Gender Imbalance and Consequences for Marriage Market in China.

Geographical analysis on the “ideal number of births”

[Abstract]
In China, traditional culture son preference combined with modern sex selection technology and the one-child policy, have resulted the low fertility rate. There are the direct or indirect causes of the phenomena of gender imbalance at the birth which has appeared since the 1980s. Sex ratio at the birth has then become an important variable for calculating the function of the number of desired children. The individual preference is different with the society's wish, in this paper I try to find out an “evolutionary stable strategy”, in order to find out a balance between the individual interest (ideal number of births) and the society's interest. Based on the different strategies, a population projection is made, in order to explore the consequence of the sex imbalance at the birth for marriage market in the future.

[Author]
LU Yang, PhD student of CEPED -Paris Descartes University, FRANCE.

[Key words]: ideal number of births, SRB, policy fertility, marriage market, geographical analysis

Introduction

Sex ratio evolution is an original biological term. Generally it depends on the production of two sex offspring. As we know, without the external intervention, males and females are reproduced almost equally. Common agreement defines that the normal level of the Sex ratio at the birth is 105, but in China from 1980s it has begun to rise; In 2005, 120 boys were born for every 100 girls, a surplus of one million boys in that cohort alone. The abnormal SRB in China has been taken attention by scholar and researchers from 1980s.

This paper proposes a theoretical “ideal number of births”, which is calculated by using the observed parity-specific SRBs. The ideal number of births means the total number of children that Chinese couples would like to have.

The distinctive contribution of this paper is to find a way to standardize the individual preference of the birth-giving, and to compare it with the local family planning policy. A quantitative variable is applied in the culture conception. The variable “ideal number of births” helps us to understand well the role of traditional culture of son preference in different regions of China. The calculation of this variable is one of the central part in this working paper.

With the cluster analysis, the 25 Chinese provinces, excluded 5 autonomous provinces and Taiwan, are divided by three dimensions which are TFR, policy fertility and the “ideal

number of births" into 3 types. This analysis is based on data from the 2000 census and 1% survey in 2005 of China.

What are the impacts of gender imbalance on marriage market from today to the future? The answer will be showed in the final paper by using a geographic analysis.

1 From observed SRB to "ideal number of births" composition

Based on these discrete probabilities, and definition of the Mathematical expectation,

$$E(X) = \sum_{i=1}^{\infty} x_i P_i$$

The theoretical meaning of E(x) is the mathematical expectation. The practical meaning of E(x) is the average number of children which the Chinese couple wishes by parity.

Table 1 : Ideal number of births by Chinese couples in 2000

Province	Male birth	Female birth	Ideal number of births	Ideal SRB
11 Beijing	0,60	0,53	1,13	113,37
12 Tianjin	0,65	0,59	1,24	108,82
13 Hebei	0,71	0,66	1,37	109,08
14 Shanxi	0,74	0,69	1,43	107,08
21 Liaoning	0,63	0,58	1,21	108,62
22 Jilin	0,61	0,56	1,17	108,14
23 Heilongjiang	0,58	0,55	1,13	106,56
31 Shanghai	0,59	0,52	1,12	113,13
32 Jiangsu	0,60	0,52	1,13	115,35
33 Zhejiang	0,65	0,59	1,24	109,46
34 Anhui	0,70	0,60	1,30	117,10
35 Fujian	0,67	0,60	1,27	112,93
36 Jiangxi	0,74	0,60	1,35	122,80
37 Shandong	0,68	0,62	1,30	108,89
41 Henan	0,73	0,65	1,39	112,89
42 Hubei	0,68	0,58	1,26	116,85
43 Hunan	0,72	0,63	1,36	114,92
44 Guangdong	0,75	0,61	1,36	123,37
46 Hainan	0,78	0,66	1,44	118,05
51 Sichuan	0,69	0,62	1,31	111,91
52 Guizhou	0,72	0,77	1,49	93,53
53 Yunnan	0,75	0,71	1,47	105,19
61 Shaanxi	0,70	0,62	1,31	112,53
62 Gansu	0,72	0,67	1,39	107,27
63 Qinghai	0,70	0,71	1,41	98,65

Source: calculating from 2000 census of China

2 Cluster Analysis for the “ideal number of births” and the policy fertility

I use K-Mean cluster analysis with SPSS 13.0 version: classify these provinces by the following variables: “Total fertility, policy fertility, and ideal number of births”; Method is “Iterate and classify”, maximum iterations are equal to 10.

