SOCIAL SECURITY EXPERIENCE OF THE COHORT BORN IN 1919

Using the administrative and statistical records of the Social Security Administration we fashioned a 1-in-100 sample of 24,500 persons born in 1919 in the 48 States who had some connection with the social security program. That is, they did not die or emigrate before the Social Security Administration began the assignment of social security numbers in November 1936, nor did they die or emigrate subsequent to that date but before enumeration, nor are they currently alive and resident in the U.S. but never enumerated. The number of persons born in the 48 States has been estimated by Pascal Whelpton to be 2,740,000. Our 1-in-100 sample selection uses certain digits of the social security number.

Fashioning such a file was more difficult than one might expect. For people with more than one social security number we had to devise rules for determining which was the main number, and, therefore, whether the person is in or out of the sample. For people born in 1919 according to one file but born in another year according to another file we had to devise rules for deciding which file carried more weight.

A not uncommon problem in historical studies is that some records are not computerized. For several thousand sample persons the application for a social security number, which is our source to determine whether the person was native-born or foreign-born, exists only on microfilm in some storage location in the Pennsylvania hills, and we had to obtain microprints for these thousands of persons.

One of the issues we investigate with this file is how people born in the United States in 1919 fared under the social security program – how does the present value of the benefits each receives compare with the present value of the taxes he or she paid. We do the comparison in several ways: by the difference between the two present values, by the ratio of the two, and by the rate of return under which the two are equal. The analysis we present is as of an end-of-1999 reference point, when all the survivors in the cohort were age 80; we are currently in the process of updating the analysis to the end of 2007 (when the survivors will all be age 88). It is noteworthy that the 1919 birth cohort reached age 18 in 1937, and thus is the first cohort to be participating in the program since adulthood.

One key analytic issue is whether to include in the taxes the matching contributions of the employer, or only the contributions of the employee. Following the consensus among economists, we include the employer contribution. Next, the fact that the social security program can pay benefits not only to the worker who has paid the taxes, but to dependents and survivors, as well, leads us to another key analytic issue: should benefits to dependents and survivors be included in the benefits-to-taxes comparison. We do it both ways. For male workers the results are quite sensitive to whether these auxiliary benefits are included or excluded; for female workers, who as a whole do not have many eligible dependents and survivors, the difference is small.

The classification variables that we use are earnings level, race, and sex. Because the social security benefit formula is progressive – paying a disproportionately higher benefit to low earners, one would expect an earnings-level gradient in the experience of cohort members. Race is an interesting variable because there has been discussion whether blacks have less favorable program experience than whites because of their higher mortality, or more favorable experience because of the progressiveness of the benefit formula and their greater use of disability benefits.

Besides the aforementioned file of applications for a social security number, we use the administrative file of individual earnings histories – the Master Earnings File (MEF) – and the administrative file of individual benefit histories – the Master Beneficiary Record (MBR). For persons with multiple social security numbers we, of course, combine the earnings (or benefits) on the multiple records. Each of these files suffers from the problem of incomplete computerization mentioned above. In the MEF the string of annual earnings begins with 1951: for earnings between 1937 and 1950, only the total earnings, 1937-50, is available. The electronic MBR came into existence in 1962, and so lacks information for any account which was active only before 1962 (in our study there are 280 of these), and has incomplete information for any account which was active both before and after 1962 (383 in our study).

To address the first problem we make use of a *statistical* file maintained by the Agency called the Continuous Work History Sample, which has annual earnings detail for a 1-in-10 sub-sample of our sample. For those not in the sub-sample we use a "hot deck" method to distribute the total earnings to the years in question. Because of the second problem we drop the 280 sample persons who were active as beneficiaries only before 1962 and content ourselves with the post-1962 benefits of the 383 sample persons who were active both before and after 1962.

For persons who are deceased and there are no survivor benefits in payment status, the earnings and benefit records are considered closed and we proceed to calculate the present values as of the reference date of the stream of annual earnings and the stream of monthly benefits, using an appropriate interest rate. However, for the few persons who still are working as of the reference date we need to project future earnings. Similarly, for benefit accounts which are active as of the reference date we need to project future benefits.

Our methodology for projecting earnings for the still economically-active members of the 1919 cohort beyond the reference date draws upon the earnings experience beyond the age in question of older cohorts, such as the 1909 cohort. To help project *benefits* we used random-number generation together with mortality probabilities to simulate when each active beneficiary will die. While death terminates the benefit to the decedent it may also trigger survivor benefits which are larger than the dependent benefit that a family member was eligible for previously.