Title: China's uncertain demographic present and future

Authors: Wolfgang Lutz, Qiang Ren, Sergei Scherbov, Xiaoying Zheng

This paper will apply methods of probabilistic population forecasting to assess the range of uncertainty of China's future population trends. Unlike previous applications of probabilistic population projections that consider stochastic future fertility, mortality and migration, this paper will also account for the significant uncertainty of China's current fertility level (with estimates ranging from 1.2 to 2.3) and the related uncertainties about the sex ratio at birth (with estimates from 1.06 to above 1.2) and the size of the youngest cohorts in the 2000 census. The model applied in this paper will be based on expert based uncertainty ranges for current conditions, in addition to the probabilistic treatment of future trends. Given the sheer size of China's population, these significant uncertainties about current conditions are of high importance not only for the future population of China but also on a global scale.

Below is the information on the uncertainty about current conditions that will be the basis for the probabilistic model to be calculated by next year.

1. FERTILITY

Table 1 Different Estimation of Total Fertility Rate for China in 2000

Source	TFR	Notes
WangJinying（2003）	1.718(1) 1.703(2) 1.723(3)	（1）Un-adjustment of fertility pattern: calculation directly by age-specific fertility rate of 2000 census without considering the effect of un-reporting of children;（2）Adjustment by backfill of un-reporting of children: to keep age-parity-specific rate of 2000 census stable, re-estimate the fertility pattern after filling back of those children who are unreported in census;（3）Adjustment by the fertility pattern of the second child: due to the serious un-reporting of second child, re-estimate the fertility pattern of the second child by filling back those children who are unreported in census.
Liang Zhongtang (2003)	2.3	This paper estimated that the unreported number of people aged 0-16 by annual number of students who entrance elementary school was 53780 thousand in 2000. So the total number of people in 2000 census is 1308850 thousand with unreported rate of 1.81% or 1298890 without unreported rate of 1.81%. According to the reported number of 1265830 thousand in 2000 census, and also referring the previous projections taken in the late of 1970s and the middle of 1980s by other scholars, the TFR should at least equal to 2.3 in that the total number of people would reach the amount.
Yuan Jianhua, Yu Hongwen, Li Xiru, Xu Qi and Jiang Tao（2003）	1.71(1) 1.78(2) 1.63(3)	（1）calculation by National Statistical Yearbook;（2）Statistics of State Family Planning Committee;（3）using surviving method for children aged 0-10 years old in 2000, the number of birth had been estimated for each year assuming life expectancy in 1990 were 67.767 for male, and 71.15 for female, and in 2000 were 69.54 for male and 73.01 for female.