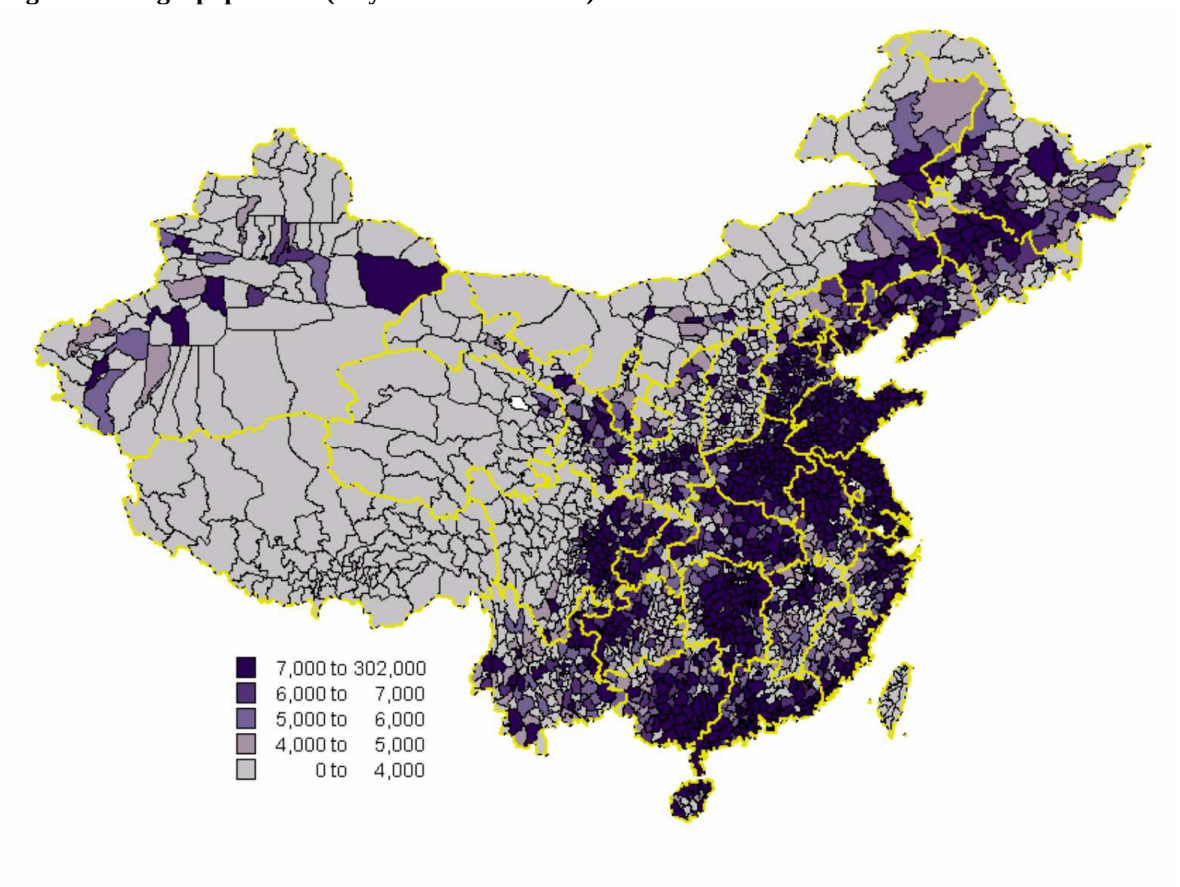
Table 2 : TFR, Policy fertility, ideal number of births by different types of regions. (2000 and 2005)

