First Impressions from the 2000 Census of China

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THE 2000 CENSUS of China is most obviously notable for its grand scale. Requiring 10,000 tons of paper for questionnaires, 5 million enumerators, and a million supervisors, it was at the very least an impressive logistical feat. But this census is notable, too, for its design and expanded content, reflecting China's increasing complexity and the rising demand for social data to inform policy. And it is notable for the unprecedented challenges it encountered in the field, conducted as it was under an administrative regime that is, in several respects, inimical to accurate census reporting. The preliminary results mirror China's continued social progress and apparent success in the drive to curtail population growth. This report briefly describes the 2000 census, sketches the highlights of preliminary tabulations, and discusses issues related to data quality.

Census innovations

Several innovations distinguish China's fifth census from the four previous ones. For the first time, a confidentiality statement appears on the census form; the census forms are designed for optical character scanning instead of manual data entry; and census documents can be accessed from an official census Web site. There are also changes to the census questionnaire. There is both a short and a long form, with the latter administered to a 10 percent sample of households in most provinces (to 10 percent of enumeration districts in remote areas). The long form provides unprecedented scope for data collection on issues of concern to China's policymakers, including housing, migration, and employment.

The short form contains standard items collected for every person in every household, including age, sex, nationality, registration status, and edu-

cational level. Items on migrant status, occupation, and marital status that were collected from all households in the 1990 census were in the 2000 census relegated to the long form. Every household is queried about births in the previous year, permitting a crude birth rate and sex ratio of births to be calculated for the entire population, but more detailed fertility questions are contained on the long form. Two items about housing—number of rooms and floor area—also appear on the short form, but the long form explores housing in considerable detail.

Housing is a pressing concern in China. In the past decade, housing reform policies have substantially privatized urban housing and opened a narrowly circumscribed housing market. A shift to an open market in housing, although not imminent, is on the horizon. The census long form contains no fewer than 15 items of direct relevance to this delicate transition, including questions on the use and age of dwelling, construction materials, fuel use, source of water, type of sanitary facilities, housing tenure, and the value or monthly rent of the property.

Migration is another phenomenon with far-reaching social implications. China's economic reforms have brought a rising tide of rural-to-urban migration. But the policies that liberated peasants from the land and created an urban labor market coexist uneasily with remnant structures of the socialist state. Chinese citizens are still officially divided between those with urban and those with rural household registrations. The former constitute a virtual hereditary caste entitled to educational benefits, jobs, and other welfare guarantees, in contrast to migrants in cities who have no perquisites and whose urban foothold is generally precarious. In other countries, schooling facilitates the assimilation of urban migrants. In China, where urban polities bear no responsibility for migrants, the "floating population" has emerged as a large and growing urban underclass, variously estimated at between 100 million and 200 million persons. The unwinding of this system, now cautiously advanced in policies that seek to dilute urban privilege, will take at least a generation. In the meantime, understanding population movement is a high administrative priority.

The census short form contains four questions on household members absent for less than six months, which should yield an estimate of the number and provenance of the short-term floating population. The census long form contains nine items related to household registration and migration, items that classify migrants with considerable spatial and temporal precision. The 1990 census only distinguished mobility across county boundaries; the 2000 census can chart mobility across township and street committee boundaries. The 1990 census could only detect movement in the five years before the census; the 2000 census records place of birth as well as location of last residence, and it records the year of last move. As precise as they are, these items will not permit a full assessment of the floating

population because the census is a quasi–de jure enumeration that counts people at their legal residence if they have been away from that residence for less than six months. But this six-month reference period is itself an important revision of the one-year reference period of previous censuses. By placing more migrants at their current abode rather than at their place of registration, it gives the census a more de facto cast. Yet by counting those away from home for less than six months at their legal instead of actual residence, it will still undercount migrants and understate their influence on urban populations.

