6/11/21

About the Annual Survey of Local Government Finances

Program name

Annual Survey of Local Government Finances

Purpose

This program is the only known comprehensive source of state and local government finance data collected on a nationwide scale using uniform definitions, concepts, and procedures. This survey obtains data on revenues, expenditures, debt and assets of counties, cities, township governments, special districts and dependent agencies when information is not available elsewhere.

Legal Authority and Confidentiality

Title 13 United States Code, Sections 161 and 182, authorizes the Census Bureau to conduct this collection and to request your voluntary assistance. These data are subject to provisions of Title 13, United States Code, Section 9(b) exempting data that are customarily provided in public records from rules of confidentiality.

Primary Customers and Users

Results of this survey are widely used by the United States Congress, federal agencies like the Bureau of Economic Analysis (BEA) and Federal Reserve Board, state governments, other local governments, educational and research organizations and the general public. Major uses of local government finance data include:

- Development of the government component of the gross domestic product estimates
- Development of the national income accounts
- Development of personal income figures for state and county areas
- Development of the flow of fund accounts
- Allocation of certain federal grant funds
- Legislative research
- Comparative studies of state and local government finances
- Public and fiscal policy analysis/research

Products

- **Key statistics produced**

  All data, summary tables, and files are released on the Internet on an annual basis beginning with the 1993 annual data series. The key statistics produced for the Survey of Local Government Finances are tables for local government finances both for the United States as a whole and for each state including the District of Columbia. During the Census of Governments, we also produce estimates by type of government. Government types include: Counties, Cities, Townships, Special Districts, and Schools.

- **Frequency of data products**

  Local government finance statistics are produced on an annual basis. Currently, this survey publishes data about 20 months after survey data is collected.

- **Geographic detail**

  Annual Survey of Local Government Finance statistics are collected from a sample of government agencies within each of the 50 states, and the District of Columbia

- **Publication level of detail**

  Annual Survey of Local Government Finance statistics are published at the national total level as well as by state total and by type within state.

- **Data dissemination**

  Currently, this survey publishes data about 20 months after survey data is collected. There is approximately two years between the reference period and data release. Revisions to published data occur annually for the next two years with five years of data being revised during each Census of Governments (years ending in “2” and “7”).

Release and Revision Schedule

- 2020 Annual Survey of Local Government Finances -Initial Release – Summer 2022
- 2019 Annual Survey of Local Government Finances –Initial Release – June 2021
- 2018 Annual Survey of Local Government Finances –Initial Release – Revised Release - June 2021

- 2017 Census of Governments Survey of Local Government Finances – Revised Release - June 2021

In the event of an unplanned data revision, revised statistics may be made available under "*Updates*" or under "*Latest Data*." Internal Census Bureau policies are followed for notifying sponsors and primary stakeholders.

Contact Us

You may contact us by phone at 1-800-832-2839 Monday through Friday, 8:00 a.m. to 5:00 p.m. Eastern Time or email us at ewd.local.finance@census.gov .

Methodology

Survey Design

Target population:
The target population consists of all 50 state governments, the District of Columbia, and all active local governmental units (counties, cities, townships, special districts, and school districts). There were over 90,000 such units in the current survey year. In years ending in '2' and '7' the entire universe is canvassed. In intervening years, a sample of the target population is surveyed. Additional details on sampling are available in the survey methodology descriptions for those years.

Sampling frame:
The sampling frame for the 2019 Annual Survey of Local Government Finances was compiled from the 2017 Governments Master Address File (GMAF) updated by births and deaths in each year. All types of governments were included in the sample frame. In addition to government unit IDs, the frame includes such variables as total revenue, total expenditures, and long term debt as of the 2017 Census of Governments (CoG) that are used to compute a measure of size for sampling purposes (see "Sample Design" below).

Sampling unit:
The basic sampling unit is the governmental unit, defined as an organized entity which in addition to having governmental character, has sufficient discretion in the management of its own affairs to distinguish it as separate from the administrative structure of any other governmental unit.