	Year					
	2 000			2 005		
	Type			Type		
	1	2	3	1	2	3
TFR	0,88	1,15	1,64	1,00	1,37	1,60
Policy Fertility	1,20	1,44	1,63	.	.	.
ideal number of births	1,14	1,31	1,41	1,27	1,37	1,47

Source: calculating from 2000 census of China

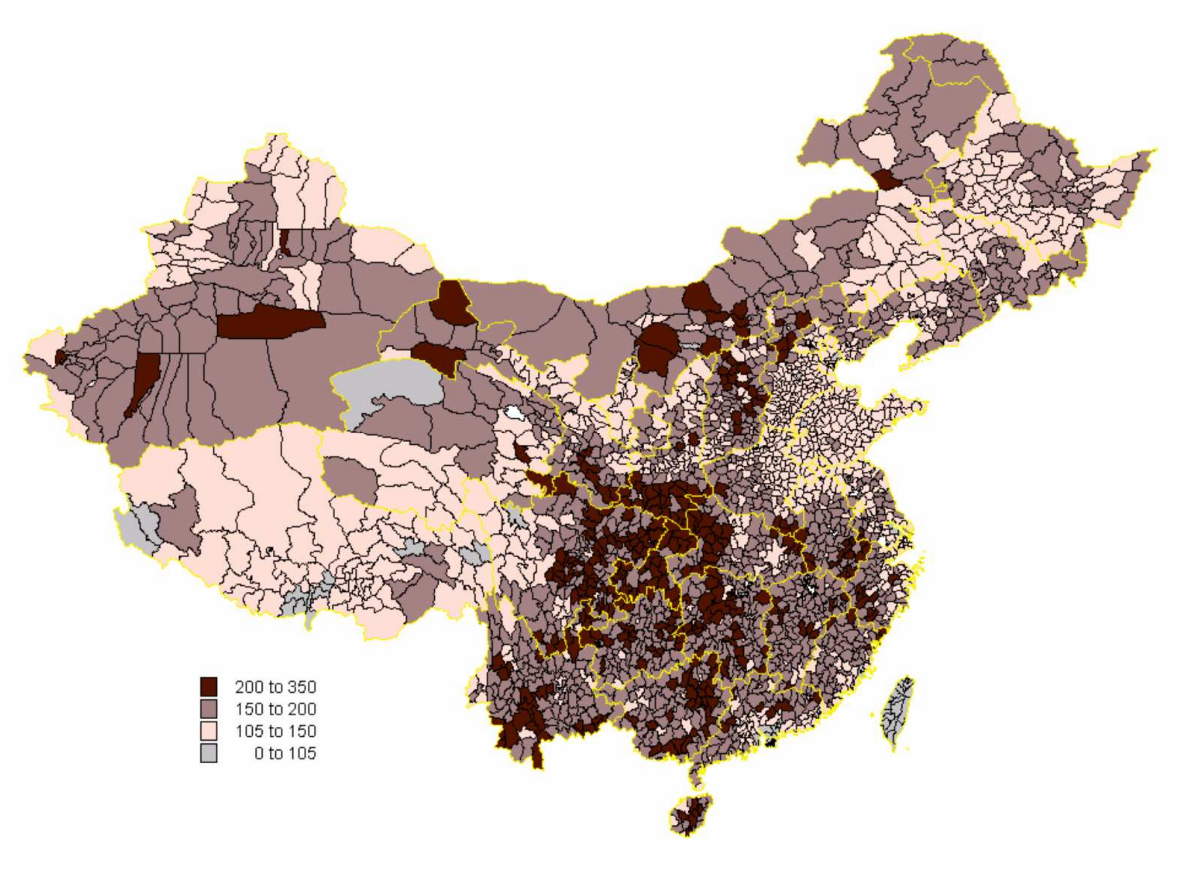
3 Geographical analysis for marriage market

Figure 1 : Single population (15 years old and more) in 2000



Source: 2000 census of China

Figure 2 : Sex ratio for single population (15 years old and more) in 2000



Source: 2000 census of China