of ethnicity in China has long been defined in terms of birthplace - a differentiating tendency reinforced by the fact that Chinese Marxism encouraged urbanites to see themselves as the 'leading class', that is, as a veritable 'aristocracy of labour' from 1949. In part due to in-group favouritism, voluntary intergroup social contact between in-groups and out-groups

tends to be limited. Prejudice towards same-group, and against other-group, members serves only to deepen in-group/out-group divides because, as Plous (2003, p.3) observed, “where prejudices lurk, stereotypes are seldom far behind”. Stereotypes are frequently negative and this observation seems particularly apt in the context of urban China where, as Cheng and Selden (1994) pointed out, the term *mangliu*, which is used to describe the floating population, is a play on the word *liumang*, which means vagrant or hooligan.

The economic model of crime predicts that migrants would commit more crime because of the existence of labor market discrimination. Studies for the United States have consistently found that African Americans commit more crime and have higher incarceration rates. An important reason for this is the existence of segmented labor markets, which makes the marginal return to illegal earning activities, such as dealing drugs, much higher for African American males (Freeman 1996). In China, in urban areas the floating population and local urban residents participate in segmented labor markets. Several studies using datasets for the mid-1990s found that the Chinese labour market is segmented between urban residents and rural migrants (Knight and Song 1999; Knight *et al* 1999; Meng and Zhang 2001). More recently, Appleton *et al* (2004) and Maurer-Fazio and Dinh (2004) examined labour market segmentation between continuously employed urban workers, urban workers who had been laid-off and reemployed and rural migrants. Both studies found evidence of labour market segmentation into these three categories with non-retrenched urban workers receiving a wage premium. A survey of migrants in Shanghai found a clear division between the floating population and local residents in terms of occupational composition, living conditions and income and benefits (Feng *et al* 2002). There is also evidence of occupational stratification at the national level. According to 1990 census data, nationally only 3 per cent of all long-term migrant employees are in professional/cadre/clerical positions compared with 24 per cent for urban residents (Yang and Guo 1996).

It is common for the floating population to be forced to do jobs that the urban populace do not want (Yang and Guo 1996; Feng *et al* 2002). These jobs are often so-called ‘Three-D’ jobs – jobs which are dirty, dangerous and demeaning - which are common in industries such as construction and mining for males and sanitation and textiles for females. A wealth of anecdotal evidence documented in Roberts (2001) and elsewhere supports this claim. In some cases occupational stratification has been institutionalized. While actual reports of migrants taking the jobs of urban residents are spasmodic, perceptions that migrants are taking jobs from the urban populace and pushing wages down is fuelling labor market tensions between the urban and migrant populations. This fear has influenced government policies with local officials viewing migrants as a burden on their cities (Solinger 1999, Guo & Iredale 2003). At one level this manifests itself in subtle forms of discrimination. For example, in Shanghai employers using migrant labor are required to contribute 50 RMB to an unemployment fund for each migrant laborer they employ.² The proceeds from this fund are used exclusively to assist unemployed permanent urban workers (Feng *et al.* 2002). Some municipal governments have implemented regulations to protect urban laborers through reserving specific job categories for urban workers and making explicit suggestions that urban residents not be underpaid compared to outsiders. For instance, in the late 1990s, according to a report in the *Beijing Daily* (April 10, 1997), the Labor Bureau of one of Beijing’s districts stipulated that at least 35 types of jobs should not be open to the floating population (cited in Wang & Zuo 1999). In other cases, municipal governments have adopted more direct action against migrant communities. Guo and Iredale (2003) reported that a number of ‘migrant villages’ in Beijing have been ‘cleaned up’ or ‘demolished’ since the late 1990s as migrant communities have been repatriated to the countryside.

OVERVIEW OF THE DATA, EMPIRICAL SPECIFICATION AND ECONOMETRIC METHODOLOGY

Since 2001, China Mainland Marketing Research Company (CMMRC) has conducted an annual survey of approximately 10,000 urban residents, asking a range of questions relating to their perceptions of changes in living standards, changes in economic circumstances, expenditure on

household items and background characteristics such as age, education, gender, income and occupation. CMMRC employs multistage stratified random sampling to ensure a representative sample in terms of age, gender and income. The respondents were interviewed in person in shopping districts of each city by a trained CMMRC interviewer. In each city there were four individuals conducting the survey in different shopping districts. All responses were checked for accuracy three times prior to being entered into the database; initially by a supervisor on location, then by a supervisor for the city and finally at the CMMRC offices in Beijing. All respondents who participated in the survey were aged 18 years or above and had always had an urban registration. Since January 2003 it has been possible for migrants in some cities to purchase an urban registration if certain conditions are met such as owning a house, having a stable job and/or investing a minimum amount in the city. There is no-one in our sample in this category who was a migrant who purchased an urban registration.

This study employs data from the CMMRC survey, which was conducted in November 2003, to examine the determinants of people's perceptions of public safety. The 2003 survey contained information on 206 questions from 10,716 respondents across 32 Chinese cities;³ of which responses from 8127 or 8133 respondents contained usable data relating to the variables of interest to us depending on the specification. Data from the CMMRC survey was supplemented with data on the city in which the respondent lived. These latter data were obtained from *China Statistical Yearbook*, *China Labor Statistical Yearbook*, *China Social Statistics* and *China Urban Statistical Yearbook*.

