Supporting Statement Part B for the
Federal Reserve Payments Study
(FR 3066; OMB No. 7100-0351)

Summary

For all information collections that involve surveys or require a statistical methodology, the Board of Governors of the Federal Reserve System (Board) is required to provide a complete justification and explanation of the use of such a methodology. For collections that employ surveys without such a methodology, the Board should be prepared to justify its decision not to use statistical methods in any case where such methods might reduce burden or improve accuracy of results.

Background

The FR 3066a and FR 3066b are part of the latest iteration of the Federal Reserve Payments Study (FRPS), which has been a collaborative effort of the Federal Reserve Bank of Atlanta (FRB Atlanta) and the Board since 2000. The FRPS originated from a Federal Reserve System-wide effort to improve the measurement and public availability of information on volumes and trends in checks and other noncash payments. The FRPS filled a significant gap in quantitative information on U.S. noncash payments by providing a reliable and transparent non-mandatory approach to surveying payment institutions, constructing U.S. domestic total estimates from the survey data, and publishing them. The focus of the surveys has adapted to the substantial evolution and growth in emerging and innovative payment types over time, as well as the refreshed strategic direction of Federal Reserve Financial Services. The strategic direction includes a focus on meeting the evolving needs of payment system users for end-to-end payment speed, efficiency, and security, while remaining true to a longstanding financial services mission to foster the integrity, efficiency, and accessibility of the U.S. payment system. Staff members in the Payments Forum and the Economic Survey Research Center at FRB Atlanta along with staff members of the Payment System Studies section at the Board jointly conduct the study.

Surveys in previous years received robust industry support and participation, and the aggregate estimates produced from the survey data are widely cited in academic working papers, journal articles, and industry publications, reported in the media, and used by the public, industry, and policy makers as a quantitative aggregate benchmark of noncash payments and cash withdrawal and deposit activity in the United States. As the noncash payments system grows larger and more complex, the Board expects the data collected under the FRPS to play a crucial role in objectively maintaining and updating quantitative information on the U.S. noncash payments system. The information collected through the FRPS is not available from other sources.

Universe and Respondent Selection

FR 3066a

The FR 3066a collects the number and value of noncash payments, cash withdrawals and deposits, third-party payments fraud, and related information from a nationally representative sample of commercial banks, savings institutions, and credit unions. A stratified population or universe is defined using administrative data on the types and sizes of insured depository institutions from reports filed with the Federal Reserve.[1] After consolidating affiliates, the calendar year 2021 population, used for the 2022 triennial survey, consisted of 9,252 independently operated institutions at the highest holding company level with non-zero transaction deposits. The 2025 survey will collect retrospective data for calendar year 2024, and the population will be based on administrative data for that year.

As in 2022, the planned 2025 triennial version of the survey will have a sample size of approximately 3,800 institutions. Sample stratification and selection methods follow classical and innovative techniques based on the state of the art of the literature on business survey methods. As before, the survey will be administered using a complex planned-missing-data design with 11 questionnaire versions allowing shorter questionnaires for smaller institutions.[2] For 2021 data, the certainty group of the largest institutions was 1,665. The remaining 2,135 institutions were selected at random with probabilities declining with size. The allocation to size groups and sampling rates will be adjusted to adapt to lessons learned from the 2022 data collection and the 2024 distribution of depository institutions once the population frame has been determined. The unit response rate in previous surveys has been roughly one-third overall, with higher response rates among the largest institutions and is expected to be similar in 2025.

FR 3066b

The FR 3066b is a set of surveys that collect the number and value of electronic payments, payments fraud, and related information from a census of major card networks, payment processors, and card issuers. There were 17 different surveys in the most recent triennial surveys (conducted in 2019 and 2022), to which participants provided information only in the survey forms applicable to their organizations. The Federal Reserve will identify the final list of networks, processors, and issuers from which to collect data once the suite of surveys to be administered is determined and prior to commencing the data collection process.

