Exploring Spatial Patterns of Property Crime Risks in Changchun, China

Wei Song, Department of Geography and Geosciences, University of Louisville, Louisville, KY, USA
Daqian Liu, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, Changchun, P.R. China

ABSTRACT
Urban crime has increasingly become a major issue for Chinese cities. Using crime data collected at police precincts in 2008, the main aim of this research is to examine the spatial distribution of property crime which accounted for almost 82% of all crimes in the city of Changchun, and analyze the relationship between the spatial patterns of property crime and neighborhood characteristics. Standardized property crime rates (SCR) were applied to assess the relative risk of property crime across the city. Statistically significant clusters of high-risk areas or hot-spots were detected. A global ordinary least squares (OLS) regression model and a geographically weighted regression (GWR) model were calibrated to explore the risk of property crime as a function of contextual neighborhood characteristics. The analytical results show that significant local variations exist in the relationship between the risk of property crime and several neighborhood socioeconomic variables.

Keywords: Changchun, China, Global and Local Regression Analysis, Neighborhood Socioeconomic Characteristics, Standardized Property Crime Rate (SCR)

INTRODUCTION
Exploring and analyzing patterns of urban crimes have always been an important undertaking. These studies provide indispensable information about crimes and form indispensable bases in the development of theoretical explanations and effective policing practices. The pre-reform Chinese society and cities in particular were largely devoid of squatters and of any apparent social disparity; allegedly free of many urban problems such as poverty and crimes that were thought to be symptomatic of modern urbanism in both developed and developing countries. During that period, China enjoyed very low crime rates, and earned a reputation of being a “crime free” country (Zhang, Messner, & Liu, 2007a). There were only five to six criminal cases per 100,000 people annually in China during the 1950s and 1960s (Dai, 1995). This orderliness and stability in society were achieved largely by central government’s strict control of people’s daily lives and immobilization of its population.

DOI: 10.4018/jagr.2013070105
Since 1978, China has carried out profound economic reforms and modernization programs. The transformation of China from a state socialist society to a market economy represents a very important form of social change in the contemporary world. As economic reforms are implemented and deepened, the social structure in Chinese society, especially in Chinese cities, has been altered profoundly. Growing economic inequality and the influx of peasant migrants from rural areas are particularly consequential for changing urban crimes. Business owners and high-ranking managers in private and joint venture enterprises form a new group of urban elite. These people live in expensive houses with rich amenities in newly developed neighborhoods. Meanwhile, a new urban poverty class is emerging from laid off and retired workers in the increasingly obvious poor urban neighborhoods (Gu & Liu, 2002; Hu & Kaplan, 2001). China’s fundamental urban transformation has also been accompanied notably by a massive movement of millions of peasants to the cities. Once in the cities, however, the state considered these people as temporary migrants or the “floating population”, who face limited access to schooling and government services. The floating population has drastically changed the character of Chinese cities and carved out new urban spaces. Many migrant workers cluster in enclaves known as “migrant villages”. Similar to squatter settlements in many Third World cities, these migrant enclaves are often characterized by poor quality housing, limited infrastructure, and hygiene and social disorder. There has been growing concerns over poverty and crime in migrant neighborhoods within the city (Solinger, 1999).

The homogeneous structure of pre-reform Chinese cities has been transformed, and China’s urban population and urban life have experienced considerable and increasing segregation. Urban space is now far more diverse and differentiated: neighborhoods vary along social and economic dimensions, residential mobility is growing, and the urban population is more heterogeneous. All of these developments suggest increasing risk of crimes and changing crime patterns in Chinese cities. Urban residents express increasing concern about their safety. Crime in China has been on the rise since the late 1970s. For instance, the country’s total crime rate climbed to 362 per 100,000 inhabitants in 2000, and 728 per 100,000 inhabitants in 2008 (Association, 2001, 2009). Although still much lower as compared with total crime rates in Western countries, these rates are roughly 60 times and 120 times those experienced in the 1950s and 1960s, respectively. Expanding economic motivation is an important driving force for changing crime patterns during the market transition in China (Liu, 2005). As economic conditions and living standards improve, Chinese businesses and households have more valuables to attract offenders. According to official statistics, there were almost 3.4 million burglary cases reported in China, accounting for nearly 70 percent of all the criminal cases. From 1981 to 2008, robbery rates increased 8.6 times, burglary rates increased over 2.5 times, and fraud went up almost 11 times. During the same period of time, homicide rates increased only by 20 percent, and rape rates dropped by 24 percent (Association, 1987, 2009). Similar to the experience of other nations, an unfortunate cost of China’s modernization is evidently higher risks of criminal victimization. Property crime has become the most prominent crime in Chinese cities due to anomie, social disorganization and weak control (Shelley, 1981).

Crime has increasingly become a critical issue in Chinese cities, and better understanding the dynamics of urban crimes has been on the agenda of city governments, policy makers and policing agencies. Unfortunately, empirical analysis of urban crimes and evidence-based findings are for the most part lacking in China. The study of crime has been traditionally located in law schools, and the focus of research has been more inclined toward theoretical, philosophical, and policy issues rather than empirical investigations (Zhang et al., 2007a; Zhang, Messner, & Lu, 2007b). The study of criminology in China also lacks a genuine interdisciplinary approach. There is little evidence of interdisciplinary research integrating disciplines such as