Concern with the floating population explains another break with census tradition, the reference date. Each of China's four previous censuses set 1 July as the reference date; the fifth census set 1 November. The inadvisability of census work in hot summer weather is cited as one reason for this change, but the crucial rationale concerns the effort to enumerate migrants at their actual rather than legal residence (Zhang 1998: 7). Sojourning migrants generally return to their natal home for Spring Festival, which in the year 2000 occurred in February. Coming within six months of Spring Festival, a 1 July reference date would have placed many migrants at their legal rather than at their actual residence and thus would seriously have undermined the estimate of the number of long-term urban migrants.

Unemployment was foreign to the vocabulary of socialism, if not the reality, but in the reform era it has emerged as a volatile problem. Decollectivization in the early 1980s cast underemployed peasants into the labor market, while market forces continue to produce layoffs and forced early retirements in moribund state-owned enterprises. Yet despite its salience, unemployment has been virtually unmeasurable because of the variety of guises under which unemployed workers are categorized (Solinger 2001). The census long form contains items on employment that address this problem. In addition to the occupation and industry items that also appear in previous censuses, there are questions in 2000 about work for pay in the week preceding the census. Another item classifies the unemployed and inquires about their source of support. These items should permit a basic but systematic appraisal of economic activity and unemployment.

Preliminary data

As of this writing, the main source of published data from the census is *Major Figures on 2000 Population Census of China* (Population Census Office 2001). A series of provincial census communiqués are also available from the official census Web site (http://www.p2000.gov.cn/p2000/index.htm). The data released thus far provide the basis for only very general and tentative conclusions.

National trends

With some 1.265 billion persons as of 1 November 2000, the People's Republic of China accounts for approximately 21 percent of the human population. China is still the most populous nation, a title it will not cede to India for another four to five decades (Dyson 2001). China's population grew more slowly in the past decade than in any other decade since the founding of the People's Republic. The four intercensal periods shown in Table 1 neatly frame the stages of demographic transition, with average annual growth peaking at 2.07 percent in the years 1964–82, dropping to 1.47 percent in the years 1982–90, and dropping further to 1.07 percent in the past decade. One may infer that reductions in fertility account for the decline in population growth, as there is no evidence that the crude death rate rose in the decade. A possible alternative explanation would be a substantial undercount of population in 2000 relative to the undercount in 1990. The problem of data quality will be considered in the following section.

China's population is composed of a Han majority and 55 officially designated minority nationalities: minorities represented 8.4 percent of the total in 2000. Decelerating growth of the minority population in the past decade has set Han and minority growth rates on a path toward convergence. Between 1982 and 1990 the minority population grew at an annual average rate of 3.83 percent, an exceptionally rapid rate produced by high natural increase as well as reclassification of persons from Han to minority status (Poston 1993). In the 1990s minorities grew at 1.51 percent per year, less than half the rate of the previous decade. This trend likely reflects the successful extension of birth planning policies into previously exempt minority areas.

China has certainly urbanized in the past two decades, but frequent changes in the definition of the urban population have made the measurement of urbanization one of the more treacherous areas of Chinese demography. The measurement problem can be observed in Table 2, which shows

TABLE 1 China: Population and population growth over five censuses, 1953–2000

Year	Population (thousands)	Absolute intercensal increase (thousands)	Average annual intercensal growth rate (percent)
1953	582,603	—	—
1964	694,582	111,979	1.60
1982	1,008,180	313,598	2.07
1990	1,133,709	125,529	1.47
2000	1,265,830	132,121	1.07

NOTES: Population totals include the People's Liberation Army but do not include Taiwan, Hong Kong, Macao, or Overseas Chinese. Population totals refer to 1 July, except for 2000, which refers to 1 November.
SOURCES: 1953 and 1964: State Statistical Bureau 1986a and 1986b, respectively. 1982, 1990, and 2000: Population Census Office 1985, 1993, 2001, respectively.

the urban population and percent urban as measured in recent censuses and reports of the State Statistical Bureau (SSB). The 1982 census put China's urban proportion at 20.6 percent, roughly where it had stood for the previous 20 years. This rose to 26.2 percent in 1990, to 28.6 percent in the 1995 one percent sample census, and to 30.9 percent in the SSB estimate for 1999 (see Table 2). The 2000 census reporting 36.1 percent as urban is obviously inconsistent with the earlier estimates.