Sample design:

The 2019 sample for the Annual Survey of Local Government Finances was selected from the 2017 Census of Governments It was designed to produce estimates of total expenditures, total revenues, and long-term debts with a coefficient of variation (CV) of 3.0% or less for all states and at all published levels of aggregation, and estimates of sales and property tax with a CV of 5.0% or less for all states at the state and local government combined level of aggregation. The sample included all independent schools since their data were obtained from other education surveys. All state

governments were included in the sample as well. Non-school local units were first stratified by state and government types. Units were then further stratified by size using the equal aggregate method (Mahalanobis, 1952), and a simple random sample without replacement was drawn within each stratum.

The sample size as of initial sample selection in 2019 was 10,533 local non-school units. Of the total number of local governments in the non-school sample, 16.2% were counties, 36.6% were cities, 7.2% were townships, 40% were special districts. All 50 state governments, the District of Columbia, and independent school districts were certainty units with a weight of 1.0000.

The universe was first stratified by state and government type; for these purposes cities and townships (i.e., all sub-county general purpose local governments) were considered a single government type. All units meeting the following criteria were assigned to initial certainty strata:

All county governments with a 2017 population of 500,000 or more
All cities and townships with a 2017 population of 200,000 or more
All local government units in Hawaii and the District of Columbia
Any other units deemed large or influential by subject matter experts

Non-certainty units were next assigned a measure of size (MOS) based on the maximum of total expenditures and a ratio-adjusted second variable depending on the unit's sampling type:

- Counties: total taxes
- Cities and towns: total revenue
- Special districts: long-term debt

Even after the removal of initial certainty units an appreciable number of units remain with an MOS that is so large that under a probability proportional to size sampling plan their probability of selection would be greater than 1. These units are identified via an iterative process and are assigned to second certainty strata. All remaining units were then further stratified into between 1 and 7 size based strata, and a simple random sample without replacement was drawn within each final stratum.

The design weight for each unit in the sample is the inverse of that unit's probability of being selected into the sample. For example, for units that were included in the sample with a probability of 0.0200, the weight is (1/0.0200) =50.0000.

After accounting for births since initial sample selection the final 2019 sample contained 10,822 local government units allocated across 944 strata.

In addition to the sample of local governmental units, ALFIN makes use of data from two additional Census Bureau sources. Data regarding some government financial activities associated with public pension systems are obtained via the Annual Survey of Public Pensions; for more details on this survey see https://www.census.gov/programs-surveys/aspp.html. Financial data from independent school districts are obtained via the Annual Survey of School System Finances for which details can be found at https://www.census.gov/programs-surveys/school-finances.html.

Frequency of sample redesign: The sample is retained for 5 years. The current sample was drawn in 2019 and the next sample will be drawn in 2024 based on the results of the 2022 Census of Governments.

Sample maintenance:

- Newly incorporated governmental units ("births") created since the completion of the 2017 Census of Governments processing cycle that have been identified on the sampling frame were sampled in a separate process from the initial 2019 sample design. While in many years the number of newly incorporated governments is sufficiently small that all can be included as certainty units in 2019 sampling was necessary due to the large number of birth units.
- All city and township births were included with certainty in 2019. Special district governments that met initial certainty criteria were also included with certainty. Remaining special district governments were stratified by state and sampled at a rate of approximately 30%. Disincorporated governmental units ("deaths") since the completion of the 2017 Census of Governments Survey of Local Government Finances processing cycle were removed from the sample. Sample weights of remaining sample units are either adjusted to account for the change in sample size, or new units are selected from the frame in order to keep sample sizes constant.

Data Collection

Data items requested and reference period covered: This survey collects data on revenues, expenditures, debt, and assets (cash and security holdings) for U.S. governments. The 2019 Annual Survey of Local Government Finances questionnaire can be found here.

A survey year includes each individual government's fiscal year that ended between July 1 of the previous year and June 30 of the survey year. Therefore, survey year 2019 covers individual government fiscal years that ended from July 1, 2018 through June 30, 2019.

Key data items: All data items are key data items with the exception of exhibit codes.

Type of request: The 2019 Annual Survey of Local Government Finances is a voluntary survey.

Frequency and mode of contact: The following are important dates in the data collection process for fiscal year 2019:

January 2020 – Initial mail-out
February 2020 – Due Date Reminder
March 2020 – Follow up mail-out #1
April 2020 – Follow up mail-out #2
April – May 2020, June 2020 – Telephone follow-up

Data collection unit: The basic sampling unit is the governmental unit, defined as an organized entity which in addition to having governmental character, has sufficient discretion in the management of its own affairs to distinguish it as separate from the administrative structure of any other governmental unit. The 2019 sample contained 10,882 local government units.