CPIC（2003）	1.80	They used computer solution method called genetic computation, i.e. optional theory. (It is a simulation process)
NSB（2002）	1.22	Reported in Tabulation on the 2000 Population Census of the People's Republic of China
Zhang Weimin, Xu Gang, Yu Hongwen and Cui Hongyan (2004）	1.63(1) 2.0(2)	（1）adjustment by the un-reporting rate of 18.94% for 0-9 years old；（2）assuming the number of population aged 10-19 years old is correct, the un-reporting rate for children aged 0-9 years old is13.68%, the adjusted TFR is 2.0 assuming the un-reporting rate is the same between 1990 and 2000.
Zhai Zhenwu (2003)	1.8	Estimated by the unreported rate of 30%
Zhang,Guangyu (2003, 2004)	1.5~1.6	I have not read original papers, just cited by other scholar.
Robert D. Retherford, Minja Kim Choe, Chen Jiajian, Li Xiru and Cui Hongyan（2004）	1.36(1) 1.38(2) 1.58(3)	(1) calculation by own-children method; (2) calculation by birth history reconstruction; (3) Adjustment by a factor which is from the comparison between 1990 and 2000 censuses.
Ding Junfeng（2003）	1.35	When he got the number of population aged 0-9 from 2000 Census data, he estimated TFR for 1991-2000 using a method which regard base TFR as 1.
Guo Zhigang（2003, 2004）	1.23(1) 1.3(2) 1.58(3)	（1）direct calculation by the method of children-mother match with 2000 census 1‰ micodata；（2）estimated by author, using 1990 census data as baseline population, he forecasted the total number of population in 2000 under different TFR scenarios, and compare the number with actual value in 2000 Census. (3) eliminated tempo effect from 2001 National Fertility Survey and 2000 Census data, the lifetime TFR should be 1.58.
SFPC (2002)	1.45	Direct calculation from 2001 National Family Planning and Reproductive Health Survey.
Cui Hongyan and Zhang Weimin（2002）	1.3	The number of population aged 0-9 should be equal to the live births since 1990 census respectively. So considering the survive rate between 1990 and 2000, they estimated the TFRs corresponding to population aged 0-9 respectively.
Yu Xuejun（2002）	1.55(1) 1.32(2) 1.6-1.8(3)	(1) estimated by the number of population of 2000 census data; (2) estimated by the number of children of 2000 census data; (3) predicted by author considering several judgment.
ESCAP (2002)	1.8	ESCAP 2002 Population Data Sheet, by Population and Rural and Urban Development Division, ESCAP, Bangkok, 2002
USCB (2004)	1.7	U.S. Bureau of the Census, International Data Base. Data released 4-30-2004.
Zhang Weimin and Cui Hongyan（2003）	1.38(1) 1.63(2) 2.0(3) 1.8(4)	(1)Calculation just using census long form; (2)lower limit value; (3)Upper limit value; (4)Actually around value. Comparing with the number of elementary school students in recent years (assuming the rate of elementary entrance is near 100%), it can be estimated that the average unreported rate is about 18.94% for the persons aged 0-9. By this figure, the number of persons aged 0 in long form should be equal to 130.5*1.1894=1550 thousand, so the live birth for 12 months just before census date should be 1580 thousand. This means that there are lost babies of 400 thousand, i.e. unreported rate is33.9%. According to this rate, TFR should be 1.63. However the more serious the unreported rate, the younger the people. From the information of persons aged 10-19, the unreported rate in 2000 is as 2

		times as the case of 5.81% in 1990 census. According to this rule, the unreported rate would be 44.6% for live birth. Then the number of live birth in long form should be 1930 thousand, underreport 750 thousand, i.e. unreported rate is 64%, TFR would be 2.0. They think 1.63 is the lower limit, 2.0 is the upper limit, actually value is round 1.8.
SFPC (2001)	1.8	Communiqué on major figures of family planning (No.1, 2001)

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Table 2 The Reconstruction of TFR, Average Age of Marriage and Average Age at Childbearing in the 1990s Using China 2000 Census Data

年份	TFR	AAM	MAC	TFR(1)	MAC(1)	TFR(2)	MAC(2)	TFR(3+)	MAC(3+)
1990	2.373	22.04	26.05	1.120	23.70	0.799	27.04	0.454	30.10
1991	1.803	22.20	25.79	0.936	23.71	0.575	27.01	0.293	30.05
1992	1.683	22.40	25.66	0.939	23.77	0.504	27.05	0.240	30.09
1993	1.570	22.53	25.64	0.922	23.89	0.452	27.22	0.196	30.22
1994	1.466	22.75	25.52	0.897	23.87	0.405	27.33	0.164	30.08
1995	1.479	22.96	25.56	0.929	23.94	0.404	27.62	0.145	30.22
1996	1.362	23.13	25.77	0.881	24.21	0.358	27.97	0.123	30.52
1997	1.308	23.31	25.70	0.871	24.19	0.342	28.23	0.095	30.40
1998	1.309	23.33	25.75	0.893	24.24	0.329	28.54	0.088	30.71
1999	1.233	23.43	25.83	0.855	24.37	0.314	28.80	0.064	30.92
2000	1.232	23.58	25.94	0.892	24.64	0.294	29.07	0.045	31.14

Note: MAC indicates average age at childbearing； AAM is for average age of marriage.
Source: Guo Zhigang. 2004. Further study on low fertility of China in the 1990s, Chinese Journal of Population Research, Vol.28(4): 16-24.

