
Shanghai, China, 24-26 May 2012

Organized by
IUSSP Panel on Below Replacement Fertility: Causes, Consequences and Policy Responses and the School of Social Development and Public Policy of Fudan University

Report
(prepared by Minja Kim Choe and Wang Feng, Co-organizers)

During the past couple of decades, many countries have experienced rapid economic development, as well as extensive changes in social and political conditions. These changes, in turn, resulted in fertility declines to very low levels. The pace of decline and the current level of fertility have been widely diverse. The total fertility rates estimated for most countries in Europe, East Asia and Oceania, as well as some countries in Latin America and the Caribbean, the Middle East and North Africa, range from below 1.0 to 2.1. A total fertility rate at a level of 1.2 or 2.1 has extremely different effects on population’s age structure and growth, along with important implications for institutions and policies. As a result, fertility levels have captured the attention of policy makers and scientists alike. Research, however, has yet to produce a comprehensive understanding of fertility behavior across low-fertility countries.

The aim of this seminar was (1) to improve the understanding of the patterns and causes of fertility decline to below replacement level in different settings and paces of economic development and social change, (2) to examine consequences of sustained below replacement fertility, and (3) to consider their policy implications. The Seminar was jointly organized by the IUSSP Panel on Below Replacement Fertility: Causes, Consequences and Policy Responses and the School of Social Development and Public Policy of Fudan University. Two days of the Seminar were organized as a sub-forum of the Shanghai Forum, an international economic forum hosted by Fudan University.

Twenty-nine papers were presented at the Seminar. Seventeen papers were selected by the IUSSP panel through a call for papers, and 12 papers were selected by Fudan University for the sub-panel of the Shanghai Forum. Two international observers and about a dozen local (Chinese) observers participated as well. The Agenda of the Seminar and the List of Participants are attached.
**Global View on the Future of Population**

The Seminar began with the Keynote speech by Peter McDonald, President of IUSSP. The presentation focused on the concern about future decline in the size of the labour force and its potential economic impacts. He noted that demographers tend to address the problem through increases in fertility and/or ‘replacement migration’ – using migration to make up for the deficit in labour supply, focusing on the age-sex composition of the population. He proposed that a more meaningfully approach would be modeling future labour supply using (1) population composition by age and sex, (2) employment to population ratio, and (3) labour productivity (output per unit of labour input). Productivity can also be subdivided into the level of productivity of each age and sex category. He introduced the economic-demographic projection model, MoDEM2, which can be used for such analysis. The model can be used to examine the implications for future labour supply and GDP per capita of varying future fertility scenarios for East Asian countries.

The global view on the future of population size and structure together with their implications on labour supply and old-age support was discussed by a number of other participants. Paper by Stressnig and Lutz (presented by Stressing) tried to estimate “optimal” fertility that will result in human resources for producing the best possible quality of life for all citizens. The key factors to be considered are human capital development measured by education and age dependency. The paper concludes that the optimal fertility is well below the demographic replacement level.

Lee and Mason’s paper (presented by Lee) draws on age profiles of consumption and labour income from National Transfer Accounts for 32 countries around the world to calculate the level of fertility that would maximize, in steady state, 1) the general support ratio; 2) the fiscal support ratio; 3) life time consumption in an economy with a given capital-output ratio; 4) life time consumption maximized over both fertility and the capital-labour ratio. In most cases, fertility that maximizes the fiscal support ratio is quite high, well above replacement. Fertility that maximizes the general support ratio is near replacement level. When the capital-output ratio is maintained at 3.0, the fertility that maximizes life time consumption is lower, generally between 1.5 and 2 births per woman. In less than half the cases (almost all rich countries) there is a choice of both fertility and saving rates that maximizes lifetime consumption, and in this case fertility typically lies between 1.0 and 1.6 births per woman. These results suggest that countries should not be overly concerned about below replacement fertility, at least from the point of view of costly intergenerational transfers.