We used the following specification to examine urbanites' perception of public safety:

$$PERCEPTION=f(X, Z, MIGRANT, \varepsilon) \quad (1)$$

Here *PERCEPTION* is an ordinal variable measuring the respondent's perception of public safety; *X* is a vector of individual and household characteristics (age, gender, education, household income, household size, marital status, occupation, place of residence); *Z* is a vector of city characteristics (such as the masculinity ratio, population density, number of schools and expenditure on armed police); *MIGRANT* is a measure of the respondent's attitude to migrants and ε is the error term, reflecting unobserved random factors. In the survey conducted by CMMRC there were two questions asking about perceptions of public safety and we examined them in alternative specifications. In one specification the dependent variable measured the response to the question: 'Over the past two years what changes in public safety have you encountered in your living area?' The options were 'considerable fall', 'slight fall', 'no change', 'some improvement' or 'significant improvement'. In the second specification the dependent variable measured the response to the question: 'Are you satisfied with your current living standards in terms of the level of public safety?' The respondent answered on a five point scale ranging from one (extremely satisfied) up to five (extremely dissatisfied).

Table 1 provides a breakdown of the frequencies for both dependent variables. Overall, 63.2 per cent of respondents considered that there had been either 'some improvement' or 'significant improvement', 21 per cent of respondents considered there had been no change and 15.8 per cent of respondents said there had been either a 'slight fall' or 'considerable fall' in public safety in the two years prior to the survey. On the current level of satisfaction with public safety, 37 per cent expressed 'satisfaction' or 'extreme satisfaction', 35.2 per cent answered on the mid-point of the scale and 27.8 per cent of respondents expressed 'dissatisfaction' or 'extreme dissatisfaction'.

 Table1 about here

We used an ordered probit model to estimate Equation 1, employing the two proxies for the dependent variable in alternative specifications. It is possible that the respondent's perception of migrants is an endogenous variable. This will be the case if the respondent's perception of migrants are based on the same human capital, job-related and personal factors that influence

their perception of public safety. If this is the case, the error term (ε) will be correlated with *MIGRANT*, producing biased coefficients. In order to test whether *MIGRANT* was correlated with the error term we calculated the Hausman test. We used the respondent's level of satisfaction with transportation as the instrumental variable. There is much evidence that the influx of migrants into China's cities has placed severe pressure on the urban public transport system (Lee 1998). Migrants are often blamed by urban residents in China for clogging up transportation and contributing to traffic congestion (Solinger 1999, p. 101). A survey by Ding and Stockman (1999) of 500 urban households in Shanghai in 1995 found that 90.8 per cent of respondents considered that migrants worsened traffic conditions and that 30.1 per cent of respondents thought that the effect of migrant presence in the city on traffic congestion was serious. A report by the Wuhan Economic Research Institute (2003, p. 35) similarly found that urban "residents voiced the common complaint that migrants are responsible for most of Wuhan's transport problems. For instance, residents blame migrants for most traffic infractions". Thus, it is reasonable to believe that people's satisfaction with transportation will be correlated with their perception of migrants, but not with their perception of public safety. The Hausman test suggested that *MIGRANT* was an endogenous variable in both versions of Equation (1).⁴ On this basis the estimation of Equation (1) proceeded in two stages. In the first stage we estimated a reduced form probit regression for the endogenous variable, *MIGRANT*. In the second stage we estimated an ordered probit regression for *PERCEPTION* after substituting estimates for the endogenous variable, *MIGRANT*, into Equation (1).

 Table 2 about here

The definition of each of the explanatory variables that we have employed to explain people's perception of public safety, together with either their mean values or, for the binary variables, the percentage of '1' responses, are given in Table 2. The mean age of respondents in the sample was 39 years, 50.2 per cent were female, 30.2 per cent were single and 26 per cent lived in one of the coastal provinces. The median household income of respondents was 2001-2250 RMB per month; 39.3 per cent had a three year higher education or above, 28.9 per cent had completed senior middle school and 20.9 per cent had a junior middle school education or less. On occupation, 35.6 per cent of respondents were in professional occupations, 31.3 per cent were manual, semi-skilled or technical workers, 15.9 per cent were retired and 8.8 per cent were unemployed.

Overall, with the exception of the education profile, the characteristics of the sample are fairly representative of the urban population as a whole. In 2001 the average household income was 1800 RMB and 40.7 per cent of people lived in one of the coastal provinces (SSB 2002, pp. 94, 145). In 2002 49.9 percent of the urban population was female, the mean age of urban residents was 37 years and 25.2 per cent were single (SSB 2003a, pp. 7, 38-40, SSB 2003b, p. 67). The retirement age for blue collar workers in urban areas is 55 for women and 60 for men. In 2002 9.8 per cent of the urban population were aged 60 years or older and 14.4 per cent were aged 55 years or older (SSB 2003a). In order to reduce the surplus labour problem in state-owned enterprises, as part of an ongoing process of restructuring, some enterprises have introduced semi-retirement (*neitui*) at ages younger than the official retirement age, with semi-retired workers receiving 50-70 per cent of their position wage with no bonuses (Smyth *et al.* 2004). It is conceivable that some of the respondents in the sample who are designated as retired are semi-retired.

In 2002 among the urban population, 54.7 per cent completed junior middle school or less, 26.6 per cent had completed senior middle school, 4.4 per cent had a three year higher education and 0.3 per cent had a postgraduate degree (SSB 2003b, p. 7). This means that in our sample, those with a junior middle school education or less are underrepresented and those with a tertiary degree are overrepresented relative to the urban population as a whole. One explanation for the education profile of our sample is that the survey was conducted in large cities where the

educational level is much higher than in other areas. Previous studies which have interviewed respondents in large Chinese cities have also found better educated individuals to be disproportionately represented relative to the urban population as a whole. For example, in a survey of 500 households in Putuo District in Shanghai in 1995 conducted by Ding and Stockman (1999), 21 per cent of respondents had a three year higher education or above. In a survey of employees in manufacturing enterprises in three cities (Nanjing, Shanghai and Tianjin) in 1994-1995, Zhu (1997) found that 73.3 per cent of respondents had tertiary qualifications. This peculiarity with respect to educational level also seems to reflect those who typically answer surveys on the streets in China and respondents in street surveys more generally. In the 2002 survey administered by CMMRC, almost 40 per cent of respondents had a three year higher degree or above (CMMRC 2002). Holbrook *et al* (2003) found that the educational levels of respondents are skewed and that respondents with a lower education level are generally reluctant to respond to surveys conducted in the street as they believe they may have more to lose. Studies comparing respondent education levels in various surveys have found fewer low-education respondents in telephone samples than in face-to-face samples (see eg. Greenfield, *et al*. 2000; Groves 1977). We now proceed to examine the rationale and expected signs for each of the explanatory variables.

