

User Guide

2018 Form 5500 Private Pension Plan Research File

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Contents of the 2018 Form 5500 PPP Research File Zipped File

File name	Type	Contents
Bulletins		
Private Pension Plan Bulletin Historical Tables and Graphs.pdf	Adobe PDF	<i>Private Pension Plan Bulletin Historical Tables and Graphs:1975-2018</i>
2018 Private Pension Plan Bulletin [FINAL].pdf	Adobe PDF	<i>Private Pension Plan Bulletin Abstract of 2018 Form 5500 Annual Reports</i>
Documentation		
2018 Form 5500 PPP Research File User Guide.pdf	Adobe PDF	This document.
Name-Filled Forms	Adobe PDF	Shows variable names and where they are found on the Form 5500 and various schedules.
SAS Files		
Format source.sas	SAS program	Creates the format library that must exist before any SAS programs can be run on the SAS data set above.
BUL18.sas7bdat	SAS data set	The 2018 Form 5500 Private Pension Plan Research File. SAS Version 9 data set created under Windows XP Professional containing file used to create the Private Pension Plan (PPP) Bulletin, Abstract of 2018 Form 5500 Annual Reports. Variables are from Form 5500, Form 5500-SF, Schedule H, and Schedule I.
A1.sas	SAS program	Creates PPP Bulletin Table A1, and illustrates the use of weight F_WGT for variables that are flows, and S_WGT for variables that are stocks.
A3, A4, C4, C9, etc.	SAS Program	More examples of PROC TABULATE code used to create bulletin tables. Additional examples of PROC TABULATE code available upon request.

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Volume I: 2018 Private Pension Plan Research File

I. Introduction

a) The Form 5500 Private Pension Plan Research File User Guide

This document, the Form 5500 Private Pension Plan Research File User Guide (“PPP User Guide”), explains the universe of plans included in the *Private Pension Plan (PPP) Research File*, the weights that are applied, the editing of the data, and the addition of a number of generated variables. The PPP User Guide also provides clarity on the process that synthesizes information across the Form 5500 and its Schedules, which are used to classify and describe plan statistics.

The *PPP Research File* contains the data used to develop the *Private Pension Plan Bulletin* (“*PPP Bulletin*”), an annual abstract of Form 5500 annual reports. These items are developed by the Department of Labor’s (the Department or DOL) Employee Benefits Security Administration’s (EBSA) Office of Policy and Research (OPR).

b) The Form 5500

Under Title I and Title IV of the Employee Retirement Income Security Act (ERISA) and under the Internal Revenue Code, most private sector employer sponsored employee benefit plans are required to provide annual reports on the plan’s financial condition, investments, and operations with the Department, Internal Revenue Service (IRS), and the Pension Benefit Guaranty Corporation (PBGC). Beginning in 1975, the Department, the IRS, and the PBGC jointly developed the Form 5500 Series (the Form 5500) to assist employee benefit plans in satisfying the plan’s annual reporting requirements. Employers and administrators who comply with the instructions for the Form 5500 Series generally will satisfy the annual reporting requirements for the IRS and DOL.

The Form 5500 Series originally consisted of the Form 5500 Annual Return/Report (the Form 5500) and various Schedules with accompanying Attachments. Beginning in 2009, the Form 5500 was expanded to allow certain plans to file a simplified Form 5500-SF: Annual Return/Report of Small Employee Benefit Plan (the Form 5500-SF) in lieu of the Form 5500 and its Schedules. The Form 5500 captures information regarding the plan’s types of benefits offered; the number of active, retired, and separated participants; the method of funding; the business code of the sponsor; the entity type of the sponsor; etc.

Since January 1, 2010, the Department has used a filing system called EFAST2. Under EFAST2, all Form 5500 filings are required to be submitted electronically. Form 5500 filers can either electronically prepare and submit a plan year Form 5500 Annual Return/Report using EFAST2-approved third-party software or electronically prepare and submit a plan year Form 5500 Annual Return/Report using a free limited-function web application. As a result, all Form 5500 data is now directly available as tables under the EFAST2 system. Any additional attachments, such as the report of auditors, are available only as a PDF image.

The following employer sponsored retirement benefit plans are required to file a Form 5500¹:

- Profit-sharing plans, stock bonus plans, money purchase plans, 401(k) type plans, etc.
- Annuity arrangements under Code section 401(b)(1) and custodial accounts established under Code section 403(b)(7) for regulated investment company stock
- Individual retirement accounts (IRAs) established by an employer under Code section 408(c)
- Church pension plans electing coverage under Code section 410(d)
- Pension benefit plans that cover residents of Puerto Rico, the U.S. Virgin Islands, Guam, Wake Island, or American Samoa. This includes plans that elect to have the provisions of section 1022(i)(2) of ERISA apply
- Plans that satisfy the Actual Deferral Percentage requirements of Code section 401(k)(3)(A)(ii) by adopting the “SIMPLE” provisions of section 401(k)(11)

The following pension benefit plans are not required to file²:

- Unfunded excess benefit plans
- Annuity or custodial account arrangements under Code sections 403(b)(1) or (7) not established or maintained by an employer as described in DOL Regulation 29 CFR 2510.3-2(f)
- Savings Incentive Match Plans for Employees of Small Employers (SIMPLE) that involve SIMPLE IRAs under Code section 408(p)
- Simplified employee pensions (SEP) or a salary reduction SEPs described in Code section 408(k) that conform to the alternative method of compliance in 29 CFR 2520.104-48 or 2520.104-49³
- Church pension benefit plans not electing coverage under Code section 410(d)
- Pension plans that are maintained outside the United States primarily for the benefit of persons substantially all of whom are nonresident aliens
- Unfunded pension plans for a select group of management or highly compensated employees that meet the requirements of 29 CFR 2520.104-23, including timely filing of a registration statement with the DOL
- Unfunded dues financed pension benefit plans that meet the alternative method of compliance provided by 29 CFR 2520.104-27
- Individual retirement accounts or annuities not considered pension plans under 29 CFR 2510.3-2(d)
- Governmental plans
- One-Participant (Owners and Their Spouses) Retirement Plans (generally referred to as One-Participant Plans)⁴

¹ Please see the *2018 Instructions for Form 5500 Annual Return/Report of Employee Benefit Plan*, located at <https://www.dol.gov/sites/default/files/ebsa/employers-and-advisers/plan-administration-and-compliance/reporting-and-filing/form-5500/2018-instructions.pdf>, for more information on filing requirements.

² Ibid.

³ A SEP is a pension plan that meets certain minimum qualifications regarding eligibility and employer contributions.

⁴ However, certain one-participant plans are required to file the Form 5500-EZ, Annual Return of One-Participant (Owners and Their Spouses) Retirement Plan, with the IRS or, if eligible, may file the Form 5500-SF. Form 5500-SF filings by one-participant plans are not included in the Form 5500 Private Pension Plan Research File.

c) The Form 5500 Private Pension Plan (PPP) Research File

This *PPP Research File* includes data on retirement benefit plans filing a Form 5500 or Form 5500-SF that reported a plan year ending date in the given year. The *PPP Research File* SAS database consists of edited data from Form 5500 filings for all large private pension plans (large plans are defined as those reporting 100 or more plan participants) and all small private pension plans (small plans are defined as those reporting fewer than 100 plan participants) for a plan year. Data for the *PPP Research File* is taken only from the Form 5500, Form 5500-SF – Short Form Annual Return/Report of Small Employee Benefit Plan, Schedule H – Financial Information – Large Plan, and Schedule I – Financial Information – Small Plan.⁵

⁵ Researchers who wish to analyze information on other Form 5500 Schedule and attachments may use the raw data, available at <https://www.dol.gov/agencies/ebsa/about-ebsa/our-activities/public-disclosure/foia/form-5500-datasets>. By merging the raw data with the *PPP Research File*, researchers may benefit from the research file's editing, weighting, and plan classification.

II. Creation of the 2018 PPP Research File

The process of creating the 2018 *PPP Research File* involves determining an appropriate date on which to begin data analysis, extracting an appropriate subset of data, removing welfare and Direct Filing Entity filings, editing the data, and creating new fields with which to classify and describe plans. The sections below outline and provide detail on each step of the process.

a) Timing of Data Extraction

In order to produce statistics as quickly as possible, the *PPP Research File* summarizes annual reports by utilizing a “plan year ending date” methodology. This means that all plans with a plan year ending date in the analysis year are included. For instance, the *2018 PPP Research File* includes filings with a plan year ending date between 1/1/2018 and 12/31/2018. Approximately 90 percent of pension plans operate on a calendar year basis, i.e., the plan year begins on January 1 and ends on December 31. The remaining 10 percent of plans operate on a non-calendar year basis.

According to the Form 5500 Instructions, filings are required by the last day of the 7th month after the end of the plan year. Under certain circumstances, additional time may be granted. For this reason, it is important to allow sufficient time for the data to be submitted to the Department.

Based on an analysis of filer behavior, OPR has determined that at least 10 months are required to allow the accrual of sufficiently robust data for use in developing the *PPP Research File*. While a sufficient number of initial filings have been received within 10 months of the end of the calendar year, amendments to filings already received and late filings continue to be submitted. For this reason, OPR has typically required an additional six-month period to pass before beginning work on the *PPP Research File*.

b) Data Selection

Once a sufficient period of time has passed, an extract of Form 5500 data is drawn from EBSA’s electronic data systems. To facilitate this process, OPR maintains a table called BEST_FILING which aids in sorting and selecting filings. The table is produced on a weekly, recurring basis by EBSA’s technical contractors. This table has an observation for each Form 5500 or Form 5500-SF filing received by DOL. It contains all filings received by DOL, including original and amended filings. This means that there can be multiple filings in a given year for a single plan if changes were made to the original filing or the filing was submitted more than once.

The filings are grouped by employer identification number (EIN), plan number (PN), and plan year ending date. Note that if a single EIN has multiple filings under the same PN with *different* plan names, a letter is appended to the PN in order to differentiate between potentially unique plans, and groupings are then adjusted accordingly. The filings in these groupings are sorted by a number of factors, including whether there was an error in the processing of the filing, the time it was received, the number of participants, and the plan year beginning date. One of the filings in an EIN/PN/plan year ending date grouping is flagged for selection in the *PPP Research File*.

1. Short Plan Year Filings

It is possible for multiple filings with the same EIN and PN to be selected for inclusion in the *PPP Research File*—however, the filings would have different plan year ending dates. The reason for this is short plan year filings. Plans that are changing their plan year ending date must file a short plan year filing. For instance, consider a plan with plan year beginning date of July 1, 2017 and plan year ending date of June 30, 2018. If this plan wishes to change its ending date to December 31, 2018, it must file one Form 5500 covering July 1, 2017 to June 30, 2018 and another covering July 1, 2018 to December 31, 2018. In cases such as these, both filings from the EBSA database are included on the research file. The flag variable `BEST_FOR_PLAN` is set to 1 for the filing with the latest plan year ending date, and 0 for all others. In the example above, the filing ending December 31, 2018 would have `BEST_FOR_PLAN` equal to 1 while the filing ending June 30, 2018 would have `BEST_FOR_PLAN` equal to 0.

2. Nonoverlap

As noted above, plans sometimes have more than one filing that belongs in a given *PPP Research File* based on the plan selection methodology described above. For instance, a plan that is changing its plan year ending date may file a Form 5500 for its full plan year and then submit an additional short plan year filing (see “Short Plan Year Filings” section above for an example). In this instance, it is necessary to include both filings in the *PPP Research File*. Filings of this type should never have overlapping periods.

It is possible for a plan to submit filings with overlapping plan years. As an example, a plan might submit a filing from January 1, 2018 to July 31, 2018 and a different filing that has beginning and ending dates of February 1, 2018 and December 31, 2018. Since plans are selected based on EIN, PN, and plan year ending date, the original data extract taken for the *PPP Research File* would include both overlapping filings. Overlapping filings with the same EIN and PN are removed in order to ensure appropriate counting of both stock amounts (such as plans and participants) and flow amounts (such as income and expenses). In general, the algorithm for removing overlapping filings gives preference to more recent filings covering longer periods of time.

c) Welfare Plans

Certain plan filings are excluded when identified as welfare plans through the following algorithm. A filing is excluded if all of the following are true:

- the plan is not flagged as defined benefit (DB) or defined contribution (DC),
- the pension benefit code field (`TYPE_PENSION_BNFT_CODE`) is blank,
- the type welfare benefit code field (`TYPE_WELFARE_BNFT_CODE`) is not blank, and
- the plan name contains one of the following strings: 125 PLAN, ACCIDENTAL DEATH, AD&D, CAFETERIA PLAN, DEATH PLAN, DENTAL AND VISION, DENTAL PLAN, DENTAL PROGRAM, DISABILITY PLAN, DISMEMBERMENT, EMPLOYEE ASSISTANCE, FLEXIBLE BENEFIT, FRINGE BENEFIT, GROUP ACCIDENT, GROUP HEALTH, GROUP LIFE, GROUP MEDICAL, GROUP VISION, HEALTH BENEFIT PLAN, HEALTH CARE PLAN, HEALTH PLAN, INJURY BENEFITS, LIFE PLAN, LTD PLAN, MEDICAL PLAN, MORTUARY FUND,

PREMIUM ONLY, RETIREE HEALTH FUND, SECTION 125, SEVERANCE PAY, SEVERANCE PLAN, STD PLAN, SUPPLEMENTAL UNEMPLOYMENT, TERM DISABILITY, VACATION PLAN, WELFARE BENEFIT, or WELFARE PLAN.

d) Direct Filing Entities

Some pension plans participate in investment arrangements that are either required or can choose to file a Form 5500. In these instances, the participating plans receive certain relief in financial reporting. Investment arrangement entities which file the Form 5500 are referred to as Direct Filing Entities (DFEs). Given that DFEs are not pension plans, they are not present on the *PPP Research File*. DFEs identify themselves by checking the box for DFEs on line A of Part I of the Form 5500. OPR reviews all such filings and excludes those that are clearly associated with a DFE—as opposed to filed as DFE in error—from the sample that underlies the *PPP Research File*.⁶

e) Removal of Duplicate Filings

As discussed above, the variable `BEST_FOR_PLAN` is set equal to one for only one filing in each EIN/PN grouping (see “Short Plan Year Filings” section). Theoretically, this should ensure the *PPP Research File* does not contain duplicate filings. However, if an EIN/PN grouping has more than one filing with different plan names, a unique letter is appended to the end of the PN of each filing, and all filings are included in the original data extract. This ensures a maximally inclusive grouping, since plans sometimes erroneously file for two different plans with the same PN. For example, if a company files separate Form 5500 reports for “ABC Defined Contribution Plan” and “ABC Defined Benefit Plan” but erroneously reports the same EIN *and* PN on both filings, OPR would still want to include both filings.