The paper by Basten, Sobotka, Zeman, Barakat, and Lutz (presented by Basten) was based on the 2011 global internet survey of experts, conducted by IIASA and Oxford University, on likely future trends in fertility. The experts expect that fertility will stay below replacement level in the next 50 years, much lower than the levels projected by United Nations, even when current negative tempo effect loses relevance. Cultural and social forces affecting fertility intentions are not likely to change much in the next 50 years.
Migration
Two papers examined the role of international migration as a response to sustained below-replacement fertility. Sobotka and Zeman’s paper (presented by Sobotka) introduced the concept of “birth replacement” and “population replacement” in the presence of migration. Their analyses of fertility and migration in many countries show that recent levels of fertility are sufficient to maintain population replacement in combination with the recent levels of migration. In East Asian countries, however, the role of migration in “population replacement” is weak. They conclude that “optimal fertility” may well be below 1.6 in high-immigration countries and above 2.0 in high emigration countries.

Billari and Dalla-Zuanna (presented by Dalla-Zuanna) conducted similar analyses using the concept of “replacement of birth cohort size” leading to “working-age population replacement migration.” Regional population dynamics in Italy show that replacement migration helped stabilize the size of labour force and old-age dependency ratio. “Replacement migration” is relevant in small and open economies.

Causes of low fertility, prospects of increase
A number of papers examined causes of low fertility at country level. In China, there is no question that population policy had strong impact on fertility, explaining variations by residence (Xiahong Ma; Chen, Retherford, Choe, Li, and Cui presented by Chen; Niu, Qi, and Wang presented by Niu). At the same time, factors associated with development such as women’s education and income explain a large extent of fertility differentials. Economic development and increase in women’s education contribute to decline in period fertility rates through postponement of childbearing (Chen; Frejka and Zakharov presented by Frejka; Jensen and Ringdal presented by Jensen; Li Ma; Tsuya) during the early phase of low fertility. Luci’s paper shows that once the postponement of childbearing ends, economic development results in an increase in fertility in countries with a high level of women’s employment and a high level of public assistance to working parents with young children. Amaral’s presentation (based on paper by Amaral, Almeida, Rios-Neto and Potter) shows that as women’s employment increases, gender and economic inequality diminishes.

Rindfuss looked for explanations for the wide variation in fertility in low-fertility countries and concluded that the variation in institutions that make the combination of mother role and worker role easier or more difficult is the main factor. Variations in factors such as the extent of the child-caring role of schools, ease of returning to school, structure of labour market affecting the compatibility of worker role and mother role, gender equity at home and in the labour market, and government programs that promote the compatibility of worker role and mother role are likely to explain the variations in levels of low fertility. Consistent with these arguments, Carlsson Dahlberg’s paper shows that there has not been much change in the amount of variance in birth probabilities for the birth cohorts 1936 to 1963 in Sweden where the institutional setting is favorable for combining mother role and worker role.
**Population Policies**

Two papers focused on the analyses of recent trends in fertility with the intent of measuring the effect of population policies. Spoorenberg and Enkhtsetseg’s paper (presented by Enkhtsetseg) concludes that the adoption of the new social policy by the Mongolian government in 2005 including child welfare and monetary assistance for families and children is likely to have resulted in an increase in the total fertility rate from 1.95 in 2005 to 2.69 in 2010. On the other hand, Frejka and Zakharov’s paper (presented by Frejka) concludes that population policies in Russia designed to raise fertility resulted in reversing the postponement of childbearing and an increase in period fertility but failed to increase cohort fertility. The paper argues that more fundamental changes in societies and the implementation of policies over an extended period of time may result in an increase in cohort fertility.

Demeny’s paper proposes a reform of state managed pay-as-you-go social security system with a radically novel pronatalist reform. He proposes that a specific fraction of social security contributions made by individual labour force participants be paid directly to their parents during their parents’ lifetime. Thus, parents who raise children to be productive workers will be compensated directly for their efforts.

**Post-seminar meeting of the panel members**

The panel members present at the Seminar, Wang Feng, Tomas Frejka, Beatriz Figueroa, and Minja Kim Choe, met and discussed publication options. Wang Feng reported that Leana Li from Springer Asia Limited Beijing Representative Office indicated that Springer would be interested in publishing an edited volume based on the papers presented at the Seminar. This idea was announced at the closing session of the Seminar on 27 May.
International Seminar on Patterns of Economic Development, Social Change, and Fertility Decline in Comparative Perspective:

