

Analysis on Quality of China's Population Census Data: Thoughts for 2010

Feng Nailin

Department of Population and Employment Statistics

National Bureau of Statistics of China

Source of Population Statistics

National Bureau of Statistics as the main source

- Population census (years ending with 0)
- 1% population survey (years ending with 5)
- Annual survey on population change (1‰)

Other Ministries

- Ministry of Public Security: household registration system (covering 97% of total population)
- Population and Family Planning Commission:
Ad hoc surveys focusing on fertility

I. Analysis on Quality of Population Census Data

Quality of Population Data

- **What to measure**

 - Census vs. household registers

 - Census vs. annual survey

- **How to measure**

 - Post enumeration survey

- **Quality of census data declining**

Net Error of Population Censuses

	1982	1990	2000
Population as published (1,000 persons)	1008180	1133680	1265830
Population as enumerated (1,000 persons)	1008180	1133680	1245110
Over-count rate (%)	0.071	0.01	--
Undercount rate (%)	0.056	0.07	1.81
Net error over-count (%)	0.015 (150,000)		
Net error undercount (%)		0.06 680,000	1.81 22.5 mil

Assessment of Undercount

Analysis on 2000 Census Data:

- Both over-count and undercount
- Undercount much larger than over-count
- Undercount mainly in low age groups (0-9 years)
- Size of undercount: 30-34 million
- Size of over-count: 4.7-10 million
- Net undercount in consistency with PES results

**Is the quality of 2000 census data
acceptable?**

Policy-maker's view

International comparison

Population Undercount Rate

Country	Census Year	Undercount (%)	Country	Census Year	Undercount (%)
Australia	1996	1.6	Italy	1991	0.7
	2001	1.8	Viet Nam	1989	0.5
Canada	1996	2.4	Korea	1990	0.8
	2001	3.1	India	1991	1.7
New Zealand	1996	1.6	Philippines	1990	2.0
	2001	2.2	Bangladesh	1991	4.6
United Kingdom	1991	2.2	Chile	1992	8.0
	2001	2.0	Bolivia	1992	6.9
United States	1990	1.8	Kenya	1989	6.0
	2000	1.2	South Africa	1991	15.1
France	1990	1.1	Rwanda	1991	4.1

Factors Affecting Data Quality

- **Design of census programme**
 - Definition of permanent residents**
- **More complicated environment for taking census**
 - Large size of rural-to-urban migrants**
 - Multi-residence of urban population**
- **Less cooperation of respondents**
 - Privacy awareness**
 - Access more difficult**

Factors Affecting Data Quality

- **Insufficient budget**
 - Decentralized budgeting system: poor areas**
 - Lack of established mechanism on payment for enumerators**
- **Policy-related issues**
 - Under-reporting of births**
- **Government performance assessment issues**
 - Performance targets of local governments**
 - Annual reports vs. census results**



II. Thoughts for 2010 Census

Legislation

- Existing Statistics Law
- New Regulation on Population Census
 - Confidentiality of census questionnaire
 - Census results not to be used for performance assessment

Organization

- **Set-up of census offices to formulate policies and coordinate efforts**
- **Closer cooperation among key ministries (public security, human resources and social security, family planning, finance, publicity, etc.)**
- **Extensive social mobilization through wide publicity**

Coverage

- **All persons living in China**
 - Earlier censuses: persons with Chinese citizenship
 - 2010 census: including international migration *living in mainland of China for over 6 months*
- **Field enumeration: *population present count plus emigrants from place of household registration***
 - Easier for enumerators
 - Size of *usual resident population count* available through computer tabulation

Content

- **Use of short form and long form**
- **Short form: basic information**
household items <10 , individuals items <10
- **Long form: basic information, migration, education in detail, economic activity, marriage and fertility, housing, mortality, etc.**

household items: 20, individual items:25

Reference Time

- 0 hour on 1 November 2010
- For earlier censuses:
2000 census: 0 hour on 1 November
censuses of 1990, 1982, 1964 and 1953:
0 hour on 1 July
- Consideration: convenient for field enumeration (whether, less mobility, etc.)

Recruitment of Enumerators

- **Source**
- **Qualification**
- **Training**
- **Free recruitment approach challenged**
- **Necessary subsidy required**

Field Enumeration

- **Face-to-face interview as the main approach**
- **Self-enumeration when applicable (especially in large cities and for international migrants)**

Data Processing

- **Advance results on key items through manual tabulation: 100 days after reference time**
- **Data capturing: OCR or OMR**
- **Decentralized mode of data capturing and processing**
- **Data processing completed in 1 year**
- **Use of GIS mainly for data presentation**

Measures to Ensure Quality

- **Quality control measures in each stage of census**
- **Formulation of policies and wide publicity to remove concerns:**
 - **from respondents on family planning-related penalty**
 - **from rural-to-urban migrants**
 - **from local government officials on performance assessment**

Thank you!