Unfortunately, this process introduces the possibility of duplicate filings. For example, a plan that reports an EIN of 999999999 and a PN of 001 that filed twice with plan names of “ABC 401k Plan” and “ABC 401(k) Plan” would be included twice.

To eliminate these types of duplicate filings, OPR identifies groups of filings that have the same end of year (EOY) assets, beginning of year (BOY) assets, and total contributions, then manually reviews the filings and removes the obvious duplicates.

f) Weights

The *PPP Research File* uses weights to account for filings that may not have been filed. Weights are calculated by defining the universe of plans, stratifying plans by size and type, creating a sample of plans, and then dividing the number of plans in the universe by the number of plans in the sample for each stratum. The most recent *PPP Research File* includes all filings received for large plans (defined as plans with 100 or more participants), mega plans (defined as plans with \$2.5 billion or more in assets), and small plans (defined as plans with fewer than 100 participants). Thus, weights for all plans are relatively close to one but are not equal to one because they account for plans OPR believes were expected to but have not filed.

⁶ Filings that are determined to have identified as a DFE due to filer error are reclassified as single-employer plans.

The current weighting methodology evolved from two prior methods that were used to calculate weights in past *PPP Research Files*: the “straddle” method and the “nonterminating plans” method. For details on the current weighting methodology and how the methodology has changed over time, see [Weighting Methodology in Volume 2, Section I](#) below.

1. Stock weights and flow weights

The *PPP Research File* utilizes both stock weights (S_WGT) and flow weights (F_WGT).

The stock weights are used to calculate point-in-time values (such as plans, participants, and end of year assets) that should not be double counted; therefore, S_WGT is only equal to the calculated weight for one filing per EIN/PN grouping. For any other filings in an EIN/PN grouping, S_WGT is zero.

The flow weights are used for financial fields such as income and expenses that should show movement over the year and are not double counted; thus, F_WGT is equal to the calculated weight for all filings in an EIN/PN grouping.

Take for example two plans filed as described under Short Year Filings above. In all situations, S_WGT is only nonzero for one filing in a grouping. All filings in a grouping have a nonzero value for F_WGT.

	Plan Year Beginning Date	Plan Year Ending Date	F_WGT	S_WGT
Filing 1	7/1/2017	6/30/2018	1.0XX	0.000
Filing 2	7/1/2018	12/31/2018	1.0XX	1.0XX

g) Missing Values

For all numeric fields on the *PPP Research File*, missing values are converted to 0.

III. Editing

The *PPP Research File* is edited in order to improve the accuracy of the pension plan statistics. The edits are based on interpretation of information provided on the main Form 5500, Form 5500-SF, the Form 5500 Schedules, or in Attachments.

a) OPR Editor Edits

The data extracted for purposes of creation of the *PPP Research File* is subjected to a series of automated edits. These edits are primarily focused on correcting arithmetic errors in participation, financial, or other numeric fields. These edits were developed for use in an application utilized by OPR prior to the transition to electronic filing with EFAST2. After the transition to electronic filing, the algorithms employed in the application were translated to SAS programs. The results of the edits are evident in the *PPP Research File* because the original and edited variables are both retained on the file.

b) Entity Edits

Form 5500 and Form 5500-SF filers identify the type of plan entity for which they are submitting information from checkboxes on Part I, Line A of either form. Form 5500 filers select from the following options: “a multiemployer plan”, “a single-employer plan”, “a multiple-employer plan”, and “a DFE.” Because multiemployer plans and DFEs cannot use the Form 5500-SF to satisfy annual reporting obligations, Form 5500-SF filers identify plan entity type as either “a single-employer plan” or “a multiple-employer plan.”⁷ For the purposes of the *PPP Research File*, filings are subjected to additional review to determine instances in which plans may have incorrectly self-reported the plan entity type. As a result of this review, some plans are reclassified under a different entity type than was reported on the Form 5500. These edits, which are applied sequentially, result in the variable TYPE_PLAN_ENTITY_CD_E.

1. Review of Plan/Sponsor Name and Industry

EBSA has historically seen discrepancies in the reporting of multiemployer plans.⁸ Therefore, each plan filing in the *PPP Research File* that identifies as a multiemployer plan is subjected to the following logic.

First, the following flags are created:

- **INC** – All plans with INC., INC, INCORPORATED, COMPANY, CORP., CORPORATION, CO., LLC, or LTD in the **plan** name *or* **sponsor** name are flagged.

⁷ Part I, Line A of the Form 5500-SF also includes checkboxes for “a one-participant plan” and “a foreign plan.” However, these plans are not required to file a report under Title I of ERISA. Instead, these plans may elect to file a Form 5500-SF rather than filing a Form 5500-EZ to meet reporting requirements for the Internal Revenue Service. These plans are excluded from the *Form 5500 Private Pension Plan Research File*.

⁸ These discrepancies were much more substantial prior to the adoption of electronic filing through EFAST2 in 2010. Since then, fewer than 1% of plans have been reclassified due to these edits each year.

- **BOARD** – All plans with BOARD, TRUSTEES, or COUNCIL in the **sponsor** name are flagged.

Next, the following specific edits are made based on the flags and other information provided in the filings:

- Plans reporting as multiemployer are reclassified as multiple-employer⁹ if the business code reported corresponds to any of the following:
 - Offices of physicians or dentists (621111, 621210)
 - Real estate (531000 – 531999)
 - Legal services (541000 – 541199)
- Plans reporting as multiemployer that were not reclassified as multiple-employer based on business code are reclassified as single-employer if the plan is flagged as INC but is not flagged as BOARD.
- Plans reporting with Part I, Line A blank are assumed to be single-employer.

2. Comparison to Lists of Defined Benefit Plans Paying Premiums to PBGC

Plan entity type of defined benefit pension plans is also verified against lists of single-employer and multiemployer defined benefit plans that pay premiums to PBGC. For instances where the plan entity type from the Form 5500 does not match the list on which PBGC included the plan, the filing and its attachments are manually reviewed. For filings that identify as single-employer or multiemployer, plan entity type is edited to be consistent with the PBGC list as long as the description of the plan in the attachments does not contradict this designation. For filings that identify as multiple-employer, plan entity type is only edited if the plan appears on the PBGC list for multiemployer plans.¹⁰

After making all entity edits, all multiemployer plans are recoded to show collective bargaining.

c) Edits of Business Code

Plans are instructed to enter the “business code that best describes the nature of the plan sponsor’s business” from a list of codes provided in the instructions. Edits are applied when no business code is reported or the business code is a length other than four or six digits. As with the edits of the pension plan features code, string searches of the plan name are used to identify the likely business of the plan sponsor. For example, if the string “BAKERY” is present, then the code 445291 (“Baked Goods Stores”) is assigned. The business code is stored in the variable BIZCODE. The following list outlines the other edits (STRING – CODE IMPUTED).

⁹ Prior to the *2018 PPP Research File*, these plans were reclassified as single-employer due to the fact that multiple-employer plans were not included as a distinct entity type group.

¹⁰ PBGC does not explicitly distinguish multiple-employer plans from single-employer or multiemployer plans on its list of plans it insures. OPR assumes that any multiple-employer plan paying premiums to PBGC would be listed as a single-employer plan on PBGC’s lists.

GREENHOUSE – 111400	TELESERVICES – 513300
TIMBER – 113110	TELECOMMUNICATION – 513300
CONSTRUCTION – 233200	NETWORKS – 513300
PLUMBERS – 235110	MEDIA – 514100
BRICKLAYERS – 235400	SAVINGS – 522120
DRYWALL – 235400	CREDIT and UNION – 522130
CARPENTE – 235500	MORTGAGE – 522292
ROOFER – 235610	LIFE and INSURANCE – 524140
SHEET and METAL – 235610	LAND – 531390
HUGO and BOSS – 315220	FINANCIAL and SERVICES – 541219
PLASTICS – 326100	ALARM SERVICE - 541330
GLASS and METAL – 327210	ENGINEERING – 541330
STEEL and FABRICATION – 331200	MANAGEMENT and GROUP – 541600
METAL and FABRICATOR – 332900	BIOANALYTICAL – 541700
PRINTERS – 333110	POLLUTION – 541700
HARDWARE – 334110	SCIENCE – 541700
AUDIO – 334310	TECHNOLOGY – 541990
ELECTRONICS – 334410	ADMINISTRATIVE and SERVICE – 561110
LUMBER – 421300	ALARM – 561790
PAPER – 422100	SCHOOL – 611000
FURNITURE – 442110	D.D.S. – 621110
WATERBEDS – 442110	DENTAL – 621110
BOOK – 422920	DR – 621111
NURSERY – 422930	HEALTH and CARE – 621111
BUICK – 441110	M.D. – 621111
CHEVROLET – 441110	MD – 621111
FORD – 441110	MEDICAL and CLINIC – 621111
HONDA – 441110	ONCOLOGY – 621111
LINCOLN – 441110	PHYSICIAN – 621111
MERCURY – 441110	RADIOLOGY – 621111
TOYOTA – 441110	SURGEON – 621111
AUTO and PARTS – 441300	AMBULANCE – 621900
BRASS and WORKS – 444190	HOSPITAL – 622000
BAKERY – 445291	SENIOR and LIVING – 623000
GOURMET – 445299	SPORTS – 711210
PHARMACY – 446110	MUSEUM OF and SCIENCE – 712100
BEAUTY and SUPPLY – 446120	HOTEL – 721110
COSMETICS – 446120	INN – 721191
FROZEN or FOODS – 454390	RESTAURANT – 722110
AIRLINE – 481000	AUTOMOTIVE – 811110
FREIGHT – 484120	TRANSMISSION – 811110
SWEEPER – 488490	FOOD and SERVICE – 811310
SOFTWARE – 511210	HEALTHCLUB – 812190
CABLE – 513200	COUNTRY and CLUB – 813000

d) Imputing Retiree Counts for Form 5500-SF Filers

As noted in the Introduction, the Form 5500-SF is a simplified annual reporting form for use by certain small pension and welfare benefit plans. Unlike the Form 5500, Form 5500-SF does not require that filers distinguish retired or separated participants receiving benefits, retired or separated participants entitled to future benefits, or deceased participants. For the purposes of the *PPP Research File*, the number of retired or separated participants receiving benefits and the number of retired or separated participants entitled to future benefits are imputed for Form 5500-SF filers. No deceased participants are imputed because of the low volume of such participants among pension filers.

For defined benefit Form 5500-SF filers, the number of retired or separated participants receiving benefits is set equal to 51.2% of the difference between the number of total participants and the

number of active participants. The number of retired or separated participants entitled to future benefits is set equal to 48.8% of the difference.

For defined contribution Form 5500-SF filers, the number of retired or separated participants receiving benefits is set equal to 9.3% of the difference between the number of total participants and the number of active participants. The number of retired or separated participants entitled to future benefits is set equal to 90.7% of the difference.

These percentages were derived from recent Form 5500 filings by plans with fewer than 100 participants for plan years ending in 2018. See [Addition of Active Participants to the 2014 Form 5500-SF in Volume 2, Section II](#) for more details.

e) Individual Participation Edits

After the previous edits are executed, the participant counts could still contain inconsistencies in several forms based on filer error:

- The active, retired, and separated participant items might not sum to the number input on the subtotal line item.
- The sum of the subtotal of active, retired, and separated participants and beneficiaries might not equal the amount entered for the grand total number of participants.
- The total number of active participants might exceed the number entered on the subtotal line item or the amount entered for the grand total number of participants.

All filings with these errors are manually reviewed and edited based on a data analyst's estimate of the correct value based on the filing.

IV. OPR Generated Fields

Additional OPR generated variables are added to the *PPP Research File* to enhance the reported information for research by synthesizing information collected on the Form 5500 and various Schedules. Many of these additional variables are assigned a custom display format in SAS (see the “Format Source.sas” program that accompanies the *PPP Research File* zipped file).

a) Plan Identifying Information

These variables recode plan identifying information such as EIN, PN, plan year beginning and ending dates, and effective date.

1. OPR_EIN, OPR_PN, and EINPN

OPR_EIN is equal to the plan’s reported EIN for all filings.

Whereas the reported PN (item 1b on Form 5500) is three characters long, the OPR_PN adds a fourth character which distinguishes among filings with the same EIN/PN but different plan names.

EINPN is a concatenation of OPR_EIN and OPR_PN.

2. PYB and PYE

PYB is the plan year beginning date variable FORM_PLAN_YEAR_BEGIN_DATE in the date format MM/DD/YYYY. PYE is the plan year ending date variable FORM_TAX_PRD in the date format MM/DD/YYYY.

3. EFF_DATE

EFF_DATE is the effective date of plan (PLAN_EFF_DATE) in the date format MM/DD/YYYY.

b) Filing Information

These variables indicate the source of a filing (Form 5500 or Form 5500-SF) and the source of balance sheet information for a particular filing (Schedule H, Schedule I, or neither).

1. FSOURCE

FSOURCE indicates the source of a filing.

<u>Value</u>	<u>FSOURCE Description</u>
S	Filing is on the Form 5500-SF
F	Filing is on the Form 5500

2. BS_SOURCE

BS_SOURCE indicates the source of balance sheet information.

<u>Value</u>	<u>BS_SOURCE Description</u>
H	Schedule H
I	Schedule I
S	Form 5500-SF
N	None of the above

c) Plan Classification

These variables summarize information about benefit codes, funding and benefit arrangements, entity type, and specific plan features—such as 401(k) and ESOPs.

The following variables classify pension plans in the *Research File*:

Benefit Type (TYPE2)

- Defined benefit
- Defined contribution

Defined Contribution (DCTYPE)

- 401(k)
- 403(b)
- Other defined contribution

Defined Benefit (TYPE3)

- Cash Balance
- Other defined benefit

Defined Contribution (TYPE9)

- Profit-sharing
- Stock bonus
- Target benefit
- Money purchase
- Annuity-403(b)(1)
- Custodial account-403(b)(7)
- IRAs or annuities (Code 408)
- Other defined contribution

1. TYPE2

The primary information used to classify plan filings as defined benefit or defined contribution is the pension benefit code reported on the Form 5500 or Form 5500-SF for each filing. The vast majority of plan filings are classified as follows:

Plan filings that reported at least one defined benefit pension feature code—i.e., codes containing a 1—and *did not* report any codes for defined contribution pension features—i.e., codes containing a 2—are deemed to be defined benefit plans and are assigned TYPE2 of 1.