Table 3 Indices of Female First Marriage and Birth Interval, 1990-2000

Year	Average first marriage age	Total first marriage rate	Interval between first Marriage and first birth	Interval between First birth and second birth
1990	21.8	1.049	1.3	3.1
1991	21.9	0.821	1.3	3.0
1992	22.3	0.904	1.4	3.4
1993	22.2	0.850	1.4	3.3
1994	22.3	0.907	1.5	3.9
1995	22.4	0.938	1.4	4.1
1996	22.6	0.894	1.5	4.5
1997	22.6	0.887	1.5	5.0
1998	22.6	0.949	1.6	4.8
1999	22.8	0.988	1.6	5.3
2000	22.6	0.986	1.6	5.7

Note: Calculation from 2001 National Family Planning and Reproductive Health Survey

Source: Ding Junfeng. 2003. Analysis about the impact of changes in fertility pattern on fertility level for China between 1991-2002, Chinese Journal of Population Research, Vol.27(2): 55-60.

Table 4 The Cumulative Fertility Level at 30 Years Old for Different Birth Cohorts by China 2000 Census Data

Cohort	Cumulative Fertility Level at 30 years old
1955	1.987
1960	1.813
1965	1.753
1968	1.582
1970	1.425

Source: Guo Zhigang. 2004. Further study on low fertility of China in the 1990s, Chinese Journal of Population Research, Vol.28(4): 16-24.

Table 5 Total Fertility Rate for China from Different Sources

Year	NSB[(1)]	1992 Survey[(2)]	1997 Survey[(3)]	2001 Survey[(4)]	2000 Census[(5)]
1986	2.42	2.46	2.59		
1987	2.59	2.57	2.66		
1988	2.31	2.28	2.41		
1989	2.25	2.24	2.40		
1990	2.17	2.04	2.29	2.29	2.37
1991	2.01	1.66	1.75	1.77	1.80
1992	1.86	1.47	1.57	1.59	1.68
1993	1.71		1.51	1.52	1.57
1994	1.56		1.32	1.41	1.47
1995	1.43		1.33	1.45	1.48
1996	1.55		1.35	1.36	1.36
1997	1.46			1.27	1.31
1998	1.11			1.34	1.31
1999	1.45			1.29	1.23
2000				1.45	1.23

Source: (1) China Statistics Yearbook for each year.

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2. Sex Ratio at birth

Table 1 The Sex Ratio at Birth by Parity, 1989, 1994, 2000

Year	Total	First Child	Second Child	Third Child and above
1989	111.3	105.2	121.0	127.0
1994	115.6	106.4	141.1	154.3
2000	116.9	107.1	151.9	159.4

Note: 1989 and 2000 are the censuses data respectively; 1994 is from the 1995 National 1% Population Sampling Survey.

Table 2 The Historical Sex Ratio at Birth in China, 1953-2000

Year	Sex Ratio at birth	Year	Sex Ratio at birth	Year	Sex Ratio at birth
1953	104.9	1973	107.3	1987	111.0
1960	110.3	1974	106.6	1988	108.1
1961	108.8	1975	106.4	1989	111.3
1962	106.6	1976	107.4	1990	114.7
1963	107.1	1977	106.7	1991	116.1
1964	106.6	1978	105.9	1992	114.2
1965	106.2	1979	105.8	1993	114.1
1966	112.2	1980	107.4	1994	116.3
1967	106.6	1981	107.1	1995	117.4
1968	102.5	1982	107.2	1996	118.5
1969	104.5	1983	107.9	1997	120.4
1970	105.9	1984	108.5	1998	122.1
1971	105.2	1985	111.4	1999	122.7
1972	107.0	1986	112.3	2000	119.9

Source:（1）1960-1992 from Gu Baochang and Xu Yi. 1994. A roundup of the sex ratio at birth in China, Chinese Journal of Population Science, No.3: 41-48.（2）1993-2000 from Lu Hongping. 2003. Studies on recent rising in sex ration at birth in China, paper presented at Symposium of Population and Development of Constructing a comprehensive well-off Society, Changchun, Septemner 25.

