2015 Census of Governments: Finance—Survey of Public Pensions:
State- and Locally-Administered Defined Benefit Data

Systems Methodology

The U.S. Census Bureau sponsors and conducts the Survey of Public Pensions as authorized by Title 13, United States Code, Sections 161 and 182.

The survey measures revenues, expenditures, financial assets, and membership information for public-employee pension systems classified as defined benefit plans. Data are shown for individual pension systems as well as at the national, state, and local government level. The survey yields a series of tables and files that provide users with comprehensive statistical information about the financial activity and membership of state and local government employee pension systems.

Population of Interest

The population of interest for this survey includes public employee pension systems or funds administered by state and local governments throughout the nation. Pension systems are only included if they meet the following two criteria: (1) they are sponsored by a recognized unit of government as defined by the Census Bureau and (2) their membership is comprised of public employees compensated with public funds. These pension systems consist of defined benefit plans – not defined contribution or post-employment healthcare plans. In years ending in '2' and '7' the entire universe is canvassed as part of the Census of Governments. In intervening years, a sample of the population of interest is surveyed.

Content of the Survey

A pension system is a pension plan in which investments, contributions, and benefits are administered as a separate entity independent of the parent government general fund. Assets are accumulated and benefits paid under a particular set of actuarial assumptions, including employee age, compensation, and service credits. They include single employer systems, in which one government is the sole sponsor of the pension plan, as well as multiple employer systems, where two or more governments maintain membership on behalf of their employees.

For both the Census of Governments and the annual survey, the detail of the data is equivalent, encompassing the entire range of financial activity for government employee pension systems – benefits paid, government contributions, employee contributions, and total holdings and investments. Total holdings and investments data include securities and other assets, such as cash and short-term investments, corporate bonds and stocks, and mortgages held directly.

The 2015 survey year encompasses fiscal years that end between July 1, 2014 and June 30, 2015. Most state- and locally-administered pension systems have fiscal years that end on June 30th and for those systems, the 2015 survey year covers the period from July 1, 2014 to June 30, 2015. For those state- and locally-administered pension systems with fiscal years that end **after** June 30th, the survey year includes data from their 2014 fiscal year.

There are exceptions to the fiscal year definition rule for the state pension systems in Alabama, Michigan, and Texas. For systems in these states, the fiscal year moves beyond the June 30th cutoff, so these data for survey year 2015 covers the fiscal year from September 1, 2014 to August 31, 2015 (TX), and from October 1, 2014 to September 30, 2015 (AL, MI). This exception is applied in order to better align the pensions data with data from the Survey of Government Finances.

The forms listed below are used to collect these data. The variables collected on these forms are explained in detail in the 2006 Government Finance and Employment Classification Manual.

Form Number	Survey Name
F-11 FY2015	Locally-Administered Defined Benefit Plans
F-12 FY2015	State-Administered Defined Benefit Plans

Data Collection

Data collected for the 2015 Census of Governments: Finance—Survey of Public Pensions: State- and Locally-Administered Defined Benefit Data are a matter of public record and are not confidential, as authorized by Title 13, United States Code, Section 9. Data for this survey were collected using the F-11 and F-12 forms listed in the Content of the Survey section above.

Forms were mailed to the 299 state government employee pensions funds and 1,774 local government employee pension systems. Staff contacted nonrespondents through a follow-up mailing and by way of follow-up telephone calls. All respondents were requested to report their data on the Census Bureau's Internet data collection instrument. Data were submitted electronically for 45.2 percent of the state and local pensions respondents in 2015. When a system returned its Comprehensive Annual Financial Report (CAFR) instead of completing the form, Census Bureau staff compiled the data using the report. Staff also used CAFRs available on the Internet to compile data for nonrespondents.

The data collection schedule used for the 2015 Census of Governments: Finance—Survey of Public Pensions: State- and Locally-Administered Defined Benefit Data was as follows:

Initial mail-out	October 2015
Follow-up mail-out	November 2015-January 2016

Data Processing

Editing

Editing is a process that ensures survey data are accurate, complete, and consistent. Efforts are made at all phases of collection, processing, and tabulation to minimize 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 two types: consistency edits and historical ratio edits of the current year's reported value to a prior year's value.

The consistency edits check the logical relationships of data items reported on the form. For example, if a value exists for the number of retirees receiving benefits because of age or length of service then there must be a value reported for the amount of benefits paid.

The historical ratio edits compare by item code the data reported for the current year with data reported for the prior year or prior census for those not in the sample in the prior year. If data fall out of acceptable tolerance levels, the item is flagged for review.

