BOOK REVIEWS

The U.S. Census

Looking for the Last Percent. The Controversy over Census Undercounts. HARVEY M. CHOLDIN. Rutgers University Press, New Brunswick, NJ, 1994. xii, 264 pp. $48; paper, $17.

How large is the population of the United States, and where is it distributed? What might be a scientific question is an intensely political one as well. Harvey Choldin, a sociologist at the University of Illinois at Urbana, has written an account of the conflicts among statisticians, bureaucrats, lawyers, and politicians over how the U.S. census should measure the size of the population.

Beginning with a history of the interplay of statistics and politics in prior censuses, Choldin discusses the development of the concept of a "census undercount" (the difference between the true population size and those actually counted) and the innovations used in the 1980 census to gain a better level of compliance from the population. Next, he shifts to the stories of four census managers who directed big-city census district offices. This chapter may well be the best available nuts-and-bolts description of how a modern census takes place; it is also an excellent backdrop to understanding the legal and statistical challenges aimed at the 1980 and 1990 censuses.

Choldin then switches gears; he delves into the cases brought by the cities of Detroit and New York against the Bureau of the Census. Both cities claimed that the original census counts in 1980 missed large numbers of inhabitants and that it was possible to use statistical adjustment techniques to estimate the number and characteristics of the uncounted individuals and households.

The controversy has two parts. New York City's lawyers were particularly vociferous in asserting that the 1980 census was poorly conducted, especially in large cities. They held that the Census Bureau's methods for finding addresses and individuals who resided at them had failed in the nation's largest metropolis.

If the count was poor, what could be done? In the Detroit case (which had a similar logic to the New York one), the city asked for a re-estimate of the true population size based on adjustment. In this procedure, estimates are made of the degree of undercount of various segments of the population (for example, about 20 percent of black males aged 20 to 29 years have been missed in recent censuses), and the original figures are inflated to correct for these undercounts.

In both cases, Detroit and New York won in the lower courts but lost on appeal. Yet even as (in the mid-1980s) the Census Bureau lawyers were maintaining that such statistical adjustment of census figures was indefensible or impossible, various working groups within the bureau were developing innovative new ways to measure the undercount and implementing them for the 1990 census.

For the 1990 census, the bureau's statisticians developed a system of re-counting the population that would estimate not only who was missed in the original April 1990 count but also who was invented, was counted twice, or gave wrong answers. This Post Enumeration Survey (PES) was highly controversial. When Undersecretary for Economic Affairs Robert Ortner canceled it in 1987, two key Census Bureau statisticians (Barbara Bailar and Kirk Wolter) resigned. The PES only became part of the 1990 census as part of the 1989 settlement of *New York v. Department of Commerce*.

Choldin then traces the complex issues surrounding the adjustment process: the establishment of panels of experts to judge the technical issues surrounding adjustment; the process of taking the 1990 census and the PES; the attempts to measure the undercount and whether the use of the PES could lead to a more complete and accurate count for local areas.

Secretary of Commerce Robert Mosbacher rejected the use of adjusted counts in July 1991. Though the PES is generally acknowledged to have been of high quality and contributed to our understanding of census undercounts and miscounts, its use in the adjustment process fell victim to a variety of political and statistical attacks. Choldin chronicles these, and does a remarkably coherent job of overlapping the political history of the 1990 adjustment decision with the new and difficult statistical issues surrounding it.

Much of this debate was never carried in the media. The complexity of some of the statistical and legal issues Choldin presents obviously would not play well as soundbites. Reporters seemed to be content with the easy dichotomy: Reagan and Bush appointees, statistical traditionalists, and farm state and suburban interests favoring counting real people *versus* federal bureaucrats, statistical experimentalists, and big-city interests wanting to use social engineering to estimate populations who won't respond to the census.

Beyond the problem of trying to explain statistics to journalists, the pro-adjustment forces never made much of an effort to stress the extent to which census data have been estimated (or fabricated) during the last few censuses. Since the 1970 census the Census Bureau, when it has known a residence is occupied but is unable to get in contact with the residents, has substituted data from a nearby household for the residents' otherwise unknown characteristics. Similarly, if data (say race or age) for an individual are missing, the Bureau uses a process called allocation to estimate them. Since 1970, as the lawyers in the 1980 Detroit case pointed out, the census has not been a head count; the household characteristics of over five million people were substituted in that year, and even more were substituted in the 1980 and 1990 censuses.

The battle over adjustment is not between head-count purists and statistical theoreticians. Even without adjustment, the Census Bureau is already morphing the American population. The question is how we can bring the picture into better focus and what methods give us the best resolution and the most pixels. With the PES, Census Bureau statisticians showed that they could produce results as technically sophisticated as *Terminator 2*. What is depressing (as has developed since Choldin's manuscript was completed) is that with the current level of funding and planning for the year 2000 census, it looks like the Congress and the Administration (which still has not put into place a director for the Bureau of the Census) are going to be satisfied with 1950s sci-fi special effects.

Richard E. Barrett
Department of Sociology, University of Illinois, Chicago, IL 60607–7140