Table 3 Different Estimation of the Sex Ratio at Birth in 2000

Source	**Sex Ratio at Birth**	**Note**
Wang Jinying (2003)	113.40	Basing on the population aged 0-10 of 2000 Census, he used a method of backfill to estimate the male and female live births corresponding to each year.
SPFPC and CPDC (2003)	116.86	Not introduce the estimating method.
NSB (2002)	117.79	Actual value from China 2000 Census
Ma Yingtong（2004）	122.65	Considering the sex ratio of death at birth is 84.31, and the sex ratios are 122.65, 122.07, 120.44 respectively corresponding to the population aged 1, 2, and 3 years old, he thought it is impossible that

		sex ratio at birth (117.79) is less that 1 years old population too much. So he thought that sex ratio at least may be equal to 122.65 (same with population aged 1 years old).
Lu Hongping（2003）	119.9	I have not read this paper, just it may be cited by another scholar.
Judith Banister (2002)	120	The Dearth of girls in China Today: Origins, Geography, and Comparative Perspectives, Research Report to UNFPA China, September 28, 2002.
Zhang Weimin and Cui Hongyan（2003）	>=115	Comparing with 1990 census, if the sex ratio of 107.46 for young population (10-18) is right in 2000 census, he backfill to 1990 census, the sex ratio at birth is 107.74 less than actual value 109.47. Thus he thought sex ratio at birth in 2000 census (reported 117.79) at least may be bigger that 115, even though considering the differential of 1.73 between them.

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Table 4 China, Sex Ratio at Birth by Parity, Censuses of 1990-2000

Year	Parity 1	Parity 2	Parity 3	Parity 4	Parity 5 and above	All births
1989-1990	105.40	121.38	124.95	132.22	129.42	114.18
1999-2000	107.12	151.92	160.29	161.42	148.79	119.92

Source: Judith Banister. 2002. The Dearth of girls in China Today: Origins, Geography, and Comparative Perspectives, Research Report to UNFPA China, September 28, 2002.

3. Different Projections for China Population

Source	Baseline population and age structure	Scenarios for fertility	Mortality Scenarios in 2000/2001	Mortality scenarios in 2050	2000/2001	2010	2020	2030	2040	2050
SPFPC (2003)		TFR=1.7	Male: 69.87 Female: 73.57	Male: 77.07 Female: 81.51	1.286[(1)]	1.361	1.434	1.451	1.435	1.376
		TFR=1.8	Male: 69.87 Female: 73.57	Male: 77.07 Female: 81.51	1.287[(1)]	1.370	1.454	1.483	1.483	1.440
Yuan Jianhua, Yu Hongwen, Li Xiru and Xu Qi (2003)	**Scenario I：** the number of population in 2000 is 1.267 billion, just adjusting the number of population for 0-9 years old, unadjusting the number of population aged 10 years old and above.	TFR=1.68	Male: 69.72 Female: 73.21	Male: 76.60 Female: 80.42	1.267	1.347	1.405	1.409	1.383	1.316
	Scenario II： the number of population in 2000 is 1.267 billion, the number of children aged 0-9 is from 2000 communiqué, and adjust the number of population aged 10 years old and above.	2001:TFR=1.68 increase gradually to TFR=2.0 in 2005 2006-2050:TFR=2.0	Male: 69.72 Female: 73.21	Male:76.60 Female: 80.42	1.267	1.369	1.464	1.509	1.537	1.528
	Scenario III： the number of population in 2000 is 1.282 billion, the number of children aged 0-9 is	2010-2050: TFR=1.76	Male: 69.72 Female: 73.21	Male:76.60 Female: 80.42	1.282	1.340	1.441	1.461	1.449	1.400