Plan filings that reported at least one pension benefit feature code that contains a 2, *did not* report any codes containing a 1, *and did not* file a Schedule SB or Schedule MB are deemed to be defined contributions plans and are assigned TYPE2 of 2.

Some plan filings report *both* defined benefit and defined contribution feature codes, and some plan filings include *neither* defined benefit nor defined contribution feature codes. Additionally, some plan filings only include defined contribution codes but also filed a Schedule SB or MB. In these ambiguous cases indications of plan type are gleaned from other sources, such as the plan name or an attached Schedule SB or MB. In order to categorize these filings, several interim variables are created.

Two flags are created from the plan name, one for flagging filings whose plan names indicate defined benefit features (DB_STRING) and one for flagging filings whose plan names indicate defined contribution features (DC_STRING).

DB_STRING is set to 1 for all filings meeting any one of the following criteria:

- Plan name contains DEFINED and BENEFIT
- Plan name contains CASH and BALANCE
- Plan name contains PENSION EQUITY
- Plan name contains PERSONAL PENSION ACCOUNT
- Plan name contains RETIREMENT GROWTH ACCOUNT
- Plan name contains ACCOUNT BALANCE
- Plan name contains CASH ACCOUNT

DC_STRING is set to 1 for all filings meeting any one of the following criteria:

- Plan name contains MONEY and PURCHASE
- Plan name contains MPP
- Plan name contains DEFINED and either CONTRIBUTION or CONT
- Plan name contains SELF
- Plan name contains KEOGH or KEOUGH
- Plan name contains PROFIT or PSP or P-S PLAN or PS PL or SAVINGS PLAN or AGE-WEIGHTED or AGE WEIGHTED or NEW COMPARABILITY
- Plan name contains THRIFT
- Plan name contains STOCK BONUS
- Plan name contains 401K or K401 or 401 K or 401(K) or 401-PW or 401PW or 401-K
- Plan name contains 403B or 403(B) or 403 (B) or 403 B or TDA
- Plan name contains TAX and ANNUITY and either DEFERRED, DEFFERED, or DEFFERED
- Plan name contains 408K or 408 K or K408 or 408(K) or 408-K

Additionally, two percentages are calculated for each plan that filed a Schedule SB or MB, one representing the percentage of net assets included on the Schedule SB or MB and the second the percentage of total participants included on the Schedule SB or MB. These two values are called PCT_DB_ASSETS and PCT_DB_TOT_PARTCP, respectively. The decision to use beginning of year (BOY) or end of year (EOY) values for assets or participants in the denominator of these percentages is determined by whether the valuation data reported on the Schedule SB or MB is closer to the plan year beginning date or the plan year ending date.

For those plans filing the Schedule SB, PCT_DB_ASSETS is set equal to the market value of assets as reported on Part I, 2a divided by net assets from Schedule H/I/Form 5500-SF. For Schedule MB filers, PCT_DB_ASSETS is set equal to the current value of assets on line 1b(1), divided by net assets from Schedule H, Schedule I, or Form 5500-SF.

For those plans filing the Schedule SB, PCT_DB_TOT_PARTCP is set equal to the total number of participants reported under “funding target/participant count breakdown” as reported on Part I, 3d divided by either the end of year subtotal of active, retired, or separated participants or the number of participants at the beginning of the year.

For Schedule MB filers, PCT_DB_TOT_PARTCP is set equal to the total number of participants reported under “RPA 94 current liability/participant count breakdown” as reported on line 2a(4) divided by either the end of year subtotal of active, retired, or separated participants or the number of participants at the beginning of the year.

After creating these interim variables, plan filings with ambiguous plan types are placed in five specific groups and classified as described below.

1. *Plan filings with both a 1 and a 2 in the pension benefit code that filed neither a Schedule SB nor a Schedule MB (with the box checked for Multiemployer Defined Benefit plan).*

Plans with names that indicate defined benefit features (DB_STRING=1) are classified as defined benefit (TYPE2=1)

All remaining plans are determined to be defined contribution (TYPE2=2). All plans identified as defined benefit and the largest plans by asset size¹¹ are manually reviewed to confirm the classification.

2. *Plan filings with both a 1 and a 2 in the pension benefit code that filed either a Schedule SB or a Schedule MB (with the box checked for Multiemployer Defined Benefit plan).*

Plans with a nonzero value of PCT_DB_ASSETS less than 50% or a zero value of PCT_DB_ASSETS and a value of PCT_DB_TOT_PARTCP less than 50% are classified as defined contribution (TYPE2=2).

¹¹ For the purposes of this document, “largest plans by asset size” means that plans are selected such that the group of manually reviewed plans accounts for at least 90% of the assets held by all plans in the group.

All others are classified as defined benefit (TYPE2=1). The largest plans by asset size are manually reviewed to confirm the classification.

3. *Plan filings with only a 2 in the pension benefit code that also filed either a Schedule SB or a Schedule MB (with the box checked for Multiemployer Defined Benefit plan).*

Plans are classified as defined contribution (TYPE2=2) if the plan name indicates defined contribution but not defined benefit features (DC_STRING=1 and DB_STRING=0).

All other plans are classified as defined benefit. The largest plans by asset size are manually reviewed to confirm the classification.

4. *Plan filings with neither a 1 nor a 2 in the pension benefit code that filed neither a Schedule SB nor a Schedule MB (with the box checked for Multiemployer Defined Benefit plan).*

Plans are classified as defined benefit (TYPE2=1) if the plan name indicates defined benefit but not defined contribution features (DB_STRING=1 and DC_STRING=0).

All other plans are classified as defined contribution (TYPE2=2). The largest plans by asset size are manually reviewed to confirm the classification.

5. *Plan filings with neither a 1 nor a 2 in the pension benefit code that also filed either a Schedule SB or a Schedule MB (with the box checked for Multiemployer Defined Benefit plan).*

Plans are classified as defined contribution (TYPE2=2) if the plan name indicates defined contribution but not defined benefit features (DC_STRING=1 and DB_STRING=0).

All other plans are classified as defined benefit (TYPE2=1). The largest plans by asset size are manually reviewed to confirm the classification.

2. DCTYPE

DCTYPE relies upon the classification of TYPE2 described above as well as the OPR-generated field TYPE_PENSION_BNFT_CODE_E. This edited pension benefit code is created after the development of the TYPE2 classification. See the [Descriptive Variables](#) for more detail.

Similar to the development of TYPE2, the classification of DCTYPE involves the creation of two interim variables, B403_STRING and K401_STRING. It also relies on resolving cases where both 403(b) and 401(k) features are present in the pension benefit code.

B403_STRING is set to 1 when either of the following criteria are met:

- Plan name contains 403B or 403(B) or 403 (B) or 403 B or TDA
- Plan name contains TAX and ANNUITY and either DEFERRED or DEFFERED or DEFFERRED

K401_STRING is set to 1 when the following criteria is met:

- Plan name contains 401K or K401 or 401 K or 401(K) or 401-PW or 401PW or 401-K

If the plan is classified as defined benefit (TYPE2=1), DCTYPE is also 1 for DB.

If the plan is classified as defined contribution (TYPE2=2), then the following logic is used:

If the plan has 2L or 2M (indicating a 403(b) feature) in the pension benefit code, then DCTYPE is 5 for 403(b).

If the plan has 2J (indicating a 401(k) feature) in the pension benefit code, then DCTYPE is 2 for 401(k).

If the plan has neither 2M, 2L, nor 2J in the pension benefit code, then DCTYPE is 6 for other defined contribution.

In the event that a plan classified as defined contribution (TYPE2=2) with code 2J *and* at least one of codes 2L or 2M, the following logic resolves whether the plan is classified as 403(b) or 401(k):

If there is evidence of a 403(b) feature based on the plan name (B403_STRING=1) and no evidence of a 401(k) feature based on the plan name (K401STR=0) then DCTYPE is 5 for 403(b).

Otherwise, the DCTYPE is 2 for 401(k).

3. TYPE9

TYPE9 relies on the OPR-created field TYPE_PENSION_BNFT_CODE_E. This edited pension benefit code is created after the development of the TYPE2 classification. See the [Descriptive Variables](#) for more detail.

- If the plan is classified as defined benefit (TYPE2=1), TYPE9 is 1 (DB).
- If the edited pension benefit code contains 2E, TYPE9 is 2 (profit sharing).
- If the edited pension benefit code contains 2I, TYPE9 is 3 (stock bonus).
- If the edited pension benefit code contains 2B, TYPE9 is 4 (target benefit).
- If the edited pension benefit code contains 2C, TYPE9 is 5 (money purchase).
- If the edited pension benefit code contains 2L, TYPE9 is 6 (403(b)(1)).
- If the edited pension benefit code contains 2M, TYPE9 is 8 (403(b)(7)).
- If the edited pension benefit code contains 2N, TYPE9 is 9 (IRAs (408)).
- If none of the above conditions are met, TYPE9 is X (other DC).

4. TYPE3

TYPE3 relies on the OPR-created field TYPE_PENSION_BNFT_CODE_E. This edited pension benefit code is created after the development of the TYPE2 and DCTYPE classifications discussed above. See the [Descriptive Variables](#) for more detail.

- If the plan is classified as defined benefit (TYPE2=1) and the edited pension benefit code contains 1C, TYPE3 is 2 (cash balance)
- If the plan is classified as defined benefit (TYPE2=1) and the edited pension benefit code does not contain 1C, TYPE3 is 3 (other defined benefit)
- If the plan is classified as defined contribution (TYPE2=2) then TYPE3 is 1 (defined contribution)

5. DB and DC

The flag DB is 1 if the plan is classified as defined benefit (TYPE2=1), 0 otherwise. The flag DC is 1 if the plan is classified as defined contribution (TYPE2=2), 0 otherwise.

6. PROF_SHARE, STOCK_BONUS, TARGET_BENEFIT, and MONEY_PURCH

These flags rely on the OPR-created field TYPE_PENSION_BNFT_CODE_E. This edited pension benefit code is created after the development of the TYPE2 and DCTYPE classifications discussed above. See the [Descriptive Variables](#) for more detail.

PROF_SHARE is set equal to 1 if the edited pension benefit code contains 2E.

STOCK_BONUS is set equal to 1 if the edited pension benefit code contains 2I.

TARGET_BENEFIT is set equal to 1 if the edited pension benefit code contains 2B.

MONEY_PURCH is set equal to 1 if the edited pension benefit code contains 2C.

7. FUNDING_ARRANGE and BENEFIT_ARRANGE

Plans are instructed to indicate the funding arrangements for the investment of assets and for the payment of benefits used during the plan year on lines 9a and 9b of the Form 5500. According to the instructions,

The “funding arrangement” is the method for the receipt, holding, investment, and transmittal of plan assets prior to the time the plan actually provides benefits. The “benefit arrangement” is the method by which the plan provides benefits to participants.

Possible responses include one or more of the following: “Insurance,” “Code section 412(i) insurance contracts,” “Trust,” and “General assets of the sponsor.”

Edits of the funding and benefit arrangements seek to place each filing into one of the following categories: 1) Insurance, 2) Section 412(i) Insurance Contracts, 3) Trust, 4) Trust and Insurance, and 5) Unspecified/Not Determinable. While some plan-specific edits of the funding and benefit arrangements are performed, these data elements are largely corrected by the creation of variables FUNDING_ARRANGE and BENEFIT_ARRANGE, which take into account relevant financial information from the Schedule H in determining the method of funding.

FUNDING_ARRANGE is the recode of funding arrangement code listed on the Form 5500 and uses financial information to help determine the method of funding for investment of assets.

<u>Value</u>	<u>FUNDING_ARRANGE Description</u>
1	Insurance
2	Section 412(i) Insurance
3	Trust
4	Trust and Insurance
5	Unspecified

The method of funding for investment of assets is “trust” if one or more of the following conditions apply:

- The plan indicated “Trust” as its funding arrangement on line 9a of Form 5500
- The plan did not indicate any funding arrangement, or checked “General assets of the sponsor,” on line 9a, and had assets in one or more of the following investments:
 - Interest-bearing cash
 - U.S. Government securities
 - Corporate debt instruments
 - Corporate stocks
 - Partnership/joint venture interests
 - Real estate
 - Common/collective trusts
 - Master trust investment accounts
 - 103-12 investment entities
 - Registered investment companies (e.g., mutual funds)
 - Employer securities
 - Employer real property
 - Other investments

The method of funding for investment of assets is “insurance” if one or more of the following conditions apply:

- The plan indicated “Insurance” or “Section 412(i) insurance contracts” on line 9a of Form 5500
- The plan had assets in pooled separate accounts or insurance company general accounts (see Schedule H lines c(13) and c(14))
- The plan indicated that it had attached Schedule A, “Insurance Information” and had not indicated “Insurance” or “Section 412(i) insurance contracts” as its plan benefit arrangement on line 9b of Form 5500

BENEFIT_ARRANGE is the recode of BENEFIT_CODE and uses financial information to help determine the method of funding for payment of benefits.

<u>Value</u>	<u>BENEFIT_ARRANGE Description</u>
1	Insurance
2	Section 412(i) Insurance
3	Trust
4	Trust and Insurance
5	Unspecified

The method of funding for payment of benefits is “trust” if one or more of the following conditions apply:

1. The plan indicated “Trust” as its funding arrangement on line 9b of Form 5500.
2. The plan did not indicate any funding arrangement, or checked “General assets of the sponsor,” on line 9b, and
 - a. indicated benefit payments directly to participants or beneficiaries (Schedule H, line e(1)), or
 - b. indicated that a Schedule H was attached, that no payments were made to insurance carriers for the provision of benefits, that a Schedule A was **not** attached, and that the method of funding for investment of assets was “Trust” only (FUNDING_ARRANGE = 3).

The method of funding for payment of benefits is “insurance” if one or more of the following conditions apply:

1. The plan indicated “Insurance” or “Section 412(i) insurance contracts” on line 9b of Form 5500.
2. The plan indicated “Section 412(i) insurance contracts” as method of funding for investment of assets on line 9a.
3. The plan did not indicate any funding arrangement, or checked “General assets of the sponsor,” on line 9b, and
 - a. indicated that payments were made to insurance carriers for the provision of benefits, or
 - b. indicated that it had attached Schedule A, “Insurance Information” and had not indicated “Insurance” or “Section 412(i) insurance contracts” as its plan funding arrangement on line 9a of Form 5500.

8. ENT3

ENT3 is the recode of the edited plan entity type variable, TYPE_PLAN_ENTITY_CD_E, and is the variable used in the *PPP Bulletins* for tabulating by type of plan entity.

