The Impact of Gender Imbalance on Crime: Evidence from China
Qiang Feng, Master of Public Policy Program, Michigan State University

Abstract
Since the one-child policy was introduced in China in 1979, the male-to-female sex ratio has become more imbalanced. At the same time, crime rates rose steadily. The effect of China’s gender imbalance on social stability has stirred up much controversy. Using socioeconomic, demographic and crime data at the provincial level, I analyze the characteristics of single males and their effect on crime rates.

Hypothesis
Adverse marriage market conditions create an association between the sex ratio and the crime rates.

Data
Data on crime rates are compiled from the Procuratorial Yearbook of China; Other data are compiled from the China Statistical Yearbook.

31 provinces; Years from 2006 to 2011

Table 1: data summary

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MEAN</th>
<th>DEVIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crime: approved arrests per 10,000 persons</td>
<td>3.03</td>
<td>2.23</td>
</tr>
</tbody>
</table>

Independent variables
- Sex ratio: number of males to every 100 females
- Unmarried rate: number of unmarried people/total population over 15 years old
- Age structure: the proportion of the population aged 15-64
- Educational level: proportion of population with a bachelor’s or higher degree
- Urbanization rate: Non-agricultural population/total population
- GDP: gross domestic product per capita in each province
- Inequality: average gross revenue in urban area minus rural areas
- Unemployment rate: unemployment rate of each province
- Expenditure on police: local government expenditure on public security (100 million Yuan)

Geographical information
- The western region and some coastal provinces have relatively low sex ratios.
- Crime rates are higher in the southeast.

Basic model
- Sex ratio
- Unmarried rate
- Age structure
- Educational level
- Urbanization rate
- GDP
- Inequality
- Unemployment rate
- Expenditure on police

Limitations
- The shaded area notes the study period.
- Crime rates are measured by arrests per 10000 people.
- The sex ratio increased drastically between 1995 and 2000, then steadily decreased.
- From 1997 to 2007, criminal offenses rose quickly and arrest rates almost doubled, however crime rates decreased from 7.6 in 2008 to 6.5 in 2011.

Background
- Basic controls
- Additional controls
- Province time trend

Results

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex ratio</td>
<td>0.0230</td>
<td>0.0116</td>
<td>0.0127</td>
<td>-0.0109**</td>
<td>-0.00419</td>
<td>-0.00376</td>
</tr>
<tr>
<td>Unmarried rate</td>
<td>(0.0227)</td>
<td>(0.0112)</td>
<td>(0.0104)</td>
<td>(0.00401)</td>
<td>(0.00398)</td>
<td>(0.00455)</td>
</tr>
<tr>
<td>Observations</td>
<td>182</td>
<td>182</td>
<td>149</td>
<td>149</td>
<td>149</td>
<td>149</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.009</td>
<td>0.883</td>
<td>0.891</td>
<td>0.183</td>
<td>0.376</td>
<td>0.722</td>
</tr>
</tbody>
</table>

Basic controls
- No
- Yes
- Yes
- Yes

Additional controls
- No
- No
- Yes
- Yes

Province FE
- No
- No
- Yes
- Yes

Year FE
- No
- No
- Yes
- Yes

Province time trend
- No
- No
- Yes
- Yes

Robust standard errors in parentheses
*p<0.01, **p<0.05, *p<0.1

Conclusion
There is no strong evidence to show there was a positive correlation between gender imbalance and crime rate during 2007-2011. However, we find that the effect of sex ratio on crime is stronger in provinces with higher proportions of unmarried people and people aged 15-64.

Committee Members: Leah Lakdawala, Ph.D., Guo S. Z., Ph.D. and Valentina Bali, Ph.D.