Attitudes Towards Migrants

In the CMMRC survey, the question asked: "Do you welcome migrants to live and work in your home city?" Responses were on a five point scale ranging from one (migrants are warmly welcome) to five (migrants are particularly unwelcome). Existing research suggests that race is a strong predictor of perceptions of public safety (Pain 2001). Results from extant studies suggest that fears frequently focus on other ethnic or minority groups. For example, in the United States, Tabb *et al* (1984) found that working-class whites believe that an influx of blacks into their neighborhood increases crime rates and reduces housing values. Moreover, these fears are often based on stereotypes of particular ethnicities (Smith 1984; Lea and Young 1984). Using these studies as a guide, we expect that respondents who are fearful of migrants will have a lower perception of public safety. As the discussion in Section 2 suggests, there are strong stereotypes around migrants and criminality in Chinese cities with migrants blamed for a disproportionate amount of crime in China's cities. Individuals who have a poor image of migrants are more likely to link increased migrant presence in China's cities to a perceived reduction in the level of urban public safety even if these fears are based on 'irrational prejudices'.

Individual and Household Characteristics

The expected sign on the coefficient for the household income of the respondent is *ex ante* unclear. On the one hand those with higher incomes should be better able to purchase private protection (Gavaria and Pages 2002) or, if public safety has properties of a local public good, mobilize local public action to prevent crime or move to a safer neighborhood (Pradhan and Ravallion 2003). If this is the case, the rich should have better perceptions of public safety. On the other hand, though, those on higher incomes will be more desirable targets for potential offenders, which might make those on higher incomes less satisfied with public safety. This latter interpretation is consistent with the economic model of crime following Ehrlich (1973), which proxies returns to illegitimate earning activities using household income where household income is a measure of 'the availability of thievable property' (Witt *et al* 1999, p. 391). The wealthy will face a trade-off in terms of how much they invest in private protection depending on the extent to which they are willing to bear some victimization risk. Gavaria and Pages (2002) developed a model that shows that the trade-offs the rich make will vary with different sorts of crime depending on whether the risk is random (such as muggings) or if the criminal has targeted the victim to maximize expected gains (such as burglaries).

The empirical evidence from existing studies for income is mixed. In two studies using data for the United States (Skogan and Maxfield 1981; Toseland 1982) as well as in a study employing Australian data (Borooah and Carcach 1997), it has been found that higher income individuals

have less fear of crime. Pradhan and Ravillion (2003) also found that there was a positive, although small, income effect on the perceived current level of satisfaction with public safety in Brazil. Baba and Austin (1989) and Keil and Vito (1991), however, found that income levels had no significant impact on perceived levels of public safety. Meanwhile, Gavaria and Pages (2002) found a positive correlation between socioeconomic status and the probability of victimization in Latin America. Their explanation was that their findings were being “driven by both the difficulties of the relatively wealthy in protecting themselves against street crime and the tendency of burglars and kidnappers to target wealthy victims” Gavaria and Pages (2002, p. 182). Hraba *et al* (1998) found that wealth was positively related to perceived risk of crime in the Czech Republic, arguing that this reflected the fact that “the wealthy may feel vulnerable to crime, particularly property crime” (Hraba *et al* 1998, p. 239).

The expected sign on the coefficient of the respondent’s education is *ex ante* unclear. While Hraba *et al* (1998) found that in the Czech Republic, the more educated had a higher perceived risk of crime, several earlier studies found that concerns about public safety were stronger among people with lower levels of education (see eg Erskine 1974, Clemente and Kleinman 1977, Keil and Vito 1991). While the latter finding might simply reflect that the less educated live in less safe neighbourhoods, the former can be explained by Festinger’s (1957) theory of cognitive dissonance. In the context of crime perception, Pradhan and Ravillion’s (2003) observed that cognitive dissonance often leads people to downplay the level of danger in their environment, since admitting to oneself that one lives in an unsafe environment is too psychologically provocative. To the extent that local crime rate knowledge is an indicator of education, this suggests that an individual’s education might negatively influence his or her concern for public safety.

In addition to the respondent’s education and income we include other individual and household characteristics for age, gender, marital status, size of the household and respondent’s occupation to account for possible heterogeneity in preferences. There are several studies which suggest that older people have higher levels of fear of crime (see eg. Skogan and Maxfield 1981) and lower levels of perceived safety (Baba and Austin 1989). This is in spite of the fact that most crime statistics indicate that older people are less likely to be the victims of crime, especially compared with teenagers and young adults. Warr (1984) has argued that the greater fear of crime among older people is attributable to their differential sensitivity to risk, despite their lower exposure. Others have suggested that higher levels of fear among the elderly might be partially due to social isolation (Sundeen and Matthieu 1976). The effect of age on perceptions of safety has, however, not been consistent. Clemente and Kleinman (1977) and Braungart *et al* (1980), using data for the United States, and Kiel *et al* (1996) using data for Romania did not find significant age effects. For China, Curran and Cook (1993), citing data from the Ministry of Public Security, argued that those aged 16 to 28 years were more fearful of crime than those aged over the age of 28. Ferraro (1995) and LaGrange and Ferraro (1989) concluded that the effect of age on perceptions of public safety is non-linear. These authors found that perception of public safety is lower among younger people, is higher in middle age and is lower again in old age. To allow for the possible non-linear effect of age on perceptions of public safety, we include both the actual age and the squared value of the respondent’s age as independent measures.