<u>Value</u>	<u>ENT3 Description</u>
1	Single-employer plans
2	Multiemployer plans
3	Multiple-employer plans

9. ESOPCODE, K401, and K401_2013

ESOPCODE equals 1 if the plan is a nonleveraged employee stock ownership defined contribution plan (pension feature code “2O” reported or added in the course of editing), and 2 if the plan is a leveraged employee stock ownership defined contribution plan (pension feature code “2P” reported or added in the course of editing).

K401 equals 1 if the plan has a 401(k) feature (pension feature code “2J” reported or added in the course of editing).

K401_2013 equals 1 if the plan has a 401(k) feature (pension feature code “2J” reported or added in the course of editing). It also equals 1 if the plan has a 401(m) arrangement (pension feature code “2K”). This variable is consistent with the classification of 401(k) type plans employed prior to the *2014 PPP Research File*. See [Identification of 401\(k\) Type Plans in Volume 2, Section I](#) for more information.

10. KSOPCODE and KSOP_TYPE9

KSOPCODE equals 2 (KSOP) if the plan is either a nonleveraged employee stock ownership defined contribution plan (pension feature code “2O” reported or added in the course of editing) or a leveraged employee stock ownership defined contribution plan (pension feature code “2P” reported or added in the course of editing) and has a 401(k) feature.

KSOPCODE equals 1 (Stand-Alone ESOP) if the plan meets the requirements above but does not have a 401(k) feature.

KSOP_TYPE9 categorizes plans the same as the TYPE9 variable, only separately for KSOPs and Stand-Alone ESOPs.

d) Descriptive Variables

1. TYPE_PENSION_BNFT_CODE_E

Pension plans can report a number of features or characteristics on Line 8a of the Form 5500. After classifying pension plans as defined benefit or defined contribution plans with the TYPE2 variable (see [Plan Classification](#)), certain edits are performed based on plan name to append additional plan characteristics to the pension benefit code. These edits maintain consistency with the chosen plan type classification and provide additional detail about the plan’s benefits.

For purposes of editing the pension benefit code, several flags are created based on the plan name:

- PROF – plan name contains PROFIT, PSP, P-S PLAN, PS PLAN, PS PL, SAVINGS PLAN (with a 1 in the benefit code), AGE-WEIGHTED, AGE WEIGHTED, OR NEW COMPARABILITY.
- MPP – plan name contains (MONEY and PURCHASE), or MPP.

- B403 – plan name contains 403(B), 403 (B), 403B, 403 B, TDA, (TAX and ANNUITY and either DEFERRED, DEFFERED, or DEFFERED).
- K401STR – plan name contains 401K, K401, 401 K, 401(K), 401-PW, 401PW, or 401-K.
- THRIF – plan name contains THRIFT.
- TAX – plan name contains TAX and SHELTERED.
- TDC – plan name contains DEFINED and (CONTRIBUTION or CONT).
- TDB – plan name contains DEFINED and BENEFIT.
- STKB – plan name contains STOCK BONUS.
- CASHB – plan name contains CASH and BALANCE, PENSION EQUITY, PERSONAL PENSION ACCOUNT, RETIREMENT GROWTH ACCOUNT, ACCOUNT BALANCE, or CASH ACCOUNT.
- SELFE – plan name contains SELF.
- KEO – plan name contains KEOGH or KEOUGH.
- IRA – plan name contains 408K, 408 K, K408, 408(K), or 408-K.

Next, if the pension benefit code *does not* contain a 1 or a 2 (indicating defined contribution or defined benefit characteristics), the following logic is used:

- If the plan was classified as defined benefit (TYPE2=1) and CASHB, then 1C is added to the pension benefit code.
- For a plan classified as defined contribution (TYPE2=2):
 - If MPP, TDC, SELFE, or KEO, 2C is added to the pension benefit code.
 - If PROF or THRIF, 2E is added to the pension benefit code.
 - If STKB, 2I is added to the pension benefit code.
 - If B403, 2L is added to the pension benefit code.
 - If IRA, 2N is added to the pension benefit code.

After this, if the plan was classified as defined contribution (TYPE2=2) but does not contain any of the defined contribution codes 2B, 2C, 2E, 2I, 2L, 2M, or 2N after the edits above, then the following logic is used to append defined contribution plan features to the benefit code based on the plan name.

- If TARGET is in the plan name, 2B is added to the pension benefit code.
- If MPP or SELFE or KEO, 2C is added to the pension benefit code.
- If PROF or THRIF, 2E is added to the pension benefit code.
- If STKB, 2I is added to the pension benefit code.
- If B403, 2L is added to the pension benefit code.

Next, for any plans classified as defined contribution (TYPE2=2) with K401STR and without defined contribution code 2J, code 2J is added.

In the event that a plan classified as defined contribution (TYPE2=2) with both codes 2L or 2M *and* 2J, the following logic is used:

If there is evidence of a 403(b) feature based on the plan name (B403=1) and no evidence of a 401(k) feature based on the plan name (K401STR=0), 2J is removed from the pension benefit code.

If there is evidence of a 401(k) feature based on the plan name (K401STR=1) and no evidence of a 403(b) feature based on the plan name (B403=0), 2L and/or 2M is removed from the pension benefit code.

If, after all edits above, either a plan classified as defined benefit (TYPE2=1) does not have a benefit code with a 1 or a plan classified as defined contribution (TYPE2=2) does not have a benefit code with a 2, a 1 or 2 is added to the pension benefit code accordingly.

2. BIZCODE

BIZCODE is the edited business code variable, BUSINESS_CODE, converted from character to numerical format.

BIZCODE is assigned a descriptive format for the *PPP Bulletin* to categorize filers into broad industries. These industry categories are meant to be generally consistent with industry groupings listed in the Form 5500 Instructions, which in turn are based on the North American Industry Classification System. The following classification was employed for the *2018 PPP Bulletin and Research File*:

Industry	BIZCODE
Agriculture	110000-119999
Mining	210000-219999
Utilities	220000-229999
Construction	230000-239999
Manufacturing	310000-339999
Wholesale trade	420000-429999
Retail trade	440000-459999
Transportation	480000-499999
Information	510000-519999
Finance, insurance & real estate	520000-539999
Services	540000-812999
Misc. organizations	813000-999999

3. PRI_SUP_CODE

PRI_SUP_CODE indicates whether a plan provides primary or supplemental coverage to workers.

All sponsors of pension plans must file a separate Form 5500 report for each plan they sponsor, with each plan identified by the sponsor's 9-digit EIN assigned by the IRS plus a separate 3-digit PN which is unique to each plan. This enables identification of all of the plans of each sponsor.

For purposes of estimating the extent of net and dual coverage, the plans of each sponsor can be placed in one of four categories:

1. Sponsors of only one plan
2. Sponsors of more than one plan, all of which are defined benefit (DB)
3. Sponsors of more than one plan, all of which are defined contribution (DC)
4. Sponsors of more than one plan, including at least one DB plan and one DC plan

In assigning participants to primary and supplemental plans, the following assumptions were made:

1. Where sponsors had more than one DB plan and no DC plan, it was assumed that each of the DB plans covered different groups of workers (such as hourly or salary), with no overlap in coverage. An exception was made if the plan name contained the word "supplemental" or "past service."
2. Where sponsors had more than one DC plan and no DB plan, it was assumed that if the DC plans were the same type (for example, all money purchase plans), the plans covered different groups of employees. Plans of different types (for example money purchase and profit sharing) were assumed to provide dual coverage to the same group of workers. In the latter case, the plan covering the largest group of participants was categorized as the primary plan.
3. Where sponsors provided both DB and DC plans, it was assumed that the DB plan(s) provided primary coverage and the DC plan(s) provided supplemental coverage. Where sponsors had more than one type of DC plan, the largest plan was designated as the initial supplemental plan and the other DC plan was designated as a third plan covering the firm's employees.

Value	PRI_SUP_CODE Description
0	Plan is DB or DC. Only one plan offered by firm.
1	Plan is DB; firm has more than one DB, and no DC plans.
2	Plan is DB; firm has one or more unique DC plans, which are presumed to cover the same group of workers.
3	DB plan providing supplemental or past service benefits.
4	Plan is one of two identical DC plans, which are presumed to cover different groups of workers; firm has no DB plans.
5	Plan is the larger of exactly two different DC plans offered by the firm and is therefore Primary. Firm offers no DB plans.
6	Plan is the smaller of exactly two different DC plans offered by the firm, and is therefore Supplemental. Firm offers no DB plans.
7	Firm offers three DC plans. This plan is one of two identical DC plans (both considered Primary), which, when combined, have more participants than the unique DC plan (considered Supplemental—see code 10). Firm offers no DB plans.

Value	PRI_SUP_CODE Description
8	Firm offers three DC plans. This plan is one of two identical DC plans (both considered Supplemental), which, when combined, have fewer participants than the unique DC plan (considered Primary—see code 9). Firm offers no DB plans.
9	Firm offers three DC plans. This plan is unique and is considered Primary, having more participants than the two identical DC plans combined (which are considered Supplemental—see code 8). Firm offers no DB plans.
10	Firm offers three DC plans. This plan is unique and is considered Supplemental, having fewer participants than the two identical DC plans combined (which are considered Primary—see code 7). Firm offers no DB plans.
11	Same as code 7, but firm also offers one or more DB plans.
12	Same as code 8, but firm also offers one or more DB plans.
13	Same as code 9, but firm also offers one or more DB plans.
14	Same as code 10, but firm also offers one or more DB plans.
15	Plan is only DC plan offered; firm also offers one or more DB plans.
16	Plan is DC; firm offers at least one DB and two or more identical DC plans.
19	Firm offers no DB plans, and four or more DC plans. Plans of the same type with greatest combined participation are Primary.
20	Firm offers no DB plans, and four or more DC plans. Plans of the same type with least combined participation are Supplemental.
21	Firm offers one or more DB plans, and four or more DC plans. Plans of the same type with greatest combined participation are Primary.
22	Firm offers one or more DB plans, and four or more DC plans. Plans of the same type with least combined participation are Supplemental.
23	DC plan. Firm offers one or more DB plans, with combined participation of 10 or more. Firm may offer at least one other identical DC plan. This plan's participant count, combined with the participant count(s) of its twin(s), if any, is equal to or greater than four times the combined participant count of the DB plan(s).
24	DC plan. Firm offers one or more DB plans, with combined participation of 10 or more. Plan is Primary; firm may offer another identical plan or unique plan. This plan's participant count, combined with the participant count(s) of its twin(s), if any, is equal to or greater than four times the combined participant count of the DB plan(s).
25	DB plan. Total participation in firm's DB plan is 10 or more. Combined participant count in any ONE of the firm's DC plan TYPES is greater than or equal to four times the combined DB participation.

PRI_SUP_CODE is assigned a format which displays “Primary plans” for values 0, 1, 2, 4, 5, 7, 9, 19, 23, 24, and 25; “Initial supplemental plans” for values 3, 6, 8, 10, 11, 13, 15, 16, 20, 21; and “Second supplemental plans” for values 12, 14, 22.

4. SOLEPLAN

SOLEPLAN indicates whether or not a plan is considered the sole plan of a sponsor. Its value is 1 if PRI_SUP_CODE equals 0 (“Sponsor has only one plan”) or 5 (“Primary DC plan. Sponsor also has additional DC plan covering same group of workers with equal or fewer number of participants”); otherwise, SOLEPLAN equals 0.

5. PDIR

PDIR indicates the extent to which participants have the opportunity to direct the investment of assets allocated to their individual accounts. If the pension benefit code contains 2G, the plan is classified as allowing total participant direction. If the pension benefit code does not contain 2G but contains 2H, the plan is classified as allowing partial participant direction. Otherwise, the plan is classified as allowing no participant direction.

<u>Value</u>	<u>PDIR Description</u>
0	No participant direction
1	Partial participant direction
2	Total participant direction

6. FROZEN

FROZEN identifies plans for which the accrual of benefits has been suspended whether because of service or compensation. The variable is set equal to 1 if TYPE_PLAN_BENEFIT_CODE_E contains code 1I.

e) Participation

1. ADJ_ACTIVE; TPART; GTPART; PART13; PART14; and LARGE

Prior to 2005, in addition to the participant information reported on the Form 5500, the *PPP Research File* included adjusted participant variables that were considered more appropriate for research purposes. ADJ_ACTIVE was the “Active participants” figure reported on line 7a of the Form 5500 (TOT_ACTIVE_PARTCP_CNT), adjusted to exclude estimates of the following subsets: 1) 401(k)-eligible employees who have not elected to have the employer make contributions and 2) nonvested former employees who have not yet incurred the break in service period specified by the plan.

The same groups were also excluded from the “Subtotal” (line 7d, SUBTL_ACT_RTD_SEP_CNT) and “Total” (line 7f, TOT_ACT_RTD_SEP_BENEF_CNT) participants lines, to create variables TPART and GTPART, respectively.

However, as described in the [Adjusted Participant Counts \(prior to the 2005 PPP Research File\)](#) in Volume 2, Part I below, these adjustments are no longer made. The underlying variables used to create tabulations in the *PPP Bulletin* have not been changed. ADJ_ACTIVE is still used, but now it is equal to TOT_ACTIVE_PARTCP_CNT, the number of active participants reported on

line 7a of the Form 5500. TPART is now equal to SUBTL_ACT_RTD_SEP_CNT, and GTPART is now equal to TOT_ACT_RTD_SEP_BENEF_CNT.

The variables PART13 and PART14 are set equal to the TPART (“Total participants”) variable, but assigned formats so that output is displayed in ranges (“2-9,” “10-24,” ... “50,000 or more”). PART14 adds an extra parameter, “None or not reported,” for instances where TPART is less than or equal to zero, or missing.

The variable LARGE is set equal to 1 for plans with 100 or more participants (as measured by TPART) and is used in the *PPP Bulletins* in determining which records will be tabulated for tables restricted to pension plans with 100 or more participants. Please note that this subset of plans is largely composed of plans filing Schedule H, but also includes a small number of plans filing the less detailed Schedule I or Form 5500-SF.

2. FROZ_ACTIVE

This variable is a copy of ADJ_ACTIVE but is only nonzero for frozen plans.

f) Financial

1. AST21

AST21 is set equal to Total Assets End of Year (TOT_ASSETS_EOY_AMT) and assigned a format which displays output in ranges, e.g., “\$1-24K,” “25-49K,” ... “2.5B or more.”