Analysis and Policy Implications

Shanghai, 25-27 May 2012

<table>
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<tr>
<th>Thursday, May 24</th>
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| **Venue:** Rmada Hotel  
Address: 1888 Huangxing Road, Yangpu, Shanghai, P.R.C(200433)  
Tel: +86(21) 5550-9999  |  |
| **Whole Day** Arrival of participants |  |
| Friday, May 25 |  |
| **Venue:** Room 919, the Liberal Arts Building, Fudan University  |  |
| Registration and IUSSP Seminar |  |
| 8:30-8:50 IUSSP Seminar Registration, Hotel Payment |  |
| Opening of IUSSP Seminar |  |
| 8:50-9:00 Welcome by:  
PENG Xizhe, Professor and Dean, School of Social Development and Public Policy, Fudan University  
Minja CHOE and WANG Feng, Organizers |  |
### IUSSP Session I: Emerging Global Regime of Low Fertility

**Chair:** WANG Feng

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<thead>
<tr>
<th>Time</th>
<th>Guest Speaker</th>
<th>Caption</th>
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<tbody>
<tr>
<td>09:00-09:30</td>
<td>Peter MCDONALD</td>
<td>Keynote Speech</td>
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<tr>
<td>09:30-09:50</td>
<td>Stuart BASTEN</td>
<td>The Future of Low Fertility: Results of a Global Expert Survey</td>
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<tr>
<td>09:50-10:10</td>
<td>An-Magritt JENSEN</td>
<td>An End of Fertility Decline in Europe? Variations by Contexts</td>
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<td><strong>10:10-10:30</strong></td>
<td><strong>Coffee Break</strong></td>
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<tr>
<td>10:30-10:50</td>
<td>Tomas FREJKA</td>
<td>Comprehensive Analyses of Fertility Trends in the Russian Federation during the Past Half Century</td>
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<tr>
<td>10:50-11:10</td>
<td>Ernesto AMARAL</td>
<td>Effects of the Age-education Structure of Female Workers on Male Earnings in Brazil</td>
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<tr>
<td>11:10-11:30</td>
<td>Erich STRIESSNIG</td>
<td>Optimal Fertility</td>
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<td>11:30-12:00</td>
<td>Discussion</td>
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<td><strong>12:00-13:30</strong></td>
<td><strong>Lunch</strong></td>
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### IUSSP Session II: Explaining Low Fertility

