

Joe Steinberg and the Class of 1940

Gary Shapiro
Statistics Without Borders

This paper discusses the following topics:

- Joe Steinberg's career life at the Census Bureau, the Social Security Administration, the Bureau of Labor Statistics, and as a statistical consultant
- Joe's involvement with Current Population Survey, the Survey of Economic Opportunity, and the Survey of Consumer Finance
- The goodness of Joe
- Joe's pioneering work on record linkage

1.0 Census Class of 1940, the Greatest Generation

A large number of great statisticians came to the Census Bureau for the 1940 Census, including Deming, Hansen and Waksberg, in addition to Steinberg. The class of 1940 was in full charge intellectually for the 1960 Census.

Joe was born in 1920 and died in 2013. His job became the statistical leader for all the demographic/household surveys the Census Bureau conducted.

We digress for a moment to talk about Dan Levine. He came to the Bureau somewhat later than the 1940 Census, but we mention him because of his death in early 2014. and because Dan was a great leader and a good friend and colleague of both the authors.

Dan had this to say about the class of 1940 in an oral interview (Pemberton et al 1966) "Slightly, I also had the pleasure of sitting in some of those meetings like the fly on the wall. You can so easily be intimidated by knowing that was Morris Hansen, that's Joe Steinberg...., and Waksberg... One of the traits that I remember from the early days is that if you were walking down the hall and someone starting speaking, you might jump 5 feet sideways by the force of the voice blowing you sideways. ... Some of these meetings were frightening for a junior professional; you were afraid they were going to come to blows. They finally passed a rule that if you said anything nasty about somebody you had to take money and put it in the pot, which would be used later for coffee or cake or something like that. I remember to this day a meeting where Joe Steinberg and Bob Pearl got into it hot and heavy and Bob finally leaped up from his chair and jammed his hand in his pocket and pulled out a handful of change and said 'GD it's worth every penny to tell you what a SOB I think you are'.. People took these things rather strongly, but the strength of it was when you walked out of the room the acrimony was gone. The argument was on the issue, not on the personalities."

2.0 Joe's Census Bureau Career

All the great statisticians, including Joe, started at the Bureau as clerks. It's hard to imagine in this day and age that upon completing a college degree one would then get a job as a clerk, but that was the way it was in the 30's.

The Current Population Survey (CPS) was the first full expression of the 1943 Neyman paradigm, the first real multi-stage sample, at least in the U S. Joe was very instrumental in the sample design. He wrote the CPS case study and made other contributions to the famous Hansen, Hurwitz and Madow survey sampling text (Hansen et al, 1953).

CPS served as the model for most government surveys in the US and elsewhere in the world. Joe led the way himself on several such surveys. Even today CPS is the model for many in person surveys.

3.0 Survey of Economic Opportunity

Joe was instrumental in the design of this survey as well as of CPS. The survey oversampled poor areas to supplement the basic CPS sample. It had a small sample size with a heavy oversample of areas with concentrations of minority groups, resulting in better reliability for minority data but a small effective sample size for whites. New income questions were also tested for the survey.

4.0 Survey of Consumer Finance

This survey was a dual frame design, consisting of a general population frame and an Internal Revenue Service (IRS) frame of the wealthy. The IRS frame was essential for reliable data on wealth. Joe led the initial efforts at the Census Bureau, and was able to get IRS to conduct the survey. There was a sense of “oneness” that overwhelmed the sense of narrow agency interests in those days. Joe recognized the importance, before most statisticians did, of the importance of nonsampling errors. There were nonetheless serious problems with nonsampling errors that almost sunk the survey. Joe's early work on this survey led to the exact match studies of future years.

5.0 Joe's Career After the Census Bureau

Joe left the Census Bureau in 1964 and started statistical staffs at other government agencies, first at the Bureau of Labor Statistics (BLS) and then at the Social Security Administration. There are a large number of excellent mathematical statisticians at BLS today, but there were none before Joe went there and began building a staff. On the Current Population Survey, for example, BLS was dependent on Census Bureau statisticians for even the most basic statistical issues through the 70's.

6.0 Joe Was a Mensch and Very Exacting

Joe always seemed a very private person, but helped many people in a quiet way. For example, Irene Hess got laid off twice at the Census Bureau. In the first instance Joe found her another position at Census, and in the second instance got her a position at the Institute for Social Research.

I heard anecdotes about Joe in the late 60's after Joe had left the Census Bureau. One story was that Joe would not allow anyone in his division to take any vacation time in conjunction with a business trip, so as to avoid any appearance of impropriety. This was and remains a very unusually strict policy. A second story had to do with the selection of random numbers. Random numbers were commonly applied to determine which sample primary sampling units were in sample and to determine the starting point for the selection of clusters of housing units. Joe was so intent on insuring that there was no bias in the selection process that he had the selected random numbers locked in a safe until his staff had everything set up for the use of the random numbers.

Joe had an incredible memory. I had occasion to call Joe years after he had left the Census Bureau about an event that had occurred many years before he'd left, and was amazed at Joe's ability to recall, without hesitation, all the details of the event.

7.0 Linkage to Administrative Records

Joe began work on this very early on, around 1960. He got the Social Security number added to the CPS control card, and then used this to match CPS to Social Security Administration and IRS records. Joe's goals for record linkage were realized slowly due to nonsampling error issues and the lack of resources dedicated to record linkage. Joe was recognized as an early pioneer, writing a chapter on record linkage in a 1970 book (Bisco, 1970).

Joe's dreams about record linkage were resurrected by Roger Herriot many years later. The Roger Herriot Award was given to the entire record linkage effort some 40 years after Joe's work on it. Joe of course shared (posthumously) in this award.



Joe (on left) and family

Joe Steinberg



8.0 Acknowledgments

Fritz Scheuren conceived of the idea for this paper and contributed as much or even more to it than I did. Although I am responsible for all weaknesses and errors in the paper, Fritz deserves much of the credit for the strong points in the paper.

References

- Bisco, R., Editor (1970). *Data Bases, Computers, and the Social Sciences*, Chapter 14, Joseph Steinberg.
- Hansen, M., Hurwitz, W., Madow, W. (1953). *Sample Survey Methods and Applications, Volumes 1 and 2*
- Pemberton, D, Basu, R., Tarry, N., Micarelli, W. (1996). *Oral History of Daniel Levine*, <https://www.census.gov/prod/2003pubs/oh-levine.pdf>.