The population or universe is based on developing a sample of all relevant organizations (up to 390) and requesting data from each.[3] For cases where a response is not returned, the

[1] Size in recent triennial surveys has been defined as the sum of "checkable" transaction deposits plus funds that reside in money market deposit accounts which may be used for payment.
[2] This method has been used since 2016. Analysis of the outcome of the 2016 planned missing data survey design compared with the 2013 full survey design is discussed in Geoffrey Gerdes and Xuemei (May) Liu, "Improving Response Quality with Planned Missing Data: An Application to a Survey of Banks" in The Econometrics of Complex Survey Data: Theory and Applications, Advances in Econometrics, Volume 39, 2019, pp 237-58.
[3] In the case of transit operators, the population is defined using "unlinked rides" data reported by the US Department of Transportation. For comparison with the 2015 and 2019 surveys, a certainty sample of the largest operators may be supplemented by a stratified, representative, random sample of smaller operators.

missing items would need to be imputed using publicly available information and analysis of data from similar organizations that did provide data. In such cases, expertise and heuristic methods will be employed to estimate the missing data. Totals are constructed by summing the reported and estimated data. The 2019 triennial survey had a response rate of approximately 80 percent. Similar response rates are expected in future surveys.

Procedures for Collecting Information

FR 3066a

Using size measures obtained from regulatory reports, the population of depository institutions is stratified into sub-populations by type and size, and separate samples are drawn from each, with the sampling rate declining with size. To draw the sample, we use classical methods for determining sub-population size boundaries and total sample allocations within types, based on a general goal of minimizing the standard error of the aggregate estimates. The use of these allocation methods leads to the treatment of sub-populations with the largest institutions as a census, i.e. each member is sampled with certainty.

The size distribution of U.S. depository institutions is highly skewed, although less than in many other industries, and far less than is typically the case in other developed countries, many of which have fewer than a dozen significant deposit taking institutions. Aggregate estimates are constructed for the sub-populations using a ratio estimator technique, which, taking advantage of the high covariance between the size measures available from the population data and the volumes being collected, is substantially more efficient than alternative estimators that ignore this covariance. The approach has been designed to achieve high precision across all variables using the size covariate as a proxy. Past surveys have been able to achieve estimated confidence intervals that range as low as +/- 3 percent for some variables at the 95 percent level. This kind of precision is primarily only achieved for the most completely reported "top-line" variables, however. Nonetheless, given the unique data collected the estimates should be considered the best available national estimates for many items.

Annual supplements are conducted that collect data from the largest 120 institutions. These typically achieve approximately a 50 percent response rate. Such data are used to construct rates of change amongst the responding institutions from year-to-year.

FR 3066b

The uniqueness of each participant does not generally lend these surveys to use of formal statistical techniques, although approaches similar.

Methods to Maximize Response

FR 3066a

A large-scale effort is made to recruit the participation of sampled institutions, the survey is designed to use language and organizing principles familiar to the institutions, and review and

feedback sessions are designed to ensure the surveyed information addresses payment issues of interest and relevance to participating institutions. An incentive of a peer report is provided.

Efforts are made to recruit, assist, and accommodate the needs of institutions in two main ways. First, an elevated level of effort to recruit and garner participation from a select set of very large institutions and organizations with large payment volumes is made due to (1) the inability to increase the sampling probability of a census which is already 100 percent and (2) the fact that, all else equal, it is always preferred to expend resources at the margin on obtaining a response from the largest non-responding institution. Second, the length of surveys declines with institution size, reducing the burden on smaller institutions, and making participation more likely for a given sample size.

The ratio estimator technique—which computes the within-sample ratio of each item of interest to the corresponding institution size variable and then expands that ratio to the population size of each stratum individually—implicitly accounts for unit-level non-response as part of the estimation technique. In addition, an imputation method is used to account for missing item-level data (which included planned missing as well as unplanned) using correlations between reported items from peer respondents. Logical constraints between items are also used to enforce adding-up constraints throughout the survey. Past studies of the data have revealed no evidence of self-selection.

FR 3066b

Information from past responses and public data are used to estimate and validate the missing items of nonparticipants. Estimation is based on expert judgement in most cases as formal statistical methods are not robust enough for extremely small samples with highly heterogeneous subjects.

Testing of Procedures

Each survey builds on lessons learned from previous surveys, and changes from year-to-year are examined for plausibility. In addition, aggregate estimates that come from FR 3066a and FR 3066b that should match, such as total debit card transactions reported by depository institutions and card networks, are compared for consistency. Anomalies are investigated, described, and accounted for before finalizing estimates and are explained in reports.

FR 3066a

Estimation methods have been stable for two decades and improved incrementally when the opportunity arises. For the national aggregate estimates conducted on a triennial basis, the joint estimates based on imputed data are compared with independent estimates using only the reported data. Aggregates are built up from the stratum-level estimates, and any unusual patterns in the data or implausibly high standard errors of estimates are examined for invalid or outlying response data and adjusted accordingly.

FR 3066b

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