	from 2000 communiqué, the number of population aged 10 years old and above is directly from China 2000 census.									
Zhang Weimin, Xu Gang, Yu Hongwen and Cui Hongyan （2004）	Distribute the number of population of 20.72 thousand into different age groups in order to make total number of population is equal to1.26583 billion.	**High Scenario**: TFR=2.14	Male: 69.63 Female: 73.33	Increase of 0.75 year for male, 1.8 year for female per 5 years when average life expectancy is 67.5-70.0; in crease of 0.45 year for male and 1.40 year for female per 5 years when average life expectancy is 70-72.5; in crease of 0.2 year for male and 1.0 year for female per 5 years when average life expectancy is 72.5-75.	1.276	1.372	1.477	1.526	1.570	1.568
		Middle Scenario: TFR=1.8	Male: 69.63 Female: 73.33		1.276(1)	1.357	1.429	1.447	1.438	1.383
		Low Scenario: TFR=1.55	Male: 69.63 Female: 73.33		1.276(1)	1.337	1.385	1.378	1.332	1.244
Jiang Leiwen and Ren Qiang (2003)*	Distribute the number of population of 20.72 thousand into different age groups in order to make total number of population is	2000: TFR=1.80 2015: TFR=1.98 2030: TFR=1.83	Male:69.7 Female: 74.50	2030: Male:75.0 Female: 80.0	1.26583	1.374	1.484	1.504		

	equal to1.26583 billion.								
United Nations (2003)		**Middle Scenario**: 2000: TFR=1.8 2000-2005: TFR=1.83 2005-2010:TFR=1.86 2010-2050: TFR=1.85	Male: 67.8 Female: 71.9	Male: 73.9 Female: 79.7	1.275	1.365	1.429	1.451	1.439	1.395
Cao Guiying and Wolfgang Lutz (2003)	**Please add content**									

*Considering the different TFR by education level. (1) Indicates that the value is in 2001.

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4. Baseline Population in 2000

4.1 Age structure

Table 1 Adjusted Age Distribution of China 2000 Census

	Male	Female	Total
0-4	39080442	32330340	71410782
5-9	50803287	44105742	94909029
10-14	68852541	63165421	132017961
15-19	51910244	48709494	100619739
20-24	44167951	44101447	88269398
25-29	57358164	56362758	113720922
30-34	63871217	62751382	126622599
35-39	56371339	54871791	111243130
40-44	43225101	40999383	84224484
45-49	45995722	44185113	90180835
50-54	34357617	32420433	66778051
55-59	25405390	23864012	49269402
60-64	22783865	21047268	43831133
65-69	18515844	18251975	36767820
70-74	13059340	13791954	26851294
75-79	7541698	9210723	16752421
80-84	3409902	4890141	8300043
85-89	1090862	1992949	3083811
90+	274580	702567	977147
Total	648075107	617754893	1265830000

Note: Distribute the number of population of 20720 thousand into different age groups in order to make total number of population is equal to1.26583 billion.

Source: Jiang Leiwen and Ren Qiang. 2003. The Projection of Population, Households and Housing Demand in China, forthcoming.

Table 2 Age Distribution of China 2000 Census

	Male	Female	Total
0-4	37648694	31329680	68978374
5-9	48303208	41849379	90152587
10-14	65344739	60051894	125396633
15-19	52878170	50152995	103031165
20-24	47937766	46635408	94573174
25-29	60230758	57371507	117602265
30-34	65360456	61953842	127314298
35-39	56141391	53005904	109147295
40-44	42243187	38999758	81242945
45-49	43939603	41581442	85521045
50-54	32804125	30500075	63304200
55-59	24061506	22308869	46370375

60-64	21674478	20029370	41703848
65-69	17549348	17231112	34780460
70-74	12436154	13137995	25574149
75-79	7175811	8752519	15928330
80-84	3203868	4785290	7989158
85-89	1056941	1973757	3030698
90-95	229758	553836	783594
95-99	51373	118383	169756
100+	4635	13242	17877
Total	640275969	602336257	1242612226

Source: NSB (National Statistics Bureau), Population Census Office under the State Council, Department of Population, Social, Science and Technology Statistics. 2002. Tabulation on the 2000 Population Census of the People's Republic of China, Beijing: China Statistics Press.