The discontinuity involves two separate measurement issues. The first concerns the definition of an urban place. The 1990 and 2000 censuses define urban places according to different criteria. In 1990, and through the ensuing decade, the urban population was defined by administrative categories: residence committees were uniformly counted as urban, and village committees were counted as rural unless they were administered under cities or towns at the prefectural level or above (Chan 1994). The urban definition used in the 2000 census departs from the strict administrative definition by promoting some village committees to urban status on the basis of density measures and other criteria.[1] This revised definition more faithfully reflects the urban reality of densely populated industrialized settlements that are still under village administration.

The other, and no doubt more important, reason for the inconsistency is the revised method for determining residence at the time of the census—the six-month reference period alluded to above. Under 1990 census rules, rural migrants residing in a city for less than one year were counted at their place of registration. Under rules guiding the 2000 census, those residing in the city for six months or more were counted at their urban abode.

Comparing the 2000 census estimate with that for 1999, it is apparent that the revised measure captures approximately 67 million more urban residents. Although still an underestimate of the urban proportion by the standards of a purely de facto census, the 2000 census moves the estimate

TABLE 2 China: Estimates of the urban population and percent urban, 1982–2000

Year	Source	Urban population (thousands)	Percent of population urban
1982	Census	206,309	20.55
1990	Census	296,145	26.20
1995	Sample survey	353,396	28.58
1999	Sample survey	388,920	30.90
2000	Census	455,940	36.09

NOTE: Three definitions of urban population are used here: one for 1982, one for 1990–99, and one for 2000. In 1982, the urban population was defined as the population of cities, urban districts under cities, and towns, defined as settlements of minimum population size and percent of population "nonagricultural" (Chan 1994). For 1990 and 2000, see text.
SOURCES: 1982, 1990, and 2000: Population Census Office 1985, 1993, 2001, respectively. 1995: National Population Sample Survey Office 1997. 1999: National Bureau of Statistics 2000.

closer to the actual figure. The urban trend is real, and represents a profound social revolution that, should it continue, will transform China into a mainly urban society in less than two decades.

Although China's population has "aged" over the past decade, it is still relatively young. In labor force terms, China has high productive potential, with 70 percent of the population in the 15–64-year age range (see Table 3). The proportion of the population age 65 and older rose from 5.6 percent in 1990 to 7.0 percent in 2000. An even more rapid rise in the proportion over age 65 will occur over the next few decades.

Urban–rural differences suggest the forces that have shaped the age structure. Urban China, where the one-child policy has been successfully enforced for two decades, has a relatively low proportion under age 15, and a larger proportion aged 15–64. In the 2000 census 75.3 percent of urban Chinese were in the 15–64-year age range, implying a dependency ratio that is extraordinarily low. Selective migratory flows in the 1990s probably reinforced this age pattern. As may be seen in Table 3, in 1990 rural and urban China had roughly equal proportions aged 65 and older. By 2000 the proportion of rural elderly exceeded that of urban, a counterintuitive result that can be explained by the flow of working-age persons from rural to urban areas.

China's citizens were better educated at the end of the 1990s than at the beginning. Growth of the population with secondary and higher education was particularly rapid. Middle-school graduates rose from about 23 for every hundred persons in the total population in 1990 to 34 in 2000. Those with any higher education remain a tiny but fast-growing elite. Those attaining junior college or above jumped from 1.4 percent to 3.6 percent of the total population in the past decade. The illiterate population also continued its secular decline. In 1964 nearly 33 percent of Chinese aged 15 or older were illiterate or semiliterate, a number reduced to 15.9 percent in 1990. By 2000 this had fallen to 6.7 percent. Of course, rising educational attainment would be expected even if rates of schooling did not change in the decade, because younger, better-educated cohorts are replacing older,

TABLE 3 China: Percent distribution of rural and urban population by age group, 1990 and 2000

	Total		Rural		Urban	
Age	1990	2000	1990	2000	1990	2000
0–14	27.7	22.9	29.6	25.5	25.9	18.4
15–64	66.7	70.1	64.8	67.2	68.6	75.3
65+	5.6	7.0	5.6	7.3	5.5	6.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

SOURCES: Population Census Office 1993, 2001.