2. UNSPEC_INVEST_EOY_AMT; UNSPEC_DIST_BNFT_AMT

For Schedule I plans, Schedule I variables (with prefix “SMALL_”) are copied and given the variable names of their Schedule H counterparts (e.g., JOINT_VENTURE_EOY_AMT = SMALL_JOINT_VENTURE_EOY_AMT). In the process, the variables “Unspecified Investments” (UNSPEC_INVEST_EOY_AMT) and “Unspecified Benefits Paid” (UNSPEC_DIST_BNFT_AMT) are created. Unspecified Investments is the small plan Total Assets amount, less the sum of the small plan assets line items (partnership/joint venture, employer real property, real estate, employer securities, participant loans, and loans other than to participants). Note that “Tangible personal property” (SMALL_PERSONAL_PROP_EOY_AMT) is **not** subtracted from total assets; it has no Schedule H analogue and is thus included in “unspecified investments” for the *PPP Research File*. Unspecified Benefits Paid is the small plan Benefits Paid (line 2e)—Schedule I does not specify any benefit payment detail.

3. NET_TRANSFERS

If the balance sheet source is Schedule I, then NET_TRANSFERS is the small plan total transfers amount (SMALL_TOT_PLAN_TRANSFERS_AMT). Otherwise, NET_TRANSFERS is the amount of assets transferred to the plan (TOT_TRANSFERS_TO_AMT), less the amount of assets transferred from the plan (TOT_TRANSFERS_FROM_AMT).

4. IB_NINC

Imputed Net Income equals the Total Income (TOT_INCOME_AMT) less the Total Expenses (TOT_EXPENSES_AMT).

5. IOB_*

IOB_* variables are “imputed other” amounts used when tabulating both Schedule H and Schedule I filers. They are computed by subtracting the sum of line items common to both the Schedule H and I for a particular category from the reported total for that category. For example, IOB_ASST (imputed other assets) equals total assets (TOT_ASSETS_EOY_AMT) less the sum of assets in partnerships/joint ventures, employer property, real estate, employer securities, participant loans, and loans other than to participants. Note that these six asset line items are the only items found on both Schedule H and Schedule I.

6. IOH_*

IOH_* variables are “imputed other” amounts used when tabulating only Schedule H filers. They are computed by subtracting the sum of line items on Schedule H for a particular category from the reported total for that category. For example, IOH_INT (imputed other interest earnings) equals total interest (TOTAL_INTEREST_AMT) less the sum of interest earnings from interest-bearing cash, U.S. Government securities, corporate debt instruments, loans (other than to participants), and participant loans. Note that these five interest earnings items are found only on Schedule H.

7. ITB_LIAB

Imputed Total Liabilities equals Total Assets (TOT_ASSETS_EOY_AMT) less Net Assets (NET_ASSETS_EOY_AMT).

8. IOH_CONT_C12

IOH_CONT_C12 is the variable underlying “Other or unspecified contributions” on Bulletin Tables C10 (Percentage Distribution of Income of Defined Benefit Plans with 100 or more Participants) and C11 (Percentage Distribution of Income of Defined Contribution Plans with 100 or more Participants). It is the reported total contributions less the sum of employer contributions and participant contributions. In other words, it is an imputed “other contributions” variable that also includes noncash contributions.

9. IOH_INC_C12

IOH_INC_C12 is the variable underlying “Other or unspecified income” on Bulletin Tables C10 and C11. It is the reported total income less the sum of the following “income” line items on Schedule H:

- Total contributions (TOT_CONTRIB_AMT)
- Total interest earnings (TOTAL_INTEREST_AMT)

- Total dividends (TOTAL_DIVIDENDS_AMT)
- Gain (loss) on sale of assets (TOT_GAIN_LOSS_SALE_AST_AMT)
- Unrealized appreciation (depreciation) of assets (TOT_UNREALZD_APPRCTN_AMT)
- Net investment gain (loss) from common/collective trusts (GAIN_LOSS_COM_TRUST_AMT)
- Net investment gain (loss) from pooled separate accounts (GAIN_LOSS_POOL_SEP_AMT)
- Net investment gain (loss) from master trust investment accounts (GAIN_LOSS_MASTER_TR_AMT)
- Net investment gain (loss) from 103-12 investment entities (GAIN_LOSS_103_12_INVST_AMT)
- Net investment gain (loss) from registered investment companies (GAIN_LOSS_REG_INVST_AMT)

In other words, IOH_INC_C12 is an imputed “other income” variable that also includes earnings from rents (Schedule H line 2b, item (3), TOTAL_RENTS_AMT).

10. SRDB_*

SRDB_* variables are “sum of reported detail” variables to be used when tabulating both Schedule H and Schedule I plans. They are computed by summing the reported line items common to both Schedules H and I for a particular category, plus the “Other” line item (if any) for that category. For example, SRDB_ASST (sum of reported assets detail) is the sum of assets in partnerships/joint ventures, employer property, real estate, employer securities, participant loans, loans other than to participants, and tangible personal property (SMALL_PERSONAL_PROP_EOY_AMT). Note that personal property, an asset line item on Schedule I but not on Schedule H, is considered an “other” asset. There are only two other SRDB_* variables: SRDB_EXP and SRDB_INC for expenses and income, respectively.

11. SRDH_*

SRDH_* variables are “sum of reported detail” variables to be used when tabulating Schedule H plans. They are computed by summing the reported line items on Schedule H for a particular category, plus the “Other” line item (if any) for that category. For example, SRDH_EXP (sum of reported expenses detail) is the sum of total benefit payments (TOT_DISTRIB_BNFT_AMT), corrective distributions (TOT_CORRECTIVE_DISTRIB_AMT), total administrative expenses (TOT_ADMIN_EXPENSES_AMT), interest expense (TOT_INT_EXPENSE_AMT), and deemed distributions of participant loans (TOT_DM_DISTRIB_PTCP_LNS_A). There is no “Other expenses” line on Schedule H.

12. FROZ_ASSETS

This variable is a copy of TOT_ASSETS_EOY_AMT but is only nonzero for frozen plans as identified above.

V. Codebook

The table that follows describes each of the variables included in the *2018 PPP Research File*. There are five pieces of information included for each variable:

- *SAS Variable Name*: The name of the variable.
- *Type of Variable*: Each variable is one of five types:
 - Original – Raw field from a single source.
 - Combined Original – Raw field from one of multiple possible sources, depending on the type of filer. The types of filers are as follows:
 - Form 5500 and Schedule H
 - Form 5500 and Schedule I
 - Form 5500-SF
 - Edited – Edited field from a single source. In the event that no edit was made, the field is equal to the original field.
 - Combined Edited – Edited field from one of multiple possible sources. In the event that no edit was made, the field is equal to the combined original field.
 - OPR Generated – Field generated for the purposes of classifying data in the *PPP research file*. Multiple fields may have been used to generate the value.
- *Variable Format*: Describes whether the variable is character or numeric.
- *Source*: The source of each variable is a specific Form 5500, Form 5500-SF, Schedule H, or Schedule I item number. For both Combined Original and Combined Edited fields, there will be more than one source.
- *Variable Description*: A description of the variable.
- *Values*: For categorical OPR Generated fields and certain Original and Combined Original, all possible values for the field are listed.

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
ACK_ID	Original	Character	EFAST2	30-digit filing identifying number in use for data taken from EFAST2 system. First 8 digits indicate the date the filing was uploaded.	
ACQUIS_INDBT_BOY_AMT	Original	Numeric	Schedule H Part I, 1i	Acquisition indebtedness, BOY amount	
ACQUIS_INDBT_EOY_AME	Edited	Numeric	Schedule H Part I, 1i	Acquisition indebtedness, EOY amount	
ACQUIS_INDBT_EOY_AMT	Original	Numeric	Schedule H Part I, 1i	Acquisition indebtedness, EOY amount	
ADJ_ACTIVE	OPR Generated	Numeric		Active participants, exactly equal to the variable TOT_ACTIVE_PARTCP_CNT	
AGGREGATE_COSTS_AME	Edited	Numeric	Schedule H Part II, 2b(4)(B)	Aggregate carrying amount	
AGGREGATE_COSTS_AMT	Original	Numeric	Schedule H Part II, 2b(4)(B)	Aggregate carrying amount	
AGGREGATE_PROCEEDS_AME	Edited	Numeric	Schedule H Part II, 2b(4)(A)	Aggregate proceeds on sale of assets	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
AGGREGATE_PROCEEDS_AMT	Original	Numeric	Schedule H Part II, 2b(4)(A)	Aggregate proceeds on sale of assets	
ALL_PLAN_AST_DISTRIB_IND	Combined Original	Character	Schedule H Part IV, 4k or Schedule I Part II, 4j or Form 5500-SF, Part VII, 13b	Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?	1 = yes, no = 2
AMENDED_IND	Combined Original	Character	Form 5500 Part I, B or Form 5500-SF, Part I, B	This return/report is an amended return/report	1 = yes, no = 0
AST21	OPR Generated	Numeric		Total assets EOY, formatted with commas	
BENEF_RCVG_BNFT_CNE	Edited	Numeric	Form 5500 Part II, 6e	Number of deceased participants whose beneficiaries are receiving or are entitled to receive benefits	
BENEF_RCVG_BNFT_CNT	Original	Numeric	Form 5500 Part II, 6e	Number of deceased participants whose beneficiaries are receiving or are entitled to receive benefits	
BENEFIT_ARRANGE	OPR Generated	Character		Funding arrangement for payment of benefits	1 = Insurance, 2 = Section 412(i) Insurance Contracts, 3 = Trust, 4 = Trust and Insurance, 5 = Not Determinable
BENEFIT_GEN_ASSET_IND	Original	Character	Form 5500 Part II, 9(b)(4)	Plan benefit arrangement – General assets of the sponsor	1 = yes, 0 = no
BENEFIT_INSURANCE_IND	Original	Character	Form 5500 Part II, 9(b)(1)	Plan benefit arrangement – Insurance	1 = yes, 0 = no
BENEFIT_SEC412_IND	Original	Character	Form 5500 Part II, 9(b)(2)	Plan benefit arrangement – Section 412(e)(3) insurance contracts	1 = yes, 0 = no
BENEFIT_TRUST_IND	Original	Character	Form 5500 Part II, 9(b)(3)	Plan benefit arrangement – Trust	1 = yes, 0 = no
BEST_FOR_PLAN	OPR Generated	Numeric		Filing is considered "best" for its combination of EIN, PN, and plan year ending date.	1 = yes, 0 = no
BIZCODE	OPR Generated	Numeric		Business code	
BIZCODE_TABLE	OPR Generated	Numeric		Business code, labeled with appropriate footnote numbers for relevant tables.	
BLDGS_USED_BOY_AME	Edited	Numeric	Schedule H Part I, 1e	Buildings and other property used in plan operation, BOY	
BLDGS_USED_BOY_AMT	Original	Numeric	Schedule H Part I, 1e	Buildings and other property used in plan operation, BOY	
BLDGS_USED_EOY_AME	Edited	Numeric	Schedule H Part I, 1e	Buildings and other property used in plan operation, EOY	
BLDGS_USED_EOY_AMT	Original	Numeric	Schedule H Part I, 1e	Buildings and other property used in plan operation, EOY	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
BNFTS_PAYABLE_BOY_AMT	Original	Numeric	Schedule H Part I, 1g	Benefit claims payable, BOY	
BNFTS_PAYABLE_EOY_AME	Edited	Numeric	Schedule H Part I, 1g	Benefit claims payable, EOY	
BNFTS_PAYABLE_EOY_AMT	Original	Numeric	Schedule H Part I, 1g	Benefit claims payable, EOY	
BS_SOURCE	OPR Generated	Character		Source of balance sheet items	H = Schedule H I = Schedule I N = None S = Form 5500-SF
BUSINESS_CODE_E	Combined Edited	Character	Form 5500 Part II, 2d or Form 5500-SF Part II, 2d	Business code	
COLLECTIVE_BARGAIN_IND	Original	Character	Form 5500 Part I, C	Plan is a collectively bargained plan	1 = yes
COLLECTIVE_BARGAIN_IND_E	Edited	Character	Form 5500 Part I, C	Plan is a collectively bargained plan	1 = yes
COMMON_STOCK_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(4)(B)	Corporate stocks – common BOY	
COMMON_STOCK_EOY_AME	Edited	Numeric	Schedule H Part I, 1c(4)(B)	Corporate stocks – common EOY	
COMMON_STOCK_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(4)(B)	Corporate stocks – common EOY	
CONTRACT_ADMIN_FEES_AME	Edited	Numeric	Schedule H Part II, 2i(2)	Administrative expenses – contract administrator fees	
CONTRACT_ADMIN_FEES_AMT	Original	Numeric	Schedule H Part II, 2i(2)	Administrative expenses – contract administrator fees	
CORP_DEBT_OTHER_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(3)(B)	Corporate debt instruments – all other, BOY	
CORP_DEBT_OTHER_EOY_AME	Edited	Numeric	Schedule H Part I, 1c(3)(B)	Corporate debt instruments – all other, EOY	
CORP_DEBT_OTHER_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(3)(B)	Corporate debt instruments – all other, EOY	
CORP_DEBT_PREFERRED_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(3)(A)	Corporate debt instruments – preferred, BOY	
CORP_DEBT_PREFERRED_EOY_AME	Edited	Numeric	Schedule H Part I, 1c(3)(A)	Corporate debt instruments – preferred, EOY	
CORP_DEBT_PREFERRED_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(3)(A)	Corporate debt instruments – preferred, EOY	
CORRECTIVE_DEEMED_DISTR_AME	Combined Edited	Numeric	Schedule H Part II, 2f or Schedule I Part I, 2f or Form 5500-SF Part III, 8e	Corrective distributions	
DB	OPR Generated	Numeric		Plan is defined benefit	1 = yes, 0 = no
DC	OPR Generated	Numeric		Plan is defined contribution	1 = yes, 0 = no