Table 3 Adjusted Age Distribution of China 2000 Census (10 thousand)

	Male	Female	Total
0-4	4680	3891	8570
5-9	5045	4369	9415
10-14	6534	6005	12540
15-19	5329	5016	10345
20-24	4897	4667	9564
25-29	6068	5741	11809
30-34	6557	6197	12754
35-39	5629	5302	10931
40-44	4229	3901	8130
45-49	4397	4159	8556
50-54	3282	3050	6332
55-59	2407	2231	4638
60-64	2168	2003	4171
65-69	1755	1723	3478
70-74	1244	1314	2557
75-79	718	875	1593
80-84	320	479	799
85-89	106	197	303
90+	29	69	97
total	65394	61189	126583

Source: Zhang Weimin, Xu Gang, Yu Hongwen and Cui Hongyan. 2004. Forecasting of China population change, Pp.91-128, in Tian Xueyuan and Wang Guoqiang eds. Population and Development of Constructing a comprehensive well-off Society, Beijing: China Population Publishing House.

Note: they think the rate of under-report between 0 and 9 years old is very serious.

4.2 Mortality Rate

Table 1 Number of Population and Death in China by Sex, 2000

	Number of Population		Number of death	
Age Group	Male	Female	Male	Female
0	7460206	6333593	155564	184521
1-4	30188488	24996087	46647	39181
5-9	48303208	41849379	32664	19473
10-14	65344739	60051894	32169	19547
15-19	52878170	50152995	40253	23630
20-24	47937766	46635408	58931	34253
25-29	60230758	57371507	84187	49578
30-34	65360456	61953842	107000	60007
35-39	56141391	53005904	115117	59882
40-44	42243187	38999758	131939	67869
45-49	43939603	41581442	185634	104506
50-54	32804125	30500075	212106	122926
55-59	24061506	22308869	252191	146324
60-64	21674478	20029370	380911	225973
65-69	17549348	17231112	508705	322809
70-74	12436154	13137995	600515	429296
75-79	7175811	8752519	536181	464760
80-84	3203868	4785290	384869	428486
85-89	1056941	1973757	177071	259670
90-95	229758	553836	52114	109996
95-99	51373	118383	10724	30047
100+	4635	13342	1079	3776
Total	640275969	602336257	4106571	3206510

Source: NSB (National Statistics Bureau), Population Census Office under the State Council, Department of Population, Social, Science and Technology Statistics. 2002. Tabulation on the 2000 Population Census of the People's Republic of China, Beijing: China Statistics Press.

4.3 Fertility Rate

Table 1 Age-Specific Fertility Rate by Parity Estimated from China 2000 Census , 2000

Age group	Average number of reproductive women	Total		First Birth		Second Birth		Third birth and above	
		Number of births	Fertility rate	Number of births	Fertility rate	Number of births	Fertility rate	Number of births	Fertility rate
Total	**32736216**	**1181952**	**36.11**	**804327**	**24.57**	**308211**	**9.41**	**69413**	**2.12**
15-19	**4464796**	**26626**	**5.96**	**24992**	**5.60**	**1549**	**0.35**	**85**	**0.02**
15	917924	140	0.15	139	0.15	2			
16	894285	626	0.70	612	0.68	14	0.02	1	
17	939809	2531	2.69	2427	2.58	101	0.11	3	
18	909914	6356	6.98	5987	6.58	356	0.39	13	0.01
19	802865	16974	21.14	15828	19.71	1077	1.34	70	0.09
20-24	**4209319**	**481919**	**114.49**	**431978**	**102.62**	**43778**	**10.40**	**6164**	**1.46**
20	806849	45141	55.95	42406	52.56	2547	3.16	189	0.23
21	827346	80605	97.43	75136	90.82	5000	6.04	469	0.57
22	808602	101323	125.31	92360	114.22	8016	9.91	947	1.17
23	848252	121064	142.72	107440	126.66	11877	14.00	1748	2.06
24	918271	133787	145.69	114637	124.84	16339	17.79	2812	3.06
25-29	**5436612**	**468568**	**86.19**	**301408**	**55.44**	**140295**	**25.81**	**26864**	**4.94**
25	975870	125890	129.00	100678	103.17	21308	21.83	3905	4.00
26	1038687	109960	105.86	79427	76.47	25593	24.64	4941	4.76
27	1085171	91538	84.35	57251	52.76	28614	26.37	5674	5.23
28	1130399	76138	67.35	38562	34.11	31601	27.96	5975	5.29
29	1206486	65042	53.91	25492	21.13	33180	27.50	6371	5.28
30-34	**5798770**	**165965**	**28.62**	**38348**	**6.61**	**103968**	**17.93**	**23649**	**4.08**
30	1207770	53991	44.70	16031	13.27	31883	26.40	6078	5.03
31	1211480	44366	36.62	9678	7.99	29156	24.07	5532	4.57
32	1140901	32134	28.17	6127	5.37	21232	18.61	4775	4.18
33	1083996	20153	18.59	3677	3.39	12677	11.69	3799	3.50
34	1154623	15322	13.27	2836	2.46	9021	7.81	3466	3.00
35-39	**4891224**	**30407**	**6.22**	**5934**	**1.21**	**15653**	**3.20**	**8821**	**1.80**
35	1142458	11027	9.65	2116	1.85	6090	5.33	2821	2.47
36	1222338	8181	6.69	1578	1.29	4371	3.58	2232	1.83
37	1146588	5911	5.15	1170	1.02	2907	2.54	1834	1.60
38	764293	3272	4.28	652	0.85	1450	1.90	1170	1.53
39	615548	2018	3.28	419	0.68	836	1.36	764	1.24
40-44	**3924090**	**5749**	**1.46**	**1188**	**0.30**	**2107**	**0.54**	**2454**	**0.63**
40	647870	1581	2.44	339	0.52	615	0.95	627	0.97
41	704753	1198	1.70	254	0.36	441	0.63	504	0.71
42	848440	1187	1.40	242	0.29	436	0.51	509	0.60