**Chair:** Beatriz FIGUEROA

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<tr>
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<tbody>
<tr>
<td>14:00-14:20</td>
<td>Angela LUCI</td>
<td>The Impact of Income on Fertility– breaking Up Stylized Facts</td>
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<tr>
<td>14:20-14:40</td>
<td>Johan CARLSSON DAHLBERG</td>
<td>Family Influence on Becoming a Parent: Sibling Correlations in Propensity to Enter Parenthood for Swedish Men and Women Born 1936-1958</td>
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<tr>
<td>14:40-15:00</td>
<td>Ronald R. RINDFUSS</td>
<td>Why the Wide Variation in Fertility in Low Fertility Countries</td>
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<td>15:00-15:20</td>
<td>Discussion</td>
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<td><strong>15:20-15:40</strong></td>
<td><strong>Coffee Break</strong></td>
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<tr>
<td>15:40-16:00</td>
<td>Gianpiero DALLA- ZUANNA</td>
<td>Is Replacement Migration Actually Taking Place in Low Fertility Countries?</td>
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<tr>
<td>16:00-16:20</td>
<td>YAP Mui Teng</td>
<td>Immigration and Low Fertility in Singapore: What are the Options?</td>
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<td>16:20-16:40</td>
<td>Tomas SOBOTKA</td>
<td>Migration, Fertility and Population Replacement in the Developed World</td>
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<tr>
<td>13:40-14:00</td>
<td>Noriko TSUYA</td>
<td>Education, Employment, and First Marriage in Japan</td>
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<td>14:00-14:20</td>
<td>Enkhtsetseg BYAMBAA</td>
<td>Social Policy and Fertility Development in Mongolia</td>
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<td>14:20-14:40</td>
<td>Leela VISARIA</td>
<td>Demographic Transition in South India</td>
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<td>14:40-15:00</td>
<td>Discussion</td>
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<td>15:00-15:30</td>
<td>Photo for Sub-forum</td>
<td>Photo for Sub-forum and Coffee Break</td>
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<tr>
<td>09:00-09:20</td>
<td>Zhai Zhenwu</td>
<td>Fertility Change and Development Pattern Transition in China</td>
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<td>09:20-09:40</td>
<td>Zheng Zhenzhen</td>
<td>Intergenerational Effects on Fertility and Intended Family Size: the implication to future fertility change in China</td>
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<td>09:40-10:00</td>
<td>Jiajian Chen</td>
<td>The rural-urban differentials in fertility decline in China, 1975-2005</td>
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<td>10:00-10:20</td>
<td>Ethan Sharygin</td>
<td>Marriage in uncertain times: human capital, demographic change, and marriage outcomes in China</td>
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<td>10:20-10:40</td>
<td>Discussion</td>
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<td>10:40-10:50</td>
<td>Coffee Break</td>
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<tr>
<td>10:50-11:10</td>
<td>Jiang Quanbao</td>
<td>Marriage Squeeze, Never Married Proportion and Mean Age at First Marriage in China</td>
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<td>11:30-11:50</td>
<td>Ma Xiaohong</td>
<td>Revelation of Convergent Fertility Desire among Different Groups to Adjustment of Fertility Policy ----Based on the Comparative Research in Beijing</td>
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<td>11:50-12:00</td>
<td>Discussion</td>
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<td>12:00-13:30</td>
<td>Buffet Lunch ( Fuxuan Hotel )</td>
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<td>13:50-14:10</td>
<td>Paul DEMENY</td>
<td>A Fourth Pillar for Old Age Pensions: A Radically Novel Pronatalist Reform</td>
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<td>14:10-14:30</td>
<td>Leiwen JIANG</td>
<td>Education, Fertility Change, and Climate Change</td>
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<tr>
<td>15:10-15:30</td>
<td>ZHANG Kaiti</td>
<td>Urban and Rural Integration: Social Service System Construction Plan</td>
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<td>15:30-15:50</td>
<td>LIU Junqiang</td>
<td>The Sleeping 600 Billion: the Natural and Unnatural Causes of the Huge Surpluses of PAYG Social Insurance Programs in China</td>
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<td>15:50-16:10</td>
<td>WU Ruijun</td>
<td>Collaborative Study on Population Movement and Public Resources Allocation</td>
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<td>16:10-16:30</td>
<td>ZHOU Haiwang</td>
<td>The Research on Population Development and Policy issues of Shanghai</td>
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<td>16:30-16:50</td>
<td>Discussion</td>
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<tr>
<td>16:50-17:00</td>
<td>Closing Remarks for Sub-forum and IUSSP Seminar by PENG Xizhe and Minja CHOE</td>
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17:00-18:00 Buffet Dinner (Crowne Plaza Fudan)
19:00-21:00 Shanghai Forum Evening

Contact Persons:
TAO Li: Tel: +86 137 9528 5745, Email: 10110730004@fudan.edu.cn
WAN Qian: Tel: +86 159 0063 0008, Email: 09110730003@fudan.edu.cn

Shanghai, 25-27 May 2012

**IUSSP Panel:**

**CHOE, Minja**  
East-West Center  
Population and Health, Research Program  
1601 East West Road  
Honolulu, HI 96848-1601  
USA  
mchoe@hawaii.edu

**WANG, Feng**  
The Brookings Institution  
Brookings-Tsinghua Center for Public Policy  
School of Public Policy & Management  
Tsinghua University  
Beijing, 100084  
China  
fwang@uci.edu

**FIGUEROA, Beatriz**  
El Colegio de Mexico  
Centro de Estudios Demográficos y de Desarrollo Urbano  
Camino Al Ajusco 20  
Mexico D.F. 01000  
Mexico  
beafig@colmex.mx

**FREJKA, Tomas**  
3997 Coquina Drive  
Sanibel, Florida 33957  
USA  
tfrejka@aol.com

**Fudan University:**

**PENG, Xizhe**  
Fudan University  
Shanghai  
China  
xzpeng@fudan.edu.cn

**SHEN, Ke**  
Fudan University  
Room 413, Building 4,  
No.408 Guo Ding Road,  
Yang Pu District,  
Shanghai, 200433  
China  
shenke.ccerpku@yahoo.com.cn

**WAN, Qian**  
Fudan University  
Shanghai  
China  
09110730003@fudan.edu.cn

**TAO, Li**  
Fudan University  
Shanghai  
China  
10110730004@fudan.edu.cn
Participants:

AMARAL, Ernesto
Federal University of Minas Gerais (UFMG)
Rua Cláudio Manoel, 64, Apt. 802
Belo Horizonte, MG 30140-100
Brazil
eflamaral@gmail.com