Most existing studies have found that women have a lower perception of public safety than men (see eg. Borooah and Carcach 1997; Perkins and Taylor 1996). One explanation for this gender difference might be the positive relationship between fear and the potential for victimization (Taub *et al*. 1981). Women’s fear of crime is fundamentally connected to their vulnerability to rape and sexual harassment (Ferraro 1995). Warr (1984) found that the possibility of rape is the primary fear of most women. We also interact the gender of the respondent with the masculinity ratio. If females are mainly fearful of sexual crime we expect that women living in cities with a higher masculinity ratio will have a lower perceived level of public safety.

Clark (1988) found that there is a direct negative relationship between burglary risk and the number of people in the home, while Mukherjee and Carach, (1998) found that households comprised of a married couple are at less risk of burglary victimization than single-person

households. Following Mukherjee and Carach, we expect married people to perceive public safety more favorably; and following Clark (1998), we expect perceptions of public safety to increase with larger numbers of people living in the household. In including a variable for occupation, we follow Keil *et al* (1996), who included a measure of occupation in their study of perceptions of public safety in Romania. While there is no *a priori* expectation that the respondent's occupation will effect concerns over public safety one way or another, the rationale for including this variable is to see to what extent the traditional working class is concerned about public safety. Curran (1998) has expressed the view that rising crime rates and perceived fear of crime among the working population is threatening social stability and the course of market reforms in China. Thus, considering the effects of occupation on perceptions of public safety provides insights into whether fear of crime is an issue with which the government should be concerned in relation to urban workers, in addition to other grievances among the working class such as the growing problem of laid-off workers.

City Specific Characteristics

We include average income and the number of schools per 100,000 population in the city in which the respondent lives to investigate potential neighbourhood effects on perceptions of public safety. A stylized fact in the economics of crime literature is that crime tends to be spatially concentrated in low income areas (Pradhan and Ravallion 2003). One reason for this might be that in the Ehrlich (1973) supply of offences function the marginal return to illegitimate earning activities is higher for low income individuals. But, even though the marginal returns to crime are higher for low income individuals, this does not explain why if criminals live in poorer neighborhoods they still do not commit crime in richer neighborhoods where the marginal reward to crime is higher. Freeman *et al* (1996) developed a model explaining the spatial concentration of crime in poor areas. Their model is based on a positive externality that criminals create for each other in equilibrium where the probability of detection is lowest in low income areas where the greatest number of criminals are concentrated, holding police resources constant.

We interact the respondent's household income with average income in the city. We expect that high income individuals in low income cities will have lower perceptions of public safety. Cullen and Levitt (1999) examined the effect of crime on urban flight, showing that in the United States, each additional reported crime leads on average to one fewer resident in that locale. Using an interaction term allows us to examine the extent to which public safety concerns encourage residential differentiation, such as "people flight", by non-poor people concerned about safety in low income areas.

The number of schools per 100,000 people is a measure of education as an external neighborhood effect. We expect that individuals who live in cities with better educated populations will have better perceptions of public safety. One reason for this is that the economic approach to crime suggests that crime rates will be lower in cities with better educated populations. First, in the time allocation model of Ehrlich (1973) education reduces the amount of time available for criminal activities for those enrolled in schools. Second, education enhances human capital skills in legitimate earning activities more than illegitimate earning activities and increases the opportunity cost of crime (Wong 1995). Third, education acts to promote 'good citizenship' and as such generates positive externalities on social welfare reflected in greater respect for the property rights of others (Bodman and Maultby 1997). Another reason why individuals who live in cities with better educated populaces can be expected to have a better perception of public safety is through its effect on reducing cognitive dissonance. As Pradhan and Ravallion (2003, p. 19) put it: "If own education matters to concern for public safety through its effect on knowledge about the true probabilities of crime, then one's neighbors' education could well have the same effect, assuming that education fosters different knowledge sets in different people, but that this knowledge is shared amongst concerned neighbors". We also interact the respondent's education with the number of schools in the city in which he or she lives. If education reduces cognitive dissonance and generates a positive externality, having better educated neighbors should accentuate the impact of concern for public safety on differences in own education (Pradhan and Ravallion 2003).

We include the floor space of buildings per capita and the average change in selling and rental price of housing as indicators of the attractiveness of the city to criminals. In addition, the average change in selling and rental prices of housing in the city will influence perceptions of public safety through demand for housing (Pradhan and Ravillion 2003). We include population density and a dummy variable for whether the respondent lives in a coastal province to examine the effect of city size on perceptions of public safety. We expect that respondents living in cities in coastal provinces and living in more densely populated cities to have a lower perception of public safety.

One reason for expecting that respondents in cities in coastal provinces will have lower perceptions of public safety is that the market reforms have progressed further in the coastal provinces and this has resulted in higher levels of income inequality. Existing studies show that areas with higher income inequality tend to have higher crime rates (Witt *et al* 1999) and lower perceived levels of public safety (Pradhan and Ravillion 2003). In this respect, it is arguable that there is a link between an increase in income inequality in China in the 1980s and 1990s, the massive increase in recorded crime rates and falling perceptions of public safety. Rising income levels mean that people who have benefited from reform are more concerned about crime now that have property which can be stolen and rising income inequality implies that there are also more people with less.