Special procedures: 27 states have central collection arrangements with the U.S. Census Bureau. These states get special mailings for all or specific types of government units within that state.

Compilation of Data

Editing: Editing is a process that tries to ensure the accuracy, completeness, and consistency of the survey data. Efforts are made at all phases of collection, processing, and tabulation to minimize reporting, keying, and processing errors.

Although some edits are built into the Internet data collection instrument and the data entry programs, the majority of the edits are performed post collection. Edits consist primarily of four types: (1) *consistency edits,* (2) *historical ratio edits* of the current year's reported value to the prior year's value, (3) *current year ratio edits*, and (4) *balance checks*.

The *consistency edits* check the logical relationships of data items reported on the form. For example, if interest on debt is reported, then there must be debt.

The *historical ratio edits* compare data for the current year to data for the prior year or prior census year. If data fall outside of acceptable tolerance levels, the item is flagged for further review. For example, the reported property tax for the current year may be compared against the property tax last year, if the reporting unit was in last year's sample. If it was not in last year's sample, the current year value is compared to the prior census year value.

The *current year ratio edits* compare one data item on the form against a different data item. If data fall outside of acceptable tolerance levels, the item is flagged for further review. For example, airport expenditure to airport revenue is a current year ratio.

Balance checks are checks of linear relationships that exist in the data. Debt flow is an example of a *balance check*. The ending debt must equal the beginning debt plus the debt issued minus the debt retired.

After all data are edited and imputed, they are aggregated. A macro-edit, or aggregate-level, review is conducted with current year state aggregates compared to prior year and prior census aggregates. Macro-level ratio edits and tolerance levels were developed using the current year data.

For the *ratio edits, consistency edits, balance checks, and macro edits*, the edit results are reviewed by analysts and adjusted as needed. When the analyst is unable to resolve or accept the edit failure, contact is made with the respondent to verify or correct the reported data. The results of the action are tracked with a data edit flag.

Nonresponse:

Nonresponse is defined as the inability to obtain requested data from an eligible survey unit. Two types of nonresponse are often distinguished. Unit nonresponse is the inability to obtain any of the substantive measurements about a unit. In most cases of unit nonresponse, the Census Bureau was unable to obtain any information from the survey unit after several attempts to elicit a response. Item nonresponse occurs either when a question is unanswered or unusable.

Nonresponse adjustment and imputation:

The 2019 Annual Survey of Local Government Finances used imputation, which is the procedure for determining a value for a specific data item where the response is missing or unusable, to provide estimates.

Other macro-level adjustments:

No other macro-level adjustments are used.

Tabulation unit:

The most detailed level of unit used for estimation is the type of local government (e.g., county, city, township, special district).

Estimation:

Estimates are released in two formats: the downloadable file and the viewable file. The downloadable file contains estimates at the (state) by (item code) level for all item codes collected by the survey and defined as in scope for the relevant level of government. The viewable file contains estimates of higher level aggregates created by summing item codes at both the state and national levels.

In Hawaii and the District of Columbia since all local government units were included as certainties estimates are produced via simple tabulation. In all other states the item code totals in the downloadable file are estimated via a hybrid of two methodologies: a unit level Empirical Bayes model or a Horvitz-Thompson (HT) estimator. Under the Empirical Bayes model a linear mixed model is fit via restricted maximum likelihood (REML) which is then used to predict the sample year values of all out-of-sample units. State by item code totals are then calculated as the sums of observed sample values and out-of-sample unit level predictors. The HT estimator calculates cell totals using sample values and the design weights discussed in the "Sample Design" section above. Cells for revenue and expenditure item codes were assigned to an estimator based on the results of previous simulation research conducted by ESMD. Totals for all debts and assets and item codes associated with pension systems were estimated using HT. The aggregates in the viewable file were then produced as sums of the calculated item code totals published in the downloadable file.

Sampling Error:

The sampling error of an estimate based on a sample survey is the difference between the estimate and the result that would be obtained from a complete census conducted under the same survey conditions. This error occurs because characteristics differ among sampling units in the population and only a subset of the population is measured in a sample survey. The particular sample used in this survey is one of a large number of samples of the same size that could have been selected using the same sample design. Because each unit in the sampling frame had a known probability of being selected into the sample, it was possible to estimate the sampling variability of the survey estimates.