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
DC6	OPR Generated	Numeric		Identifier for 401(k)/ESOP status	1=401(k), not ESOP 2=ESOP, not 401(k) 3=401(k) and ESOP 4=Not 401(k), not ESOP
DCTYPE	OPR Generated	Character		Plan type (4 values)	1 = Defined Benefit (total), 2 = 401(k), 5 = 403(b), 6 = Other Defined Contribution
DISTRIB_DRT_PARTCP_AME	Edited	Numeric	Schedule H Part II, 2e(1)	Benefit payments directly to participants & beneficiaries, including direct rollovers	
DISTRIB_DRT_PARTCP_AMT	Original	Numeric	Schedule H Part II, 2e(1)	Benefit payments directly to participants & beneficiaries, including direct rollovers	
DIVND_COMMON_STOCK_AME	Edited	Numeric	Schedule H Part II, 2b(2)(B)	Dividends – common stock	
DIVND_COMMON_STOCK_AMT	Original	Numeric	Schedule H Part II, 2b(2)(B)	Dividends – common stock	
DIVND_PREF_STOCK_AME	Edited	Numeric	Schedule H Part II, 2b(2)(A)	Dividends – preferred stock	
DIVND_PREF_STOCK_AMT	Original	Numeric	Schedule H Part II, 2b(2)(A)	Dividends – preferred stock	
EFF_DATE	OPR Generated	Character		Effective date of plan	
EINPN	OPR Generated	Character		Concatenation of OPR_EIN and OPR_PN	
EMPLR_CONTRIB_BOY_AME	Edited	Numeric	Schedule H Part I, 1b(1)	Receivables – employer contributions, BOY	
EMPLR_CONTRIB_BOY_AMT	Original	Numeric	Schedule H Part I, 1b(1)	Receivables – employer contributions, BOY	
EMPLR_CONTRIB_EOY_AME	Edited	Numeric	Schedule H Part I, 1b(1)	Receivables – employer contributions, EOY	
EMPLR_CONTRIB_EOY_AMT	Original	Numeric	Schedule H Part I, 1b(1)	Receivables – employer contributions, EOY	
EMPLR_CONTRIB_INCOME_AME	Combined Edited	Numeric	Schedule H Part II, 2a(1)(A) or Schedule I Part I, 2a(1) or Form 5500-SF Part III, 8a(1)	Contributions – received or receivable in cash from employers	
EMPLR_CONTRIB_INCOME_AMT	Original	Numeric	Schedule H Part II, 2a(1)(A)	Contributions – received or receivable in cash from employers	
EMPLR_PROP_BOY_AMT	Original	Numeric	Schedule H Part I, 1d(2)	Employer real property, BOY	
EMPLR_PROP_EOY_AME	Combined Edited	Numeric	Schedule H Part I, 1d(2) or Schedule I Part I, 3b	Employer real property, EOY	
EMPLR_PROP_EOY_AMT	Original	Numeric	Schedule H Part I, 1d(2)	Employer real property, EOY	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
EMPLR_SEC_BOY_AMT	Original	Numeric	Schedule H Part I, 1d(1)	Employer securities, BOY	
EMPLR_SEC_EOY_AME	Combined Edited	Numeric	Schedule H Part I, 1d(1) or Schedule I Part I, 3d	Employer securities, EOY	
EMPLR_SEC_EOY_AMT	Original	Numeric	Schedule H Part I, 1d(1)	Employer securities, EOY	
ENT3	OPR Generated	Character		Plan entity type	1 = Single-employer, 2 = Multiemployer, 3 = Multiple-employer
ESOPCODE	OPR Generated	Numeric		ESOP, leveraged or not leveraged	1 = Nonleveraged, 2 = Leveraged
F_WGT	OPR Generated	Numeric		Plan weight used for computation of "flow" quantities, e.g., contributions, benefits, income, and expenses	
FINAL_FILING_IND	Combined Original	Character	Form 5500 Part I, B or Form 5500-SF, Part I, B	This return/report is the final return/report	1 = yes, 0 = no
FORM_PLAN_YEAR_BEGIN_DATE	Combined Original	Character	Form 5500 Part I or Form 5500-SF Part I	Plan year beginning date	
FORM_TAX_PRD	Combined Original	Character	Form 5500 Part I or Form 5500-SF Part I	Plan year ending date	
FROZ_ACTIVE	Original	Numeric	Form 5500 Part II, 6a(2)	Active participants in a frozen plan, equal to the variable TOT_ACTIVE_PARTCP_CNE	
FROZ_ASSETS	Original	Numeric	Schedule H Part I, 1f	Total assets in a frozen plan, EOY amount	
FROZEN	Original	Numeric	Form 5500 Part II 8a	Frozen plan indicator from TYPE_PLAN_BENEFIT_CODE E, code 11	1 = Frozen, 0 = Not Frozen
FSOURCE	OPR Generated	Character		Source of filing (replaces 1999 variable SOURCE)	S = Filing is on the Form 5500-SF, F = Filing is on the Form 5500
FUND_SF	OPR Generated	Numeric		Used to do tabulations of funding and benefit arrangements, since Form 5500-SF filers do not have to complete a funding section	1 for Form 5500-SF filers, 0 otherwise.
FUNDING_ARRANGE	OPR Generated	Character		Funding arrangement for investment of assets	1 = Insurance, 2 = Section 412(i) Insurance Contracts, 3 = Trust, 4 = Trust and Insurance, 5 = Not Determinable