A second reason for expecting lower perceptions of public safety in cities in the coastal provinces and in the more densely populated cities is that these cities tend to be larger. Gavaria and Pages (2002) found a positive correlation between victimization rates and city size, suggesting that perceptions of public safety can be expected to be lower in larger cities. This could be because (i) larger cities harbor a higher proportion of crime prone individuals; (ii) the marginal returns to crime is higher in larger cities because either large cities contain a higher proportion of wealthier victims or markets for second-hand goods are better developed or (iii) the probability of detecting crime in big cities is lower because there are diseconomies of scale in the production of arrests or larger cities invest less in law enforcement (Gavaria and Pages 2002).

Of the other city specific variables we expect that perceptions of public safety will be lower in cities with higher unemployment rates. The economic approach to crime suggests that unemployment will have a positive effect on crime rates both in a time allocation sense and because the marginal returns to crime for the unemployed will be higher. Existing studies for developed countries typically suggest that a one percentage point increase in unemployment results in a one per cent increase in property crime, although unemployment does not appear to influence violent crime (see Levitt 2004; Raphael and Winter-Ebmer 2001). We expect that perceptions of public safety will be lower in cities with higher masculinity ratios because most blue collar property crime is committed by males (Reilly and Witt 1996). We expect perceptions of public safety to be higher in cities which spend more on armed police per capita. Existing studies suggest that increased police presence deters crime through increasing the probability of apprehension (Witt *et al* 1999, Di Tella and Schargrotsky 2004; Klick and Tabarrok 2004). The visibility of armed police can be expected to make people feel safer.

EMPIRICAL RESULTS

Table 3 presents the ordered probit results both uncorrected and corrected for endogeneity of perceptions of migrants where the dependent variable is 'Are you satisfied with your current living standards in terms of the level of public safety?', where respondents' answers were made on a five point scale ranging from one (extremely satisfied) to five (extremely dissatisfied). In the following discussion we focus only on the corrected results. Of the statistically significant variables with the expected signs, our first main finding is that respondents who view migrants as being unwelcome in their home city are less likely to be satisfied with current living standards in terms of public safety. We find that in cities which spend more on armed police per capita, respondents are more likely to be satisfied with current public safety. However, consistent with expectations, respondents

living in cities in the coastal provinces or living in cities with a higher percentage of males are less likely to be satisfied with current public safety.

Table 3 about here

The coefficients on floor space of buildings per capita and average changes in the renting and selling prices of houses in the city are each statistically significant with a negative sign. This implies that as new buildings go up and rental and selling prices of houses increase people are more satisfied with current levels of public safety. In other words, in cities in which it is considered more desirable to live and work, reflected in higher demand for housing, people are also more likely to feel safer from crime.

The unemployment rate in the city is statistically significant with a negative sign.⁵ We hypothesised that the unemployment rate in the city would have a positive sign given that the economic model suggests that higher unemployment will result in higher crime rates. We expected, based upon Ehrlich's (1973) time allocation model, that those who are unemployed would have more time to allocate to crime and have a lower opportunity cost of committing crime. An alternative, perspective, however, on the crime-unemployment nexus, which is consistent with our results is the 'opportunity perspective' which has been put forward in a series of articles by the criminologist Kenneth Land and his colleagues (see eg. Cohen *et al* 1980, Cantor and Land 1985, 2001). The opportunity perspective sees crime as a function of the supply of suitable targets for victimization. This perspective suggests that crime will fall during times of high unemployment and thus people will feel more secure, because in times of economic downturn the circulation of people and the level of spending on new property is reduced, curtailing the amount of plunderable victim stock. Moreover, as the unemployment rate rises, more people will remain in their homes or close neighborhoods which builds social cohesion and improves their perception of public safety through reducing the incidence of property crime and curtailing the level of violent crime, most of which occurs outside the home.

Of the other variables which are statistically significant in Table 3, the coefficient on population density is zero to three decimal places, indicating that it has no practical effect on perceptions of public safety in the current sample. Marital status has an unexpected positive sign, but its confidence intervals at the 95 per cent level bound zero, so we cannot reliably predict whether the sign on this variable is positive or negative. The only occupation which is statistically significant is the coefficient on manual workers, which has a negative sign, suggesting that manual workers have a better perception of public safety than those not in the labor market, which was the reference category.

There is no evidence of an income effect in Table 3. The respondent's household income is statistically insignificant. While average income in the city and the term interacting household income and average income in the city are statistically significant, the coefficient on both terms is zero to three decimal places, indicating that neither has any practical effect on perceptions of public safety. Similarly, neither the respondent's education, the number of schools per 100,000 population nor the terms interacting own education with the number of schools per 100,000 population are statistically significant. This suggests that neither socioeconomic status (own education and own income) nor neighborhood effects reflected in the education and average income of others in the city have any effect on the respondent's level of satisfaction with current public safety.

We find that neither age, gender nor the size of the household has any statistically significant effect on perceptions of public safety. Note also that while the masculinity ratio is statistically significant, gender interacted with the masculinity ratio is statistically insignificant. This finding could reflect the fact that in urban China, criminological studies have found that property theft is the crime feared most by the populace (Situ and Liu 1996). Meanwhile existing studies for developed

countries suggest that gender differences on public safety are most pronounced in relation to crime against the person and more specifically the female fear of being a victim of sexual crime.

Table 4 about here

Table 4 presents the ordered probit results both uncorrected and corrected for endogeneity of perceptions of migrants where the dependent variable is: 'Over the past two years what changes in public safety have you encountered in your living area?' Answers are on a five point scale ranging from one (significant improvement) to five (considerable fall). Focusing on the corrected results, in Table 4 there are several significant variables with coefficients that have the same sign as in Table 3. Of these variables, respondents who consider migrants are not welcome and respondents who live in one of the coastal provinces are more likely to have perceived a fall in public safety in their living area. The increase in the average rental and selling price of housing in the city has a positive effect on people's perceptions of changes in public safety, although floor space of buildings per capita ceases to be significant. Consistent with the results in Table 3, the unemployment rate in the city is statistically significant with a negative sign, giving further credence to the opportunity perspective. Respondents in cities which spend more on armed police are less likely to perceive a fall in public safety, while respondents in cities with a higher masculinity ratio are more likely to perceive a fall in public safety. Note, though, that both gender and gender interacted with the masculinity ratio have a statistically insignificant effect on perceptions of changes in public safety. The population density variable is statistically significant, but it has no practical effect on perceptions of changes in public safety in the two years prior to the survey.

