

Sampling Plan for Collection of Information from Credit Unions Regarding Garnishment Orders

A representative sample of credit unions with assets that do not exceed \$50 million will be polled to determine the typical number of garnishment orders served on smaller credit unions. To obtain both qualitative information and to ensure the sample is representative, the credit unions will also be queried to confirm data on the number of active accounts/members, and the proportion of garnishment orders that relate to individuals who do not have accounts at the credit union.

Sampling Frame. The frame from which the sample is to be drawn will be the National Credit Union Administration's list of the 3,457 active Federal credit unions with total assets that do not exceed \$50 million. The list includes the name, address, ZIP code, cycle date, and total reported assets of each institution. It is assumed that the order of credit unions on the list is not cyclic in some way that would bias the sample.

The list will be sorted by total assets and divided into three strata: assets less than \$ 2 million, assets at least \$2 million but less than \$10 million, and assets of at least \$10 million, but less than \$50 million. These three strata are of 674, 1,250, and 1,533 units respectively.

Sample Method. The sample will be drawn by applying a systematic sample to the entire frame. A systematic sample of size n is drawn from a population of size N in proportion $N/n = k$, or a $1/k$ sample, by taking every k -th element from the sampling frame after choosing a random starting point. The random starting point can be chosen from the numbers 1 through k by using a random number table. In effect, the entire population is divided into k clusters of elements and one of these clusters is chosen at random when the starting point is chosen. For this sample, $k = 13.3^1$ for a 7.5 percent sample of the population. *In order, however, to allow for a non-response rate of 25% while still achieving the 7.5 percent sample, we will use $k = 10$ to draw a 10% sample.*

A systematic sampling method will automatically draw samples within the strata such that the share of the total sample represented by any stratum will be proportional to its share of the entire population².

That systematic sampling is a method in which each element of the population has an equal chance of being selected, i.e., it is a simple random sample, even when the sample size is not an integer factor of the population is well-known³. That is, although the simplest case is where $kn = N$, the method is still valid when $N = kn + c > kn$ where c is less than k .

As necessary, we will reach out to sampled credit unions by phone to ensure the response rate of 75% within the 10% that are sampled.

¹ Fractional intervals are acceptable in systematic sampling. For a discussion, Cf. Kish, Leslie, *Survey Sampling*, (New York, John Wiley & Sons, 1965) pp. 113-123

² If the i -th stratum contains N_i elements, the size of the sample taken from the stratum will be n_i with $N_i/n_i \approx k$ unless the strata are embedded in the frame in some way that is a factor of k .

³ Cf. Raj, Des, *Sampling Theory*, (New York, McGraw-Hill, 1968) pp. 43-48.

Sample Representativeness. Although precautions were taken in establishing the sampling frame and the sampling technique to ensure that a sample which reflects the population of all institutions, additional checks will be employed to validate the representativeness of the sample. In particular, two tests will be applied in each stratum.

In the first test, the average value of assets for sample elements will be compared with the average for institutions not included in the sample. The statistical test applied will be a comparison of these two means within each stratum. The null hypothesis should not be rejected in each of the three cases.

In the second test, the geographic scope will be tested. The institutions in the sample and those not in the sample will be classified into the nine Census Bureau divisions⁴. This will generate a 9 x 2 contingency table to be tested using a χ^2 distribution. If the sample reflects the overall population by geography, the null hypothesis will not be rejected.

Data Analysis. For each stratum and for overall, data analysis generally will be to derive estimates of central tendency, such as the mean or median, and measures of the dispersion, such as the variance or deciles, of the questions requiring numeric responses. The study report will estimate mean or median values for the population. There will also be a comparison of the means between strata to identify significant cases where size affects responses.

⁴ These are listed at http://www.census.gov/geo/www/us_regdiv.pdf