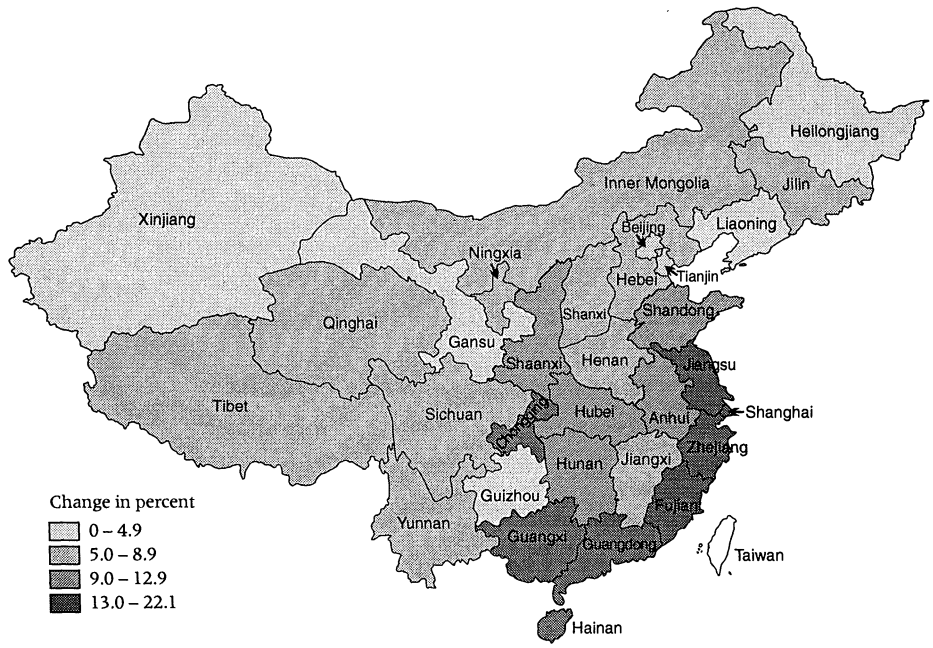
less-educated cohorts. An assessment of educational progress awaits the publication of age-specific measures or micro data.

Regional trends

Provincial data offer insight into regional variation and change. Figure 1, which shows the absolute increase in the percentage of the urban population between the 1990 and 2000 censuses by province, provides a reference to China's provincial-level administrative units. China has added one such unit since the 1990 census; Chongqing Municipality was carved out of eastern Sichuan to form the thirty-first province.

The population of every province grew in the 1990s, but growth varied by region, apparently corresponding to natural increase and to migratory streams. The fastest-growing province was Guangdong, a magnet for foreign capital and domestic migrants (see Table 4). Other provinces on the eastern seaboard from Shanghai to Hainan generally grew at above-average rates. Growth was also strong in the west, particularly in Xinjiang and

FIGURE 1 Absolute increase in the percentage of the population classified as urban, by province: China 1990–2000



SOURCES: Basemap is from the National Fundamental Geographic Information System (NFGIS) of China, copyright State Bureau of Surveying and Mapping. Data are from Table 4.