In terms of occupation, the coefficient on manual workers is statistically significant with a negative sign as in Table 3 and, in addition, a dummy variable for whether the respondent is unemployed is also statistically significant with a negative sign. The respondent's household income and the average income in the city are statistically insignificant. The respondent's income interacted with average income in the city is statistically significant, but the coefficient on this variable indicates that it has no practical effect on perceptions of public safety in the current sample. In contrast to Table 3, in Table 4, both age and age squared are statistically significant. The sign on the coefficient on age is positive suggesting that older respondents are more likely to perceive a fall in public safety, while the coefficient on age squared is zero to three decimal points, indicating that it has no practical effect in our sample.

Respondents with a senior middle school education are more likely to perceive a fall in public safety relative to those with a polytechnic education, while the other dummy variables for the respondent's education are statistically insignificant. The result for those with a senior middle school education is consistent with the argument that education reduces cognitive dissonance, although the fact that the other own education variables are statistically insignificant means that support for this explanation is qualified. When the number of schools per 100,000 people is interacted with junior middle school the interaction term is statistically significant with a negative sign; however, its coefficient is quantitatively small. Schools interacted with senior middle school education is also statistically significant with a negative sign, but its confidence intervals at the 95 per cent level bound zero, so we cannot reliably predict whether it positive or negative.

CONCLUSION

We have examined the determinants of perceptions of public safety in urban China using a large survey administered in 2003 containing approximately 8,130 valid responses on questions of interest to us, supplemented with city specific variables likely to influence perceptions of public safety from the locale in which the respondent lived. We find strong support for our central hypothesis that the individual's attitude to migrants affects his or her perception of public safety. However, in contrast to a similar recent study by Pradhan and Ravillion (2003) for Brazil, we find

little evidence that own education, own income or neighborhood effects have any effect on perceptions of public safety. Similarly, in general the individual's personal and household characteristics seem to have little role to play in influencing perceptions of public safety. This is true for the individual's age, gender, marital status, occupation and size of household, although being in a manual occupation seems to be important and age was statistically significant with the expected sign in the model examining perceptions of changes in public safety. Apart from whether the individual welcomes migrants, the factors which seem most important in explaining perceptions of public safety are city specific variables. These variables include the unemployment rate in the city, the masculinity ratio, expenditure on armed police, whether the individual lives in the coastal region as opposed to the central or western region and average changes in housing and rental prices in the city reflecting the demand for housing and the city's urban development.

One of the limitations of our study is that because we do not have the data we are unable to examine how desire for increased public safety affects current perceptions of public safety, which is an interesting issue examined by Pradhan and Ravillion (2003) with their Brazilian crime data. Pradhan and Ravillion (2003) found that the desire for increased public safety has a positive own-income effect, but a negative neighbourhood effect. If we had data on desire for increased public safety it would provide a richer framework for examining income and neighborhood effects. This could be the basis for further research. A second limitation of our study, in common with most studies, is that we do not have data on perceptions of public safety disaggregated into different sorts of crimes. The limited evidence from criminological studies is that the determinants of perceptions of public safety differ for different sorts of crimes. One obvious difference, mentioned earlier in this paper is gender differences in perceptions of crime against the person and in particular fear of sexual assault. In light of our findings that gender is a statistically insignificant determinant of perceptions of public safety in our sample, this is a result which requires further investigation with more disaggregated perceptions data.

We have focused on how attitudes to migrants influence people's perceptions of public safety in China. We do not consider how people's perceptions of other central issues in China influence their perceptions of public safety. Examples would be their attitude to the pace of marketization and their views on corruptions and their level of trust in the government and the police. Several studies for both China and other transitional countries have suggested that increased levels of organized and other forms of crime, including violent crime are associated with bureaucratic corruption and marketization (see eg Kwong 1997, Squires Meaney 1991, Glinkina *et al.* 2000, Radaev 2000). This can be expected to influence perceptions of public safety. Dammert and Malone (2002) found that Argentinean citizens had lower perceptions of public safety, despite lower levels of crime rates and victimization relative to other Latin American countries because of lower levels of public trust in the police and more experience with corruption. Future research could examine how attitudes to marketization and bureaucratic corruption influence people's perception of public safety using data for China or transitional economies in Central and Eastern Europe, including Russia, where organized crime is a major problem.

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Table 1: Subjective assessments of public safety

‘Over the past two years what changes in public safety have you encountered in your living area?’

	%
Significant improvement	8.4
Some improvement	54.8
No Change	21.0
Slight fall	13.5
Considerable fall	2.3

‘Are you satisfied with your current living standards in terms of the level of public safety?’