BASTEN, Stuart
University of Oxford
Department of Social Policy and Intervention
32 Wellington Square
Oxford, OX1 2ER
United Kingdom
stuart.basten@spi.ox.ac.uk

CARLSSON DAHLBERG, Johan
Stockholm University
Department of Sociology
Demography Unit
Universitetsvägen 10b
Stockholm, 106 91
Sweden
johan.dahlberg@sociology.su.se

CHEN, Jiajian
East-West Center
91-218 Makaina Place
EWA Beach, HI 96706
USA
chenj@eastwestcenter.org

DALLA ZUANNA, Gianpiero
University of Padova
Via Cesare Battisti 241
Padova, 35121
Italy
gpdz@stat.unipd.it

DEMENY, Paul
The Population Council
One Dag Hammarskjöld Plaza
New York, NY 10017
USA
pdemeny@popcouncil.org

ENKHTSETSEG, Byambaa
National University of Mongolia
Mongolia
enkh@rocketmail.com

JENSEN, An-Magritt
Norwegian University of Science and Technology
Department of Sociology and Political Science (ISS)
Dragvoll, 7055
Norway
anmagritt.jensen@svt.ntnu.no

LEE, Ronald
Departments of Demography and Economics
University of California
2232 Piedmont Ave
Berkeley, CA 94720
USA
rlee@demog.berkeley.edu

LUCI, Angela
Université Paris 1 Sorbonne
MSE, Bureau 215
106-112 bd de l'Hôpital
75013 Paris
France
angela.luc@univ-paris1.fr

MA, Li
Stockholm University
Department of Sociology
Demography Unit
Universitetsvägen 10b
Stockholm, 106 91
Sweden
li.ma@sociology.su.se

MA, Xiaohong
Beijing Population Research Institute
No.6 Chegongzhuang Street
Xicheng district
Beijing, 100044
China
maxhong2000@hotmail.com
MCDONALD, Peter
The Australian National University
Australian Demographic and Social Research Institute
Canberra, 0200
Australia
peter.mcdonald@anu.edu.au

NIU, Jianlin
Chinese Academy of Social Sciences
#5 Jianguo Men Nei Street
Institute of population and Labor Economics
Beijing 100732
China
niujl@cass.org.cn

RINDFUSS, Ronald R.
University of North Carolina at Chapel Hill
Carolina Population Center
University Square; CB #8120
123 West Franklin St
Chapel Hill, NC 27516-2524
USA
ron_rindfuss@unc.edu

SOBOTKA, Tomas
Vienna Institute of demography
Wohllebengasse 12-14, 6th Floor
Vienna, A-1040
Austria
tomas.sobotka@oeaw.ac.at

STRIESSNIG, Erich
Vienna University of Economics and Business
Nordbergstr. 15/6/A
Vienna, 1090
Austria
erich.striessnig@wu.ac.at

TSUYA, Noriko
Keio University
Faculty of Economics
2-15-45 Mita, Minato-ku
Tokyo 108-8345
Japan
tsuya@econ.keio.ac.jp

ZHENG, Zhenzhen
Institute of Population and Labor Economics,
Chinese Academy of Social Sciences
#5 Jianguomennei Street
Institute of Population and Labor Economics
Beijing 100732
China
zhengzz@cass.org.cn

Observers:

CAI, Yong
University of North Carolina, Chapel Hill
Carolina Population Center
155 Hamilton Hall CB#3210
Chapel Hill, NC 27599-3210
USA
caiyong@unc.edu

GU, Baochang
Renmin University of China
Center for Population and Development Studies
Science Building, Room A-0507
No. 59 Zhongguancun Street, Haidian District
Beijing 100872
China
baochanggu@gmail.com

LI, Leana
Springer Asia Limited Beijing Representative Office
Room 408-412, Beijing Ideal Plaza
No. 58 Northwest, 4th Ring Road
Haidian District, Beijing
China 100080
leana.li@springer.com

SUN, Chao
Beijing Institute of Population Studies
Department of sociology
Beijing Administrative College
Street of CheGongZhuang
Beijing
China
sunchaobac@gmail.com