TABLE 4 Population and percent urban in the 2000 census, and measures of change 1990–2000: China total and provinces

Province	Population (1,000 persons)	Average annual rate of growth 1990–2000	Percent urban	Absolute increase in percent urban 1990–2000
China total	1,265,830	1.07	36.1	9.9
Beijing	13,820	2.40	77.5	4.5
Tianjin	10,010	1.27	72.0	3.3
Hebei	67,440	0.96	26.1	7.0
Shanxi	32,970	1.33	34.9	6.2
Inner Mongolia	23,760	0.99	42.7	6.6
Liaoning	42,380	0.69	54.2	3.4
Jilin	27,280	0.98	49.7	7.0
Heilongjiang	36,890	0.45	51.5	4.4
Shanghai	16,740	2.22	88.3	22.1
Jiangsu	74,380	1.01	41.5	20.3
Zhejiang	46,770	1.18	48.7	15.9
Anhui	59,860	0.62	27.8	9.9
Fujian	34,710	1.41	41.6	20.2
Jiangxi	41,400	0.91	27.7	7.3
Shandong	90,790	0.71	38.0	10.7
Henan	92,560	0.77	23.2	7.7
Hubei	60,280	1.08	40.2	11.3
Hunan	64,400	0.58	29.8	11.5
Guangdong	86,420	3.13	55.0	18.2
Guangxi	44,890	0.59	28.2	13.1
Hainan	7,870	1.78	40.1	16.1
Chongqing	30,900	0.66	33.1	15.7
Sichuan	83,290	0.59	26.7	5.4
Guizhou	35,250	0.82	23.9	4.9
Yunnan	42,880	1.44	26.7	8.6
Tibet	2,620	1.72	23.9	6.3
Shaanxi	36,050	0.89	23.3	10.8
Gansu	25,620	1.32	24.0	2.0
Qinghai	5,180	1.47	34.8	7.4
Ningxia	5,620	1.84	32.4	6.7
Xinjiang	19,250	2.34	33.8	1.9

NOTE: Absolute population figures are rounded to the nearest 10,000. The urban population was defined differently in 2000 than in 1990. See text.
SOURCE: Population Census Office 2001.

Tibet, which draw many Han migrants from the interior and where minority fertility is under looser constraints. Growth rates tended to be lower in impoverished areas of the interior that have experienced large outflows of economic migrants. In this category, Hunan, Sichuan, Chongqing, and Henan are notable.

Urbanization in the 1990s (as measured by the two noncomparable definitions discussed above) was closely tied to economic growth. The urban percentage grew the most on the east coast, seen in Figure 1 as a dark crescent running from Jiangsu in the north to Hainan in the south, a region favored by investors from Taiwan, Hong Kong, and elsewhere. Jiangsu and Fujian each went from 21 percent to 41 percent urban in the decade. The growth of the urban proportion was less but still substantial in a second tier of provinces in the middle reaches of the Yangzi River, including Anhui, Hubei, and Hunan. The only rapidly urbanizing province in the interior was the newly created Chongqing Municipality. Every provincial-level unit experienced some urban growth in the decade. The slowest urban growth occurred in the far west and in the northeast, the latter already highly urbanized and saddled with many failing state-owned enterprises.

Data quality

How good are the data? Given the environment in which the 2000 census operations took place, this is no routine question. China's social and political conditions once favored a high-quality enumeration, but no longer. Two decades ago China had a relatively immobile population under the surveillance of a powerful and pervasive bureaucracy. There were, moreover, few disincentives to full and accurate reporting, for citizens or for officials. Under these circumstances China was able to produce census and survey data of remarkable accuracy. But two important phenomena arose, beginning in the 1980s, to alter this favorable situation. The first is a tide of rural-to-urban migrants, people who are difficult to track and whom officials of cities would prefer not to have on their books. The second is the tightening of birth planning administration, which has given both families and local officials substantial disincentives to report out-of-plan births.

Results of a postenumeration survey suggest that census data quality is good. A survey of 602 enumeration districts found a net undercount of 1.81 percent of the population (SSB 2001). Although this is noticeably higher than the .06 percent undercount reported for the 1990 census, it is considered reasonable by international standards (Walfish 2001). A complete report of the postenumeration survey, however, is not yet available. It would be surprising if counts of births, deaths, migrants, and children were as complete as the overall population count. And, although there is as yet no basis on which to evaluate the postenumeration survey, there are reasons to expect that the survey could itself fall substantially short of a complete enumeration. To understand why, it is necessary to consider the confluence of forces that affected the recent round of census work.