Extremely satisfied	1	5.3
	2	31.7
	3	35.2
	4	19.5
Extremely dissatisfied	5	8.3

Table 2: Definition and Descriptive Statistics for the Explanatory Variables

Variable name	Variable description	Descriptive statistics
Gender	Binary variable where 0 = male and 1 = female	49.8% male
Age	Age in years	Mean age = 39.11 years (<u>SD</u> = 13.90 years) in a range of 18 – 100 years
Age ²	Age squared	Mean squared age = 1722.59 (<u>SD</u> = 1210.75) in a range of 324 – 10000
Household income	Average monthly household income of respondent (from 1-20 where 1 is 260 RMB or below and 20 is greater than 20,000 RMB)	Median = 9 (2000 - 2250 RMB)
Average income in the city	Average monthly income per capita in the city (RMB)	Mean average income = 1612.84 RMB (<u>SD</u> = 870.22 RMB) in a range of 5.00 – 3939.18
Marital status	Binary variable where 0 = not married and 1 = married	69.8% married
Size of household	Number of people living in the respondent's household	Mean = 3.21 (<u>SD</u> = 1.14) in a range of 1 – 13
Junior middle school	Binary variable equal to 1 if highest educational qualification is junior middle school or less, otherwise equal to 0	20.9% junior middle education or less
Senior middle school	Binary variable equal to 1 if highest educational qualification is senior middle school, otherwise equal to 0	28.3% senior middle education or less
Three year higher degree or above	Binary variable equal to 1 if highest educational qualification is a three year degree or above, otherwise equal to 0	39.3% three year degree or above
Senior professional	Binary variable equal to 1 if a senior professional, otherwise equal to 0	0.5% senior professional
Middle professional	Binary variable equal to 1 if a middle professional, otherwise equal to 0	9.3% middle professional
Lower professional	Binary variable equal to 1 if a lower professional, otherwise equal to 0	25.8% middle professional
Technical occupation	Binary variable equal to 1 if a technical occupation, otherwise equal to 0	14.1% technical occupation
Semi-skilled occupation	Binary variable equal to 1 if a semi-skilled occupation, otherwise equal to 0	13.6% semi-skilled occupation
Manual occupation	Binary variable equal to 1 if a manual occupation, otherwise equal to 0	3.6% manual occupation
Unemployed	Binary variable equal to 1 if unemployed, otherwise equal to 0	8.8% unemployed
Retired	Binary variable equal to 1 if retired, otherwise equal to 0	15.9% retired

Coastal resident	Binary variable equal to 1 if a coastal resident, otherwise equal to 0	26.0% coastal residents
Attitudes to migrants	Ordinal variable where 1 = most positive attitudes through 5 = least positive attitudes	Mean attitude score = 2.57 (<u>SD</u> = .89)
Floor space of buildings per capita in the city	Floor space of buildings completed in the city per capita (m ² /person)	Mean floor space = .79m ² (<u>SD</u> = .50m ²) in a range of .06m ² – 2.23m ²
Average change in selling price of houses in city	Average change in selling price indices of houses in the city (2000-2002) where preceding year = 100	Mean average change = 101.83 (<u>SD</u> = 1.48) in a range of 99.10 – 106.30
Average change in renting price in the city	Average change in renting price indices in the city (2000-2002) where preceding year = 100	Mean average change = 103.02 (<u>SD</u> = 7.59) in a range of 95.50 – 133.20
Unemployment rate in the city	Percentage registered unemployed in the city	Mean unemployment rate = 3.6% (<u>SD</u> = .91%) in a range of 1.40% to 4.90%
Masculinity ratio	Ratio of males to females in the city (departure from 100)	Mean males = 104.23 (<u>SD</u> = 3.55) in a range of 92.84 – 112.29
Expenditure on armed police per capita	RMB expenditure on armed police per capita in the city	Mean expenditure = 1.91RMB (<u>SD</u> = 1.53 RMB) in a range of .01 RMB – 6.04 RMB
Number of schools per 100,000 population	Number of schools per 100,000 population in the city	Mean number of schools = 17.53 (<u>SD</u> = 13.22) in a range on 4.25 – 68.54
Population density	Population density in the city (persons/km ²)	Mean density = 1535.43 persons/km ² (<u>SD</u> = 815.51 persons/km ²) in a range of 147 – 4276 persons/km ²

Table 3: Ordered probit regression where the dependent variable is: 'Are you satisfied with your current living standards in terms of the level of public safety?'

Variable	Uncorrected		Corrected	
	Estimate	Wald	Estimate	Wald
Gender	.221	.077	.571	.517
Age	-.001	.042	.003	.155
Age ²	.000	.001	-.000	.287
Household income	.000	.001	.001	.025
Average income in the city	.000	2.406	.000	4.233**
Marital status	.070	4.019**	.063	3.197***
Size of household	.018	2.829***	.017	2.440
Junior middle school	-.034	.210	-.045	.370
Senior middle school	.008	.012	.024	.118
Three year higher degree or above	.018	.070	.041	.364
Senior professional occupation	.025	.020	.009	.003
Middle professional occupation	.062	.930	.044	.468
Lower professional occupation	.036	.428	.021	.154
Technical occupation	.048	.664	.034	.326
Semi-skilled occupation	.025	.190	.019	.103
Manual occupation	-.173	4.743**	-.186	5.529**
Unemployed	-.090	1.886	-.072	1.204
Retired	-.000	.000	-.007	.010
Coastal resident	.079	2.061	.104	3.555***
Attitudes to migrants in the city	.144	114.829*	.038	161.674*
Floor space of buildings per capita in the city	-.106	4.788**	-.117	5.865**
Average change in selling price of houses in city	-.054	26.729*	-.052	24.833*
Average change in renting price in the city	-.020	61.368*	-.021	66.158*
Unemployment rate in the city	-.101	26.851*	-.100	26.344*
Masculinity ratio	.026	4.250**	.029	5.523**
Expenditure on armed police per capita	-.039	12.435*	-.042	14.649*
Number of schools per 100,000 population	.001	.103	.002	.352
Population density	-.000	21.712*	-.000	30.478*
Gender x masculinity ratio	-.002	.069	-.005	.461
Household income x Average income in the city	-.000	5.309**	-.000	7.563***
Number of schools x Junior Middle education	.001	.040	.001	.170
Number of schools x Senior Middle education	-.000	.004	.000	.021
Number of schools x Three year degree or higher	-.000	.017	-.002	.251
Threshold 1	-6.719	15.242*	-6.486	14.195*
Threshold 2	-5.431	9.966*	-5.918	9.122*
Threshold 3	-4.508	6.865*	-4.270	6.157**
Threshold 4	-3.660	4.526**	-3.418	3.946**
-2 Log Likelihood (Unrestricted)		23089.103		23120.988
-2 Log Likelihood (Restricted)		22754.593		22739.575
- 2LR Statistic (33 df)		334.511*		381.413*
Nagelkerke Pseudo R ²		.043		.049
Number of observations		8127		8127