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
FUNDING_GEN_ASSET_IND	Original	Character	Form 5500 Part II, 9(a)(4)	Plan funding arrangement – general assets of the sponsor	1 = yes, 0 = no
FUNDING_INSURANCE_IND	Original	Character	Form 5500 Part II, 9(a)(1)	Plan funding arrangement – insurance	1 = yes, 0 = no
FUNDING_SEC412_IND	Original	Character	Form 5500 Part II, 9(a)(2)	Plan funding arrangement – section 412(e)(3) insurance contracts	1 = yes, 0 = no
FUNDING_TRUST_IND	Original	Character	Form 5500 Part II, 9(a)(3)	Plan funding arrangement – trust	1 = yes, 0 = no
GAIN_LOSS_103_12_INVST_AME	Edited	Numeric	Schedule H Part II, 2b(9)	Net gain from 103-12 investment entities (103-12 IEs)	
GAIN_LOSS_103_12_INVST_AMT	Original	Numeric	Schedule H Part II, 2b(9)	Net gain from 103-12 investment entities (103-12 IEs)	
GAIN_LOSS_COM_TRUST_AME	Edited	Numeric	Schedule H Part II, 2b(6)	Net gain from common/collective trusts (CCTs)	
GAIN_LOSS_COM_TRUST_AMT	Original	Numeric	Schedule H Part II, 2b(6)	Net gain from common/collective trusts (CCTs)	
GAIN_LOSS_MASTER_TR_AME	Edited	Numeric	Schedule H Part II, 2b(8)	Net gain from master trust investment accounts (MTIAs)	
GAIN_LOSS_MASTER_TR_AMT	Original	Numeric	Schedule H Part II, 2b(8)	Net gain from master trust investment accounts (MTIAs)	
GAIN_LOSS_POOL_SEP_AME	Edited	Numeric	Schedule H Part II, 2b(7)	Net gain from pooled separate accounts (PSAs)	
GAIN_LOSS_POOL_SEP_AMT	Original	Numeric	Schedule H Part II, 2b(7)	Net gain from pooled separate accounts (PSAs)	
GAIN_LOSS_REG_INVST_AME	Edited	Numeric	Schedule H Part II, 2b(10)	Net gain from registered investment companies	
GAIN_LOSS_REG_INVST_AMT	Original	Numeric	Schedule H Part II, 2b(10)	Net gain from registered investment companies	
GOVT_SEC_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(2)	U.S. government securities, BOY	
GOVT_SEC_EOY_AME	Edited	Numeric	Schedule H Part I, 1c(2)	U.S. government securities, EOY	
GOVT_SEC_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(2)	U.S. government securities, EOY	
GTPART	OPR Generated	Numeric		Grand total participants. Equal to TOT_ACT_RTD_SEP_BEN EF CNE	
IB_NINC	OPR Generated	Numeric		Net income (Sch. H and I)	
INITIAL_FILING_IND	Combined Original	Character	Form 5500 Part I, B or Form 5500-SF Part I, B	This return/report is the first return/report	1 = yes, 0 = no
INS_CARRIER_BNFTS_AME	Edited	Numeric	Schedule H Part II, 2e(2)	Payments to insurance carriers for provision of benefits	
INS_CARRIER_BNFTS_AMT	Original	Numeric	Schedule H Part II, 2e(2)	Payments to insurance carriers for provision of benefits	
INS_CO_GEN_ACCT_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(14)	Value of funds in insurance company general account (unallocated contracts), BOY	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
INS_CO_GEN_ACCT_EOY_AME	Edited	Numeric	Schedule H Part I, 1c(14)	Value of funds in insurance company general account (unallocated contracts), EOY	
INS_CO_GEN_ACCT_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(14)	Value of funds in insurance company general account (unallocated contracts), EOY	
INT_103_12_INVST_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(12)	Value of interest in 103-12 IEs, BOY	
INT_103_12_INVST_EOY_AME	Edited	Numeric	Schedule H Part I, 1c(12)	Value of interest in 103-12 IEs, EOY	
INT_103_12_INVST_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(12)	Value of interest in 103-12 IEs, EOY	
INT_BEAR_CASH_AME	Edited	Numeric	Schedule H Part II, 2b(1)(A)	Interest earnings on interest-bearing cash	
INT_BEAR_CASH_AMT	Original	Numeric	Schedule H Part II, 2b(1)(A)	Interest earnings on interest-bearing cash	
INT_BEAR_CASH_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(1)	Interest bearing cash, BOY	
INT_BEAR_CASH_EOY_AME	Edited	Numeric	Schedule H Part I, 1c(1)	Interest bearing cash, EOY	
INT_BEAR_CASH_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(1)	Interest bearing cash, EOY	
INT_COMMON_TR_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(9)	Value of interest in CCTs, BOY	
INT_COMMON_TR_EOY_AME	Edited	Numeric	Schedule H Part I, 1c(9)	Value of interest in CCTs, EOY	
INT_COMMON_TR_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(9)	Value of interest in CCTs, EOY	
INT_MASTER_TR_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(11)	Value of interest in MTIAs, BOY	
INT_MASTER_TR_EOY_AME	Edited	Numeric	Schedule H Part I, 1c(11)	Value of interest in MTIAs, EOY	
INT_MASTER_TR_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(11)	Value of interest in MTIAs, EOY	
INT_ON_CORP_DEBT_AME	Edited	Numeric	Schedule H Part II, 2b(1)(C)	Interest earnings – Corporate debt instruments	
INT_ON_CORP_DEBT_AMT	Original	Numeric	Schedule H Part II, 2b(1)(C)	Interest earnings – Corporate debt instruments	
INT_ON_GOVT_SEC_AME	Edited	Numeric	Schedule H Part II, 2b(1)(B)	Interest earnings – U.S. Government securities	
INT_ON_GOVT_SEC_AMT	Original	Numeric	Schedule H Part II, 2b(1)(B)	Interest earnings – U.S. Government securities	
INT_ON_OTH_INVST_AME	Edited	Numeric	Schedule H Part II, 2b(1)(F)	Interest earnings – Other	
INT_ON_OTH_INVST_AMT	Original	Numeric	Schedule H Part II, 2b(1)(F)	Interest earnings – Other	
INT_ON_OTH_LOANS_AME	Edited	Numeric	Schedule H Part II, 2b(1)(D)	Interest earnings – Loans (other than to participants)	
INT_ON_OTH_LOANS_AMT	Original	Numeric	Schedule H Part II, 2b(1)(D)	Interest earnings – Loans (other than to participants)	
INT_ON_PARTCP_LOANS_AME	Edited	Numeric	Schedule H Part II, 2b(1)(E)	Interest earnings – Participant loans	
INT_ON_PARTCP_LOANS_AMT	Original	Numeric	Schedule H Part II, 2b(1)(E)	Interest earnings – Participant loans	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
INT_POOL_SEP_ACCT_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(10)	Value of interest in PSAs, BOY	
INT_POOL_SEP_ACCT_EOY_AME	Edited	Numeric	Schedule H Part I, 1c(10)	Value of interest in PSAs, EOY	
INT_POOL_SEP_ACCT_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(10)	Value of interest in PSAs, EOY	
INT_REG_INVST_CO_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(13)	Value of interest in registered investment companies (e.g. mutual funds), BOY	
INT_REG_INVST_CO_EOY_AME	Edited	Numeric	Schedule H Part I, 1c(13)	Value of interest in registered investment companies (e.g. mutual funds), EOY	
INT_REG_INVST_CO_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(13)	Value of interest in registered investment companies (e.g. mutual funds), EOY	
INVST_MGMT_FEES_AME	Edited	Numeric	Schedule H Part II, 2i(3)	Administrative expenses – Investment advisory & management fees	
INVST_MGMT_FEES_AMT	Original	Numeric	Schedule H Part II, 2i(3)	Administrative expenses – Investment advisory & management fees	
IOB_ASST	OPR Generated	Numeric		Other or unspecified assets (Sch. H and I and Form 5500-SF)	
IOB_ASST2	OPR Generated	Numeric		Other or unspecified assets (Sch. H and I), zero for Form 5500-SF filers	
IOB_EXP	OPR Generated	Numeric		Other or unspecified expenses (Sch. H and I)	
IOB_INC	OPR Generated	Numeric		Other or unspecified income (Sch. H and I)	
IOH_AEXP	OPR Generated	Numeric		Other or unspecified administrative expenses (Sch. H only)	
IOH_APP	OPR Generated	Numeric		Unspecified appreciation (Sch. H only)	
IOH_ASST	OPR Generated	Numeric		Other or unspecified assets (Sch. H only)	
IOH_ASST_C7	OPR Generated	Numeric		Other or unspecified assets (Sch. H only), percentage distribution	
IOH_BEN	OPR Generated	Numeric		Other or unspecified benefits (Sch. H only)	
IOH_CONT	OPR Generated	Numeric		Unspecified contributions (Sch. H only)	
IOH_CONT_C12	OPR Generated	Numeric		Unspecified contributions (Sch. H only), percentage distribution	
IOH_DIV	OPR Generated	Numeric		Unspecified dividends (Sch. H only)	
IOH_EXP	OPR Generated	Numeric		Unspecified expenses (Sch. H only)	
IOH_INC	OPR Generated	Numeric		Other or unspecified income (Sch. H only)	
IOH_INC_C12	OPR Generated	Numeric		Other or unspecified income (Sch. H only), percentage distribution	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
IOH_INT	OPR Generated	Numeric		Other or unspecified interest (Sch. H only)	
IOH_LIAB	OPR Generated	Numeric		Other liabilities (Sch. H only)	
ITB_LIAB	OPR Generated	Numeric		Total liabilities (Sch. H and I)	
JOINT_VENTURE_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(5)	Partnership/joint venture interests, BOY	
JOINT_VENTURE_EOY_AME	Combined Edited	Numeric	Schedule H Part I, 1c(5) or Schedule I Part I, 3a	Partnership/joint venture interests, EOY	
JOINT_VENTURE_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(5)	Partnership/joint venture interests, EOY	
K401	OPR Generated	Numeric		Plan is a defined contribution plan with code section 401(k) feature	1 = yes, 0 = no
K401_2013	OPR Generated	Numeric		Plan is a defined contribution plan with code section 401(k) feature or 401(m) arrangement	1 = yes, 0 = no
KSOP_TYPE9	OPR Generated	Numeric		Plan type (18 values)	STAND-ALONE ESOPS: 1 = Defined Benefit (total), 2 = Profit-Sharing (including thrift-savings), 3 = Stock Bonus, 4 = Target Benefit, 5 = Money Purchase, 7 = 403(b)(1), 8 = 403(b)(7), 9 = Code 408, 6 = Other Defined Contribution KSOPS: same categories for 10-18
KSOPCODE	OPR Generated	Numeric		ESOP, Stand-Alone or KSOP	1 = Stand-Alone ESOP, 2 = KSOP
LARGE	OPR Generated	Numeric		Plan is a "large" plan, i.e., 100 or more total participants	1 = yes, 0 = no
LAST_RPT_PLAN_NUM	Combined Original	Character	Form 5500 Part II, 4c or Form 5500-SF Part II, 4c	Plan number from last return/report	
LAST_RPT_SPONS_EIN	Combined Original	Character	Form 5500 Part II, 4b or Form 5500-SF Part II, 4b	EIN from last return/report	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
LAST_RPT_SPONS_NAME	Combined Original	Numeric	Form 5500 Part II, 4a or Form 5500-SF Part II, 4a	Sponsor's name from last return/report	
MONEY_PURCH	OPR Generated	Numeric		Plan indicated money purchase feature via code 2C in the pension benefit code	1 = yes, 0 = no
NET_ASSETS_BOY_AME	Combined Edited	Numeric	Schedule H Part I, 1l or Schedule I Part I, 1c or Form 5500-SF Part III, 7c	Net assets, BOY	
NET_ASSETS_BOY_AMT	Original	Numeric	Schedule H Part I, 1l	Net assets, BOY	
NET_ASSETS_EOY_AME	Combined Edited	Numeric	Schedule H Part I, 1l or Schedule I Part I, 1c or Form 5500-SF Part III, 7c	Net assets, EOY	
NET_ASSETS_EOY_AMT	Original	Numeric	Schedule H Part I, 1l	Net assets, EOY	
NET_INCOME_AME	Combined Edited	Numeric	Schedule H Part II, 2k or Schedule I Part I, 2k or Form 5500-SF Part III, 8i	Net income	
NET_INCOME_AMT	Original	Numeric	Schedule H Part II, 2k	Net income	
NET_TRANSFERS	OPR Generated	Numeric		Net transfers	
NON_CASH_CONTRIB_BS_AME	Combined Edited	Numeric	Schedule H Part II, 2a(2) or Schedule I Part I, 2b	Noncash contributions	
NON_CASH_CONTRIB_BS_AMT	Original	Numeric	Schedule H Part II, 2a(2)	Noncash contributions	
NON_INT_BEAR_CASH_BOY_AMT	Original	Numeric	Schedule H Part I, 1a	Total noninterest bearing cash, BOY	
NON_INT_BEAR_CASH_EOY_AME	Edited	Numeric	Schedule H Part I, 1a	Total noninterest bearing cash, EOY	
NON_INT_BEAR_CASH_EOY_AMT	Original	Numeric	Schedule H Part I, 1a	Total noninterest bearing cash, EOY	
OPR_EIN	OPR Generated	Character		OPR-assigned Employer Identification Number	9 digits
OPR_PN	OPR Generated	Character		OPR-assigned Employer Plan Number	4 digits
OPRTNG_PAYABLE_BOY_AMT	Original	Numeric	Schedule H Part I, 1h	Operating payables, BOY	
OPRTNG_PAYABLE_EOY_AME	Edited	Numeric	Schedule H Part I, 1h	Operating payables, EOY	
OPRTNG_PAYABLE_EOY_AMT	Original	Numeric	Schedule H Part I, 1h	Operating payables, EOY	
OTH_BNFT_PAYMENT_AME	Edited	Numeric	Schedule H Part II, 2e(3)	Other benefit payments	
OTH_BNFT_PAYMENT_AMT	Original	Numeric	Schedule H Part II, 2e(3)	Other benefit payments	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
OTH_CONTRIB_RCVD_AME	Combined Edited	Numeric	Schedule H Part II, 2a(1)(c) or Schedule I Part I, 2a(3) or Form 5500-SF Part III, 8a(3)	Other cash contributions	
OTH_CONTRIB_RCVD_AMT	Original	Numeric	Schedule H Part II, 2a(1)(C)	Other cash contributions	
OTH_INVST_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(15)	Other general investments, BOY	
OTH_INVST_EOY_AME	Edited	Numeric	Schedule H Part I, 1c(15)	Other general investments, EOY	
OTH_INVST_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(15)	Other general investments, EOY	
OTHER_ADMIN_FEES_AME	Edited	Numeric	Schedule H Part II, 2i(4)	Administrative expense – Other	
OTHER_ADMIN_FEES_AMT	Original	Numeric	Schedule H Part II, 2i(4)	Administrative expense – Other	
OTHER_EXPENSES_AME	Combined Edited	Numeric	Schedule I Part I, 2i or Form 5500-SF Part III, 8g	Other expenses	
OTHER_INCOME_AME	Combined Edited	Numeric	Schedule H Part II, 2c or Schedule I Part I, 2c or Form 5500-SF Part III, 8b	Other income	
OTHER_INCOME_AMT	Original	Numeric	Schedule H Part II, 2c	Other income	
OTHER_LIAB_BOY_AMT	Original	Numeric	Schedule H Part I, 1j	Other liabilities, BOY	
OTHER_LIAB_EOY_AME	Combined Edited	Numeric	Schedule H Part I, 1j or Schedule I Part I, 1b or Form 5500-SF Part III, 7b	Other liabilities, EOY	
OTHER_LIAB_EOY_AMT	Original	Numeric	Schedule H Part I, 1j	Other liabilities, EOY	
OTHER_LOANS_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(7)	Loans (other than to participants), BOY	
OTHER_LOANS_EOY_AME	Combined Edited	Numeric	Schedule H Part I, 1c(7) or Schedule I Part I, 3f	Loans (other than to participants), EOY	
OTHER_LOANS_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(7)	Loans (other than to participants), EOY	
OTHER_RECEIVABLES_BOY_AME	Edited	Numeric	Schedule H Part I, 1b(3)	Receivables – Other receivables, BOY	
OTHER_RECEIVABLES_BOY_AMT	Original	Numeric	Schedule H Part I, 1b(3)	Receivables – Other receivables, BOY	
OTHER_RECEIVABLES_EOY_AME	Edited	Numeric	Schedule H Part I, 1b(3)	Receivables – Other receivables, EOY	
OTHER_RECEIVABLES_EOY_AMT	Original	Numeric	Schedule H Part I, 1b(3)	Receivables – Other receivables, EOY	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
PART13	OPR Generated	Numeric		Total participants, formatted	
PART14	OPR Generated	Numeric		Total participants, formatted	
PARTCP_ACCOUNT_BAL_CNE	Combined Edited	Numeric	Form 5500 Part II, 6g or Form 5500-SF Part II, 5c	Number of participants with account balances as of the end of the year (defined contribution plans only)	
PARTCP_ACCOUNT_BAL_CNT	Combined Original	Numeric	Form 5500 Part II, 6g or Form 5500-SF Part II, 5c	Number of participants with account balances as of the end of the year (defined contribution plans only)	
PARTCP_CONTRIB_BOY_AME	Edited	Numeric	Schedule H Part I, 1b(2)	Receivables – Participant contributions, BOY	
PARTCP_CONTRIB_BOY_AMT	Original	Numeric	Schedule H Part I, 1b(2)	Receivables – Participant contributions, BOY	
PARTCP_CONTRIB_EOY_AME	Edited	Numeric	Schedule H Part I, 1b(2)	Receivables – Participant contributions, EOY	
PARTCP_CONTRIB_EOY_AMT	Original	Numeric	Schedule H Part I, 1b(2)	Receivables – Participant contributions, EOY	
PARTCP_LOANS_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(8)	Participant loans, BOY	
PARTCP_LOANS_EOY_AME	Combined Edited	Numeric	Schedule H Part I, 1c(8) or Schedule I Part I, 3e	Participant loans, EOY	
PARTCP_LOANS_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(8)	Participant loans, EOY	
PARTICIPANT_CONTRIB_AME	Combined Edited	Numeric	Schedule H Part II, 2a(1)(B) or Schedule I Part I, 2a(2) or Form 5500-SF Part III, 8a(2)	Cash contributions from participants	
PARTICIPANT_CONTRIB_AMT	Original	Numeric	Schedule H Part II, 2a(1)(B)	Cash contributions from participants	
PDIR	OPR Generated	Numeric		Participant-direction flag	0 = None, 1 = Partial, 2 = Total
PLAN_NAME	Combined Original	Character	Form 5500 Part II, 1a or Form 5500-SF Part II, 1a	Name of plan	
PLAN_NAME_E	Combined Edited	Character	Form 5500 Part II, 1a or Form 5500-SF Part II, 1a	Name of plan	
PREF_STOCK_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(4)(A)	Corporate stocks – Preferred, BOY	
PREF_STOCK_EOY_AME	Edited	Numeric	Schedule H Part I, 1c(4)(A)	Corporate stocks – Preferred, EOY	
PREF_STOCK_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(4)(A)	Corporate stocks – Preferred, EOY	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
PRI_SUP_CODE	OPR Generated	Numeric		Primary/supplemental plan indicator	There are 24 different possible values for this item – see the table under PRI_SUP_CODE above
PROF_SHARE	OPR Generated	Numeric		Plan indicated profit sharing feature via code 2E in the pension benefit code	1 = yes, 0 = no
PROFESSIONAL_FEES_AME	Edited	Numeric	Schedule H Part II, 2i(1)	Administrative expense – Professional fees	
PROFESSIONAL_FEES_AMT	Original	Numeric	Schedule H Part II, 2i(1)	Administrative expense – Professional fees	
PYB	OPR Generated	Character		Plan year begin date	
PYE	OPR Generated	Character		Plan year end date	
REAL_ESTATE_BOY_AMT	Original	Numeric	Schedule H Part I, 1c(6)	Real estate (other than employer real property), BOY	
REAL_ESTATE_EOY_AME	Combined Edited	Numeric	Schedule H Part I, 1c(6) or Schedule I Part I, 3c	Real estate (other than employer real property), EOY	
REAL_ESTATE_EOY_AMT	Original	Numeric	Schedule H Part I, 1c(6)	Real estate (other than employer real property), EOY	
REGISTERED_INVST_AME	Edited	Numeric	Schedule H Part II, 2b(2)(c)	Registered investment company shares (e.g., mutual funds)	
REGISTERED_INVST_AMT	Original	Numeric	Schedule H Part II, 2b(2)(c)	Registered investment company shares (e.g., mutual funds)	
RES_TERM_PLAN_ADPT_IND	Combined Original	Character	Schedule H Part IV, 5a or Schedule I Part II, 5a or Form 5500-SF Part VII, 13a	Was a resolution to terminate the plan adopted?	1 = yes, 2 = no
RTD_SEP_PARTCP_FUT_CNE	Edited	Numeric	Form 5500 Part II, 6c or derived from Form 5500-SF	Number of other retired or separated participants entitled to future benefits	
RTD_SEP_PARTCP_FUT_CNT	Original	Numeric	Form 5500 Part II, 6c	Number of other retired or separated participants entitled to future benefits	
RTD_SEP_PARTCP_RCVG_CNE	Edited	Numeric	Form 5500 Part II, 6b or derived from Form 5500-SF	Number of retired or separated participants receiving benefits	
RTD_SEP_PARTCP_RCVG_CNT	Original	Numeric	Form 5500 Part II, 6b	Number of retired or separated participants receiving benefits	
S_WGT	OPR Generated	Numeric		Plan weight used for computing stock quantities, such as assets, liabilities, and participation	WGT * BEST_FOR_P LAN

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
SEP_PARTCP_PARTL_VSTD_CNE	Edited	Numeric	Form 5500 Part II, 6h	Number of participants that terminated employment during the plan year with accrued benefits that were less than 100% vested	
SEP_PARTCP_PARTL_VSTD_CNT	Original	Numeric	Form 5500 Part II, 6h	Number of participants that terminated employment during the plan year with accrued benefits that were less than 100% vested	
SF_ADMIN_SRVC_PROVIDERS_AME	Edited	Numeric	Form 5500-SF Part III, 8f	Expenses paid to administrative service providers	
SF_ADMIN_SRVC_PROVIDERS_AMT	Original	Numeric	Form 5500-SF Part III, 8f	Expenses paid to administrative service providers	
SF_CORRECTIVE_DEEMED_DISTRA_ME	Edited	Numeric	Form 5500-SF Part III, 8e	Certain deemed and/or corrective distributions	
SF_CORRECTIVE_DEEMED_DISTRA_MNT	Original	Numeric	Form 5500-SF Part III, 8e	Certain deemed and/or corrective distributions	
SF_EMPLR_CONTRIB_INCOME_AME	Edited	Numeric	Form 5500-SF Part III, 8a(1)	Employer contributions	
SF_EMPLR_CONTRIB_INCOME_AMT	Original	Numeric	Form 5500-SF Part III, 8a(1)	Employer contributions	
SF_NET_ASSETS_BOY_AME	Edited	Numeric	Form 5500-SF Part III, 7c	Net assets, BOY	
SF_NET_ASSETS_BOY_AMT	Original	Numeric	Form 5500-SF Part III, 7c	Net assets, BOY	
SF_NET_ASSETS_EOY_AME	Edited	Numeric	Form 5500-SF Part III, 7c	Net assets, EOY	
SF_NET_ASSETS_EOY_AMT	Original	Numeric	Form 5500-SF Part III, 7c	Net assets, EOY	
SF_NET_INCOME_AME	Edited	Numeric	Form 5500-SF Part III, 8i	Net income	
SF_NET_INCOME_AMT	Original	Numeric	Form 5500-SF Part III, 8i	Net income	
SF_OTH_CONTRIB_RCVD_AME	Edited	Numeric	Form 5500-SF Part III, 8a(3)	Other contributions	
SF_OTH_CONTRIB_RCVD_AMT	Original	Numeric	Form 5500-SF Part III, 8a(3)	Other contributions	
SF_OTH_EXPENSES_AME	Edited	Numeric	Form 5500-SF Part III, 8g	Other expenses	
SF_OTH_EXPENSES_AMT	Original	Numeric	Form 5500-SF Part III, 8g	Other expenses	
SF_OTHER_INCOME_AME	Edited	Numeric	Form 5500-SF Part III, 8b	Other income	
SF_OTHER_INCOME_AMT	Original	Numeric	Form 5500-SF Part III, 8b	Other income	
SF_PARTICIP_CONTRIB_INCOME_AME	Edited	Numeric	Form 5500-SF Part III, 8a(2)	Participant contributions	
SF_PARTICIP_CONTRIB_INCOME_AMT	Original	Numeric	Form 5500-SF Part III, 8a(2)	Participant contributions	
SF_TOT_ASSETS_BOY_AME	Edited	Numeric	Form 5500-SF Part III, 7a	Total assets, BOY	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
SF_TOT_ASSETS_BOY_AMT	Original	Numeric	Form 5500-SF Part III, 7a	Total assets, BOY	
SF_TOT_ASSETS_EOY_AME	Edited	Numeric	Form 5500-SF Part III, 7a	Total assets, EOY	
SF_TOT_ASSETS_EOY_AMT	Original	Numeric	Form 5500-SF Part III, 7a	Total assets, EOY	
SF_TOT_DISTRIB_BNFT_AME	Edited	Numeric	Form 5500-SF Part III, 8d	Benefits paid	
SF_TOT_DISTRIB_BNFT_AMT	Original	Numeric	Form 5500-SF Part III, 8d	Benefits paid	
SF_TOT_EXPENSES_AME	Edited	Numeric	Form 5500-SF Part III, 8h	Total expenses	
SF_TOT_EXPENSES_AMT	Original	Numeric	Form 5500-SF Part III, 8h	Total expenses	
SF_TOT_INCOME_AME	Edited	Numeric	Form 5500-SF Part III, 8c	Total income	
SF_TOT_INCOME_AMT	Original	Numeric	Form 5500-SF Part III, 8c	Total income	
SF_TOT_LIABILITIES_BOY_AME	Edited	Numeric	Form 5500-SF Part III, 7b	Total liabilities, BOY	
SF_TOT_LIABILITIES_BOY_AMT	Original	Numeric	Form 5500-SF Part III, 7b	Total liabilities, BOY	
SF_TOT_LIABILITIES_EOY_AME	Edited	Numeric	Form 5500-SF Part III, 7b	Total liabilities, EOY	
SF_TOT_LIABILITIES_EOY_AMT	Original	Numeric	Form 5500-SF Part III, 7b	Total liabilities, EOY	
SF_TOT_PLAN_TRANSFERS_AME	Edited	Numeric	Form 5500-SF Part III, 8j	Transfers to (from) the plan	
SF_TOT_PLAN_TRANSFERS_AMT	Original	Numeric	Form 5500-SF Part III, 8j	Transfers to (from) the plan	
SHORT_PLAN_YR_IND	Combined Original	Character	Form 5500 Part I, B or Form 5500-SF Part I, B	This return/report is a short plan year return/report (less than 12 months)	1 = yes, 0 = no
SMALL_ADMIN_SRVC_PROVIDERS_AME	Edited	Numeric	Schedule I Part I, 2h	Administrative service providers (salaries, fees, and commissions)	
SMALL_ADMIN_SRVC_PROVIDERS_AMT	Original	Numeric	Schedule I Part I, 2h	Administrative service providers (salaries, fees, and commissions)	
SMALL_CORRECTIVE_DISTRIB_AME	Edited	Numeric	Schedule I Part I, 2f	Corrective distributions	
SMALL_CORRECTIVE_DISTRIB_AMT	Original	Numeric	Schedule I Part I, 2f	Corrective distributions	
SMALL_DM_DSTRB_PTCP_LN_A	Original	Numeric	Schedule I Part I, 2g	Certain deemed distributions of participant loans	
SMALL_DM_DSTRB_PTCP_LN_E	Edited	Numeric	Schedule I Part I, 2g	Certain deemed distributions of participant loans	
SMALL_EMPLR_CONTRIB_INCOME_AME	Edited	Numeric	Schedule I Part I, 2a(1)	Employer contributions	
SMALL_EMPLR_CONTRIB_INCOME_AMT	Original	Numeric	Schedule I Part I, 2a(1)	Employer contributions	
SMALL_EMPLR_PROP_EOY_AME	Edited	Numeric	Schedule I Part I, 3b	Employer property, EOY	
SMALL_EMPLR_PROP_EOY_AMT	Original	Numeric	Schedule I Part I, 3b	Employer property, EOY	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
SMALL_EMPLR_SEC_EOY_AME	Edited	Numeric	Schedule I Part I, 3d	Employer securities, EOY	
SMALL_EMPLR_SEC_EOY_AMT	Original	Numeric	Schedule I Part I, 3d	Employer securities, EOY	
SMALL_INV_REAL_ESTATE_EOY_AME	Edited	Numeric	Schedule I Part I, 3c	Real estate investments, EOY	
SMALL_INV_REAL_ESTATE_EOY_AMT	Original	Numeric	Schedule I Part I, 3c	Real estate investments, EOY	
SMALL_JOINT_VENTURE_EOY_AME	Edited	Numeric	Schedule I Part I, 3a	Joint ventures/partnerships, EOY	
SMALL_JOINT_VENTURE_EOY_AMT	Original	Numeric	Schedule I Part I, 3a	Joint ventures/partnerships, EOY	
SMALL_MORTG_PARTCP_EOY_AME	Edited	Numeric	Schedule I Part I, 3e	Participant loans, EOY	
SMALL_MORTG_PARTCP_EOY_AMT	Original	Numeric	Schedule I Part I, 3e	Participant loans, EOY	
SMALL_NET_ASSETS_BOY_AME	Edited	Numeric	Schedule I Part I, 1c	Net assets, BOY	
SMALL_NET_ASSETS_BOY_AMT	Original	Numeric	Schedule I Part I, 1c	Net assets, BOY	
SMALL_NET_ASSETS_EOY_AME	Edited	Numeric	Schedule I Part I, 1c	Net assets, EOY	
SMALL_NET_ASSETS_EOY_AMT	Original	Numeric	Schedule I Part I, 1c	Net assets, EOY	
SMALL_NET_INCOME_AME	Edited	Numeric	Schedule I Part I, 2k	Net income	
SMALL_NET_INCOME_AMT	Original	Numeric	Schedule I Part I, 2k	Net income	
SMALL_NON_CASH_CONTRIB_BS_AME	Edited	Numeric	Schedule I Part I, 2b	Noncash contributions	
SMALL_NON_CASH_CONTRIB_BS_AMT	Original	Numeric	Schedule I Part I, 2b	Noncash contributions	
SMALL_OTH_CONTRIB_RCVD_AME	Edited	Numeric	Schedule I Part I, 2a(3)	Other contributions received/receivable	
SMALL_OTH_CONTRIB_RCVD_AMT	Original	Numeric	Schedule I Part I, 2a(3)	Other contributions received/receivable	
SMALL_OTH_EXPENSES_AME	Edited	Numeric	Schedule I Part I, 2i	Other expenses	
SMALL_OTH_EXPENSES_AMT	Original	Numeric	Schedule I Part I, 2i	Other expenses	
SMALL_OTH_LNS_PARTCP_EOY_AME	Edited	Numeric	Schedule I Part I, 3f	Loans (other than to participants), EOY	
SMALL_OTH_LNS_PARTCP_EOY_AMT	Original	Numeric	Schedule I Part I, 3f	Loans (other than to participants), EOY	
SMALL_OTHER_INCOME_AME	Edited	Numeric	Schedule I Part I, 2c	Other income	
SMALL_OTHER_INCOME_AMT	Original	Numeric	Schedule I Part I, 2c	Other income	
SMALL_PARTICIPANT_CONTRIB_AME	Edited	Numeric	Schedule I Part I, 2a(2)	Participant contributions	
SMALL_PARTICIPANT_CONTRIB_AMT	Original	Numeric	Schedule I Part I, 2a(2)	Participant contributions	
SMALL_PERSONAL_PROP_EOY_AME	Edited	Numeric	Schedule I Part I, 3g	Personal property, EOY	
SMALL_PERSONAL_PROP_EOY_AMT	Original	Numeric	Schedule I Part I, 3g	Personal property, EOY	
SMALL_TOT_ASSETS_BOY_AME	Edited	Numeric	Schedule I Part I, 1a	Total assets, BOY	
SMALL_TOT_ASSETS_BOY_AMT	Original	Numeric	Schedule I Part I, 1a	Total assets, BOY	
SMALL_TOT_ASSETS_EOY_AME	Edited	Numeric	Schedule I Part I, 1a	Total assets, EOY	
SMALL_TOT_ASSETS_EOY_AMT	Original	Numeric	Schedule I Part I, 1a	Total assets, EOY	
SMALL_TOT_DISTRI_BNFT_AME	Edited	Numeric	Schedule I Part I, 2e	Total benefits paid	
SMALL_TOT_DISTRI_BNFT_AMT	Original	Numeric	Schedule I Part I, 2e	Total benefits paid	
SMALL_TOT_EXPENSES_AME	Edited	Numeric	Schedule I Part I, 2j	Total expenses	
SMALL_TOT_EXPENSES_AMT	Original	Numeric	Schedule I Part I, 2j	Total expenses	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
SMALL_TOT_INCOME_AME	Edited	Numeric	Schedule I Part I, 2d	Total income	
SMALL_TOT_INCOME_AMT	Original	Numeric	Schedule I Part I, 2d	Total income	
SMALL_TOT_LIABILITIES_BOY_AME	Edited	Numeric	Schedule I Part I, 1b	Total liabilities, BOY	
SMALL_TOT_LIABILITIES_BOY_AMT	Original	Numeric	Schedule I Part I, 1b	Total liabilities, BOY	
SMALL_TOT_LIABILITIES_EOY_AME	Edited	Numeric	Schedule I Part I, 1b	Total liabilities, EOY	
SMALL_TOT_LIABILITIES_EOY_AMT	Original	Numeric	Schedule I Part I, 1b	Total liabilities, EOY	
SMALL_TOT_PLAN_TRANSFERS_AME	Edited	Numeric	Schedule I Part I, 2l	Transfers to (from) the plan	
SMALL_TOT_PLAN_TRANSFERS_AMT	Original	Numeric	Schedule I Part I, 2l	Transfers to (from) the plan	
SOLEPLAN	OPR Generated	Numeric		Plan is the sole plan offered by employer	1 = yes, 0 = no
SPONS_DFE_EIN	Combined Original	Character	Form 5500 Part II, 2b or Form 5500-SF Part II, 2b	Employer Identification Number (EIN)	
SPONS_DFE_MAIL_US_CITY	Original	Character	Form 5500 Part II, 2a	Sponsor city	
SPONS_DFE_MAIL_US_STATE	Original	Character	Form 5500 Part II, 2a	Sponsor state	
SPONS_DFE_MAIL_US_ZIP	Original	Character	Form 5500 Part II, 2a	Sponsor zip code	
SPONS_DFE_PN	Combined Original	Character	Form 5500 Part II, 1b or Form 5500-SF Part II, 1b	Three-digit plan number (PN)	
SPONSOR_DFE_NAME	Combined Original	Character	Form 5500 Part II, 2a or Form 5500-SF Part II, 2a	Sponsor name	
SRDB_ASST	OPR Generated	Numeric		Sum of reported detail – Assets (Sch. H and I)	
SRDB_EXP	OPR Generated	Numeric		Sum of reported detail – Expenses (Sch. H and I)	
SRDB_INC	OPR Generated	Numeric		Sum of reported detail – Income (Sch. H and I)	
SRDH_AEXP	OPR Generated	Numeric		Sum of reported detail – Admin. expense (Sch. H)	
SRDH_APP	OPR Generated	Numeric		Sum of reported detail – Appreciation (Sch. H)	
SRDH_ASST	OPR Generated	Numeric		Sum of reported detail – Assets (Sch. H)	
SRDH_ASST_C7	OPR Generated	Numeric		Sum of reported detail – Assets (Sch. H), percentage distribution	
SRDH_BEN	OPR Generated	Numeric		Sum of reported detail – Benefits (Sch. H)	
SRDH_CASH	OPR Generated	Numeric		Sum of reported detail – Cash (Sch. H)	
SRDH_CONT	OPR Generated	Numeric		Sum of reported detail – Contributions (Sch. H)	
SRDH_CONT_C12	OPR Generated	Numeric		Sum of reported detail – Contributions (Sch. H), percentage distribution	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
SRDH_DIV	OPR Generated	Numeric		Sum of reported detail – Dividends (Sch. H)	
SRDH_EXP	OPR Generated	Numeric		Sum of reported detail – Expenses (Sch. H)	
SRDH_INC	OPR Generated	Numeric		Sum of reported detail – Income (Sch. H)	
SRDH_INC_C12	OPR Generated	Numeric		Sum of reported detail – Income (Sch. H), percentage distribution	
SRDH_INT	OPR Generated	Numeric		Sum of reported detail – Interest (Sch. H)	
SRDH_LIAB	OPR Generated	Numeric		Sum of reported detail – Liabilities (Sch. H)	
SRDH_LOANS	OPR Generated	Numeric		Sum of reported detail – Loans (Sch. H)	
SRDH_REC	OPR Generated	Numeric		Sum of reported detail – Receivables (Sch. H)	
SRDH_STOCK	OPR Generated	Numeric		Sum of reported detail – Stock (Sch. H)	
STOCK_BONUS	OPR Generated	Numeric		Plan indicated stock bonus feature via code 2I in the pension benefit code	1 = yes, 0 = no
SUBTL_ACT_RTD_SEP_CNE	Combined Edited	Numeric	Form 5500 Part II, 6d or Form 5500-SF Part II, 5b	Subtotal of active, retired, and separated participants, EOY	
SUBTL_ACT_RTD_SEP_CNT	Combined Original	Numeric	Form 5500 Part II, 6d or Form 5500-SF Part II, 5b	Subtotal of active, retired, and separated participants, EOY	
TARGET_BENEFIT	OPR Generated	Numeric		Plan indicated target benefit feature via code 2B in the pension benefit code	1 = yes, 0 = no
TOT_ACT_PARTCP_BOY_CNT	Combined Original	Numeric	Form 5500 Part II, 6a(1) or Form 5500-SF Part II, 5d(1)	Total active participants, BOY	
TOT_ACT_RTD_SEP_BENEF_CNE	Combined Edited	Numeric	Form 5500 Part II, 6f or Form 5500-SF Part II, 5b	Number of active, retired, separated, and beneficiaries of deceased participants, EOY	
TOT_ACT_RTD_SEP_BENEF_CNT	Combined Original	Numeric	Form 5500 Part II, 6f or Form 5500-SF Part II, 5b	Number of active, retired, separated, and beneficiaries of deceased participants, EOY	
TOT_ACTIVE_PARTCP_CNE	Combined Edited	Numeric	Form 5