The high quality of previous Chinese censuses was due in considerable measure to the existence of the household registration system and to the direct linkages between the registers and the census. The household

registers include information about every household and constituent individual in an administrative area. The register should reflect every change in the composition of a household brought about by birth, death, marriage, or migration, and it should reflect the sum of official knowledge about residents of the local administrative area.

The linkage between household registration and census work is direct and explicit. In the months immediately before a census, the household registers are updated and verified in a process called "rectification" (*zhengdun*). By the time of the census the registers should reflect all information available to local officials about households in the enumeration area. The enumerator then draws upon the household register to construct a list of households in the enumeration district. This listing (the *hukou xingming dice*) includes the name and address of the household head, the number of registered household members, the number of births and deaths in the household in the past year, and the number of registered persons who are absent for less than and for more than six months. Thus at the time of the household interview, the enumerator already has in hand a list of basic information that can be checked against that provided by the household informant. Census procedures anticipate cross-checking between sources, including "local cadres, activists, and other informed people" who are interviewed in a postenumeration meeting.[2] Census procedures emphasize that the household interview is mandatory, but make it equally clear that the interview is not the sole source of information. It is thus theoretically possible for Chinese census data to be more accurate than the information provided by the census respondents themselves.

But the household registers—and local population statistics in general—are not as good as they used to be, and this creates problems for the census. Because household registration work is now seriously distorted by other policy imperatives, even the "rectified" registers probably misrepresent the actual status of local populations. Register errors accumulate between censuses. In the 2000 census, pre-census rectification revealed that Wenzhou city had 50,000 deceased persons still on the registers, and Chongqing Municipality had 130,000. These errors were corrected, of course, but it is far easier to purge registers of the dead than it is to add the living. Children born outside the birth plan are often (despite central government regulations) excluded from the register, at least until substantial fines are paid. In Chongqing, rectification work uncovered 68,000 such cases,[3] but more could go undetected because both citizens and officials have reason to hide them. Parents conceal excess births to avoid fines, while officials keep them off the books because cadre job evaluations are based primarily on birth planning performance. To shield census work from these unfavorable incentives, census officials directed that all unregistered out-of-plan children be registered, that no fines be collected from parents of these children, and that officials be granted amnesty for previous birth planning falsifications

as long as they were truthfully reported in the census.[4] But the census is a passing event, while birth planning is a perennial problem. It would be only natural for local officials, fearing a "squaring of accounts after the autumn harvest," to err on the side of discretion.

Other administrative considerations militate against the counting of urban migrants. The floating population is not easy to count in the best of circumstances, analogous in difficulty to counting undocumented aliens or the homeless in the United States. For this reason, census operations included unusual efforts to enumerate urban migrants, including an extensive pre-enumeration of sojourners sleeping outdoors and in public places. But local officials, who for various reasons wish to minimize the population of their administrative domain, may be less interested in a complete count. Low rates of population growth reflect success in population control, and small population totals boost per capita measures of income and productivity. Urban cadres in particular may be wary of moves by the central government to regularize the status of temporary migrants, as this could lead to additional claims for urban services such as schooling. Thus even as census workers valiantly sought out the floating population by scouring construction sites and searching under bridges, local officials in some places subjected migrants to "census fees," "security fees," and "temporary residence fees" in an attempt to discourage them from being counted.[5]

The 2000 census was dogged by rumors of vast undercounts. Some provinces, such as Henan, Hunan, and Shaanxi, were said in newspaper accounts to have counted millions fewer people than expected. These reports were probably exaggerated and possibly were based on misunderstandings of the way out-of-province migrants would be counted. Nonetheless, the potential for error in this census is considerable. Users should proceed with caution until the data have been carefully evaluated.