Common measures of the variability among these estimates are the sampling variance, the standard error, and the coefficient of variation (CV), which is also referred to as the relative standard error (RSE). The sampling variance is defined as the squared difference, averaged over all possible samples of the same size and design, between the estimator and its average value. The standard error is the square root of the sampling variance. The CV expresses the ratio of the standard error to the estimate. The sampling variance, standard error, and CV of an estimate can be estimated from the selected sample because the sample was selected using probability sampling. Note that measures of sampling variability, such as the standard error and CV, are estimated from the sample and are also subject to sampling variability. It is also important to note that the standard error and CV only measure sampling variability. They do not measure any systematic biases in the estimates. The Census Bureau recommends that individuals using these estimates incorporate sampling error information into their analyses, as this could affect the conclusions drawn from the estimates.

Two methods are used to estimate standard errors for the 2019 Annual Survey of Local Government Finances. For totals estimated using a Horvitz-Thompson estimator, the Yates-Sen-Grundy variance estimator is used. For totals estimated using the Empirical Bayes model, a parametric bootstrap is used. Each downloadable and viewable table contains a column that gives users the coefficients of variation (or relative standard error) that have been computed for these estimates. Note that since Hawaii and the District of Columbia were not subject to sampling all state level estimates in those two states will have standard errors and CVs equal to 0.

Nonsampling Error

Nonsampling error encompasses all factors other than sampling error that contribute to the total error associated with an estimate. This error may also be present in censuses and other nonsurvey programs. Nonsampling error arises from many sources: inability to obtain information on all units in the sample; response errors; differences in the interpretation of the questions; mismatches between sampling units and reporting units, requested data and data available or accessible in respondents' records, or with regard to reference periods; mistakes in coding or keying the data obtained; and other errors of collection, response, coverage, and processing.

Although every effort (as described in the Data Processing section) is made in all phases of collection, processing, and tabulation to minimize errors, the data are subject to non-sampling errors such as inability to obtain data for every variable from all units in the population of interest, inaccuracies in classification, response errors, misinterpretation of questions, mistakes in keying and coding, and coverage errors. Precise estimation of the magnitude of nonsampling errors would require special experiments or access to independent data and, consequently, the magnitudes are often unavailable.

The Census Bureau recommends that individuals using these estimates factor in this information when assessing their analyses of these data, as nonsampling error could affect the conclusions drawn from the estimates.

The Unit Response Rate (URR) is defined as the percentage of eligible sample that actually responded to the survey. In determining the unit response rate a unit was defined as a

respondent if it provided information on at least one variable or if a CAFR was available. The overall unit response rate to the 2019 Annual Survey of Local Government Finances was 90.4% percent. All of the 50 state governments responded to the survey.

The Total Quantity Response Rate (TQRR) was calculated for four key variables (expenditures, revenues, debts, and assets) for each state and at the national level. This response rate is computed separately for each key variable by taking the weighted sum of the data provided by the respondents for the key variable and dividing this quantity by the weighted sum of the reported respondent data plus the weighted sum of imputed data for the key variable (see "Sample Design" for discussion of design weights); the result is multiplied by 100.

Some item codes in the 2019 Annual Survey of Local Government Finances can take both positive and negative values. However, TQRRs that are calculated using both positive and negative unit values do not carry their usual meaning. For such surveys one solution is to calculate separate TQRRs for positive and negative values. Since this survey does not include enough units that reported negative item code values to calculate TQRRs for negative valued items, TQRRs are calculated for positive item values only. In survey year 2019 we calculated the following TQRRs at the national level for the four key variables:

Level of Government	Expenditures	Revenues	Debts	Assets
State & Local	96.5%	96.5%	95.6%	95.6%
Local	92.7%	92.6%	93.5%	91.2%

History of Survey Program

Prior to 2013 expenditure and revenue item codes were estimated using a calibration method and all other item codes were estimated using an HT estimator. This was changed to the Empirical Bayes model discussed in "Estimation" above based on research performed by the Economic Statistical Methods Division in order to improve estimator performance.