Notes: *(**)(***) coefficient is statistically different from zero at the 99%(95%)(90%) level of significance; ♣ coefficient on -2LR statistic is statistically different from zero at the 99% level of significance. Wald statistics are calculated from heteroskedastic-consistent standard errors. A Hausman test using satisfaction with public transportation as the instrument suggested that attitudes towards migrants in the city was endogenous ($p < 0.0001$). Therefore, we report results both corrected and uncorrected for endogeneity of attitudes towards migrants. The reference category for occupations is people not in the labor market such as homemakers and students. The reference category for education is people with a polytechnic education.

Table 4: Ordered probit regression where the dependent variable is: ‘Over the past two years what changes in public safety have you encountered in your living area?’

Variable	Uncorrected		Corrected	
	Estimate	Wald	Estimate	Wald
Gender	.072	.008	.562	.465
Age	.011	2.596	.015	5.330**
Age ²	-.000	2.743***	-.000	5.214**
Household income	.005	.528	.007	1.015
Average income in the city	.000	.647	.000	2.271
Marital status	.021	.345	.013	.138
Size of household	-.007	.356	-.009	.663
Junior middle school	.078	1.039	.052	.453
Senior middle school	.152	4.510**	.168	5.454**
Three year higher degree or above	.018	.070	.048	.470
Senior professional occupation	.131	.525	.114	.394
Middle professional occupation	-.016	.055	-.048	.516
Lower professional occupation	-.030	.288	-.058	1.049
Technical occupation	-.005	.007	-.035	.324
Semi-skilled occupation	-.056	.877	-.078	1.681
Manual occupation	-.145	3.157***	-.178	4.678**
Unemployed	-.149	4.762**	-.149	4.761**
Retired	.128	3.546***	.108	2.480
Coastal resident	.104	3.324***	.128	4.985**
Attitudes to migrants in the city	.142	104.849*	.130	600.872*
Floor space of buildings per capita in the city	.018	.136	.005	.008
Average change in selling price of houses in city	-.040	13.554*	-.040	13.350*
Average change in renting price in the city	-.023	76.612*	-.025	87.065*
Unemployment rate in the city	-.105	27.423*	-.108	28.773*
Masculinity ratio	.023	3.108***	.029	5.163**
Expenditure on armed police per capita	-.074	42.515*	-.079	48.715*
Number of schools per 100,000 population	.001	.213	.002	.434
Population density	-.000	7.044**	-.000	12.785*
Gender x masculinity ratio	-.000	.001	-.005	.360
Household income x Average income in the city	-.000	5.614**	-.000	9.136**
Number of schools x Junior Middle education	-.007	4.377**	-.005	2.744*
Number of schools x Senior Middle education	-.005	2.606	-.005	2.648*
Number of schools x Three year degree or higher	-.003	1.037	-.005	2.320
Threshold 1	-5.441	9.335*	-5.211	8.482*
Threshold 2	-3.718	4.361**	-3.437	3.691***
Threshold 3	-3.040	2.916***	-2.726	2.322
Threshold 4	-1.964	1.217	-1.596	.796
-2 Log Likelihood (Unrestricted)		20158.220		20185.946
-2 Log Likelihood (Restricted)		19800.947		19319.997
-2LR Statistic (33 df)		357.272*		865.949*
Nagelkerke Pseudo R ²		.047		.110
Number of observations		8133		8133

Notes: *(**)(***) coefficient is statistically different from zero at the 99%(95%)(90%) level of significance; ♣ coefficient on -2LR statistic is statistically different from zero at the 99% level of significance. Wald statistics are calculated from heteroskedastic consistent standard errors. A Hausman test using satisfaction with public transportation as the instrument suggested that attitudes towards migrants in the city was endogenous ($p < 0.0001$). Therefore, we report results both corrected and uncorrected for endogeneity of attitudes towards migrants. The reference category for occupations is people not in the labor market such as homemakers and students. The reference category for education is people with a polytechnic education.

NOTES

- 1 For example, in the United States, Mayor Giuliani's response to declining crime rates in New York City was to ask police to keep important data from the media (New York Times 2005).
- 2 The renminbi (RMB) is the Chinese currency. In May 2005 US\$1= 8.28 RMB.
- 3 The cities sampled were Beijing, Tianjin, Shijiazhuang, Taiyuan, Huhehaote, Shenyang, Changchun, Harbin, Shanghai, Nanjing, Hangzhou, Hefei, Fuzhou, Nanchang, Jinan, Zhenzhou, Wuhan, Changsha, Guangzhou, Nanning, Haikou, Chongqing, Chengdu, Guizhou, Kunming, Lasa, Xi'an, Lanzhou, Xining, Yinchuan, Wulumuqi, Xiamen.
- 4 We implemented the version of the Hausman test proposed by Davidson and MacKinnon (1989), which carries out the test by running an auxiliary regression. In the second stage, the coefficient on the first stage residuals for *MIGRANT* was significantly different from zero ($p < 0.0001$) in both cases.
- 5 We use the official unemployment rate at the city level. It might be argued that the official unemployment rate underestimates the true unemployment rate once workers laid-off from state-owned enterprises are considered. Thus, we also experimented with using the percentage of laid-off workers to on-post workers in state-owned enterprises, which is available at the provincial level and the results were quantitatively similar.