Open questions

The preliminary data release is also interesting for its omissions. Unlike the preliminary census publications that followed the 1982 and 1990 censuses, *Major Figures* for 2000 does not report on birth rates or on the sex ratio of births. It is thus silent on two of the most pressing issues in Chinese demography. This is assuredly not by chance and may well be indicative of yet other unseen problems.

There is great uncertainty about the level of China's fertility, reflecting declining confidence in the quality of birth reporting over the past decade. Although *Major Figures* did not report fertility for 2000, six provincial census bureaus reported crude birth rates (CBRs). These are shown in Table 5, along with corresponding data from the 1995 one percent sample survey and from the SSB 1999 sample survey on population change, also a one percent population sample.

TABLE 5 Crude birth rate (births per 1,000 population) for China total and for provinces reporting birth rates based on the 2000 census, 1995–2000

	1995	1999	2000
China total	17.1	15.2	—
Beijing	7.9	6.5	6.0
Shanghai	5.8	5.4	5.5
Zhejiang	12.7	10.6	10.3
Guangxi	17.5	15.0	13.6
Chongqing	—	11.9	9.7
Guizhou	21.9	21.9	20.6

NOTES: 1995 refers to 1 October 1994 – 30 September 1995. 2000 refers to 1 November 1999 – 31 October 2000.
SOURCES: 1995: National Population Sample Survey Office 1997. 1999: National Bureau of Statistics 2000. 2000: Provincial communiqués «http://www.p2000.gov.cn/p2000/index.htm»

The provincial CBRs suggest that fertility has declined since 1995, as each of the six provinces reports a lower CBR in 2000 than in 1995 or in 1999. This trend is difficult to interpret because it involves the changing age composition of the population as well as the underlying age-specific fertility rates. Another layer of complexity is added by the possibility that the reported rates have been adjusted by SSB demographers. Rates derived from fertility surveys are generally rejected as unrealistically low. The report of the 1995 one percent sample survey, for example, put the crude birth rate at 17.1 per 1,000, but this figure is apparently the result of a substantial upward adjustment.[6] We do not yet know whether 2000 census fertility rates have been or will be adjusted. This information is obviously crucial for evaluating the census fertility data.

The sex ratio at birth (SRB) is also conspicuously absent from *Major Figures*. The ratio has risen steadily since 1980, a trend that has ominous implications for female welfare and for future nuptiality patterns, and bleak ramifications for poor families whose life plans depend crucially on the recruitment of a daughter-in-law. The 1982 census recorded (for 1981) an SRB of 108.5. The 1995 one percent sample survey found an SRB of 115.6, and the State Statistical Bureau announced an SRB of 117 for 1999. Sex ratios of the population aged 0–4 years have risen correspondingly (see Table 6). The proximate causes of this trend must be some combination of underreporting of surviving females and excess female mortality, whether *in utero* or after birth. The 2000 census should provide valuable data for evaluating the trend.

The foregoing discussion leads to a final question: how will the census be published and distributed to users? Census data for 1990 were published in printed volumes, but no public-use micro sample has yet been released.

TABLE 6 China: Sex ratio of births and sex ratio of the population aged 0–4 years, 1953–99

Year of census or survey	Sex ratio of births (males per 100 females)	Sex ratio of the population aged 0–4
1953	—	107.0
1964	—	105.7
1982	108.5	107.1
1990	111.4	110.2
1995	115.6	118.4
1999	117	119.5

NOTE: 1982 census sex ratio at birth (SRB) refers to births in 1981; 1990 census SRB refers to births in 1 January 1989 – 30 June 1990; 1995 sample census SRB refers to births in 1 October 1994 – 30 September 1995. The 1999 SRB refers to births in 1 October 1998 – 30 September 1999; this figure was given as 117 without a decimal point.
SOURCES: 1953 and 1964: State Statistical Bureau 1986a and 1986b, respectively. 1982 and 1990: Population Census Office 1985 and 1993, respectively. 1995: National Population Sample Survey Office 1997. 1999: National Bureau of Statistics 2000 (for sex ratio of population) and (for sex ratio of births) 28 March, 2001 news conference of National Bureau of Statistics Director Zhu Zhixin. The latter is presumably from the SSB Population Change Survey of 1999.