43	864878	988	1.14	198	0.23	351	0.41	440	0.51
44	858150	796	0.93	156	0.18	265	0.31	375	0.44
45-49	**4011407**	**2720**	**0.68**	**481**	**0.12**	**861**	**0.21**	**1378**	**0.34**
45	885518	719	0.81	133	0.15	235	0.27	351	0.40
46	847555	633	0.75	122	0.14	202	0.24	309	0.36
47	817829	541	0.66	101	0.12	171	0.21	270	0.33
48	763440	459	0.60	71	0.09	143	0.19	246	0.32
49	697065	368	0.53	55	0.08	111	0.16	203	0.29

Source: NSB (National Statistics Bureau), Population Census Office under the State Council, Department of Population, Social, Science and Technology Statistics. 2002. Tabulation on the 2000 Population Census of the People's Republic of China, Beijing: China Statistics Press.

4.4 Age-Parity-Specific Fertility Probability in China between August 2000 and August 2001 (Percent), 2000.8-2001.8

	First Birth			Second Birth			Third Birth			Fourth Birth		
Age Group	Number of risk women	Number of births	Probability	Number of risk women	Number of births	Probability	Number of risk women	Number of births	Probability	Number of risk women	Number of births	Probability
15-19	49	8	16.33	1		0.00				1		0.00
20-24	1232	269	21.83	234	25	10.68	70	1	1.43	18		0.00
25-29	2262	219	9.68	1576	117	7.42	910	11	1.21	218	2	0.92
30-34	2126	25	1.18	1945	99	5.09	2818	13	0.46	844	5	0.59
35-39	1427	1	0.07	1358	13	0.96	3456	1	0.03	1809		0.00
40-44	851		0.00	799	4	0.50	2092		0.00	1478	1	0.07
45-49	627	1	0.16	578		0.00	2396		0.00	2141		0.00
Total	8574	523	6.10	6491	253	3.90	11742	26	0.22	6509	8	0.12

Source: SPFPC (2002) : Calculation from 2001 National Population and Reproductive Health Survey.

Note: This survey was carried out in August 2001 by multistage, cluster and probabilistic sampling for whole country. The total number of reproductive women is 39,586. Age-parity-specific fertility probability between August 2000 and August 2001 can be calculated by the question, “the result of your each pregnant” and “date of every pregnant and the order of pregnant”, and “marriage status”.

There no fifth birth and above during this period of one year.

Explanation: Because we have not other kinds of data to calculate the age-parity-specific fertility rate, herein I choose a period of one year as reference using NPRHS data. I am not sure if this method is right for estimating APSFR. If it is right, we may also estimate APSFR for other precious years. I am glad to hear from your suggestions.