For both types of edits, the edit results are reviewed by analysts and adjusted when needed. When analysts are unable to resolve or accept an edit failure, contact is made with the respondent to verify or correct the reported data.

Imputation

Not all respondents answer every item on the questionnaire. Effective with the 2012 Census of Governments: Finance—Survey of Public Pensions: State- and Locally-Administered Defined Benefit Data, the Survey improved upon item imputation methodology to fill in missing data based on grouping similar pension systems together. Both partial and full nonrespondents were imputed using either a mean growth rate, median growth rate, adjusted mean, mean, or direct substitution. These methods are applied to certain variables based on research conducted in 2012.

Nonsampling Error

The data from this survey are not from a sample and are not subject to sampling error, but they are subject to nonsampling error. Although every effort (as described in the Data Processing section) is made in all phases of collection, processing, and tabulation to minimize errors, these data are subject to nonsampling errors such as the inability to obtain data for every variable from all units in the survey, inaccuracies in classification, nonresponse errors, misinterpretation of questions, mistakes in keying and coding, and coverage errors.

Overall Response Rate

The overall response rate for the 2015 Census of Governments: Finance—Survey of Public Pensions: State- and Locally-Administered Defined Benefit Data was 55.1 percent. The response rate was calculated as the number of responses received divided by the number of parent governments mailed minus the number of governments that were determined to be out of scope.

Total Quantity Response Rate

The Total Quantity Response Rate for Total Holdings and Investments (Z81) of the 2015 Census of Governments: Finance—Survey of Public Pensions: State- and Locally-Administered Defined Benefit Data was 97.2 percent. The Total Quantity Response Rate was calculated as the value of "total holdings and investments" reported divided by the estimated total value of "total holdings and investments" of those units mailed minus those systems that were determined to be out of scope.

Sample Design

The sampling frame for the 2015 sample design consists of 6,305 state and local government funded retirement systems, which includes about 2,000 new systems added to frame, or births. Some criteria were required to select certainties, or the retirement system units with a selection probability of 1.000. If the birth universe is relatively small then all birth units are designated as certainties and added to the sample. Otherwise, a sample of births is drawn, which was done for the 2015 sample design. The birth sample design depends on the available data for these retirement system units.

The key variable Z81 (total cash and investment holdings) was used as a measure of size for the proportion-to-size sample design without replacement within each state and type of the governmental unit. For the units that are missing Z81, which is limited to a subset of the birth units, the ratio of the proxy Z81 to the total employees is used to construct the strata using the cumulative square root of the frequency method (Dalenius & Hodges, 1959; Cochran, 1977, p. 130). The final sample was drawn with a sample size of 2,074 units out of the 6,305 units on the sampling frame.

Estimation

The Horvitz-Thompson estimator is used to do the estimations. The output files from estimation contain two deliverables: one for the BEA and one for publication. Both of the outputs provide the totals for local, state, and state & local levels. The BEA output provides the total for a subset of the retirement variables. The publication output provides thirty seven retirement categories. The coefficient of variance (CV) is included for each total to reflect the relative sampling error, which measures the precision of the estimates. The variance of the total is computed via the Taylor series approach, which is provided by PROC SURVEYMEANS of the SAS software system. Besides those two deliverables, the Response Rate (RR) and the Total Quantity Response Rate (TQRR) are calculated to measure the quality of the survey data.

The Horvitz-Thompson estimator is an unbiased estimator; however, it loses precision for cells with small sample sizes. Moreover, imperfections in the editing and imputation processes degrade the unbiasedness of the Horvitz-Thompson estimator.

Limitations

Effective with the 2015 survey, the unit of analysis for state-administered pension plans has changed. These changes treat each pension fund as a separate unit of analysis rather than as part of a larger system. This change was implemented to better capture actuarial data in accordance with Government Accounting Standards Board (GASB) statements 67 & 68.

Effective with the 2015 survey, the universe of locally-administered pension systems has been enhanced. More than 2,200 pension systems were added to the universe, addressing an issue with under-coverage in prior survey years.

Effective with the 2012 survey, the survey form was revised to implement changes in asset classification. These changes apply to the categories designated as corporate stocks, corporate bonds, federal government securities, state and local securities, and other securities. Federally-sponsored agency securities are classified under federal government securities instead of corporate bonds. Private equity, venture capital, and leverage buyouts are classified under corporate stocks instead of other securities.

Due to these changes in asset classification, there are shifts in the distribution of assets from corporate bonds to federal government securities and from other securities to corporate stocks. However, since investment decisions guide the distribution of assets, we cannot calculate the exact impact that the changes in classification had on the asset distribution for 2012.

As such, for the above mentioned categories, any data comparisons between 2012 or 2015 and prior years should be done with caution.