Demographers in China and abroad have had to rely on micro sample datasets purveyed through the back door (Mason and Lavely 2001). China's top census officials clearly envision a census that is widely used and provided in forms appropriate for computerized data analysis (Zhang 1998: 11–12). Whether they are able to realize this vision remains to be seen.

Notes

The author is grateful for the valuable advice of Kam Wing Chan and William M. Mason and for the able assistance of Yong Cai.

1 The revised urban definition is described in State Statistical Bureau Document 1999, No. 114 (*Guanyu tongjishang huafen chengxiang de guiding (shixing)*) [Regulation concerning statistical differentiation of urban and rural (provisional)]. I am grateful to Kam Wing Chan for providing a copy.

2 These procedures are described in the census enumerator handbook (Population Census Office 2000b). In the postenumeration phase a range of documents may be consulted, as illustrated by this report from the New China News Agency:

> In response to the problem of the non-reporting of the excess birth population, Henan demands that every place implement "five matches" of data from the 1998, 1999, and 2000 village (neighborhood) committee birth planning monthly reports, household register *zhengdun* materials, figures held by the village (neighborhood) committees, the *hukou xingming dice*, and the census enumeration form, comparing each with each and verifying no errors. (*Xinhuashe* 2000)

3 Chongqing figures are from *Yangzi Wanbao*, 5 November 2000 ("Chongqing renkou pucha xiayitiao—13 wan siwangren hukou wei chuxiao" [Chongqing census shock: household registrations of 130,000 dead persons not cancelled]). Wenzhou figures are from *Xinmin Wanbao*, 11 November 2000 ("Wenzhou renkou pucha faxian wu wan duo siren 'huozhe'" [Wenzhou census discovers over 50,000 dead persons "alive"]).

4 These points were contained in a circular published by the State Council Fifth National Population Census Leading Small Group, entitled "Guanyu zai diwuci quanguo renkou pucha zhong zhen zuohao renkou pucha

dengji gongzuo fangzhi manbao loubaode tongzhi" [Doing good enumeration work and preventing falsification and underreporting in the fifth national population census], reported in *Yangcheng Wanbao*, 26 October 2000 ("Renkou pucha ziliao bude zuowei jisheng yiju" [Census data should not be used as a basis for birth planning]).

5 Many news reports at the time of the census described and warned against such conduct. One noted that:

> ...in some places the census is used as a pretext to levy illegitimate fees, so that the migrant population doesn't dare to be enumerated; there are also some places where the census is a pretext to do birth planning investigations and levy heavy fines on excess births, to the extent that even some households that have already paid fines and registered their excess child are again fined, so that excess birth households do not dare to make a truthful report. *Huashangbao*, 10 November 2000. ("Shaanxi renkou pucha cunzai yanzhong wenti: ying dengji renkou shaole 200 wan" [Shaanxi census has a serious problem: enumerated population two million less than expected])

For other examples see *Renmin Ribao*, 19 November 2000, dateline Changsha ("Hunan sheng renkou pucha gongzuo wending zhashi, moxie meiti 'loudeng qianwanren' de chuanwen bu shi" [Hunan province census work is steady and solid; the rumor of "ten million undercounted" carried in some media is false]); *Xinhuashe*, 22 November 2000, dateline Hefei ("Anhui yanjin jie renkou pucha luan shoufei luan fakuan" [Anhui strictly prohibits using the census as a pretext to collect illicit fees and fines]); *Sichuan Ribao*, 17 November 2000 ("Sichuan jinji dian ling gedi jianjue zhizhi zai renkou pucha zhong luan shoufei" [Sichuan urgently telegraphs order to resolutely curb illicit fee collection during the census]).

6 The State Statistical Bureau uses an adjustment factor to adjust for undercount of births in register and survey data. According to Judith Banister (personal communication), the multipliers used rose from 1.072 in 1991 to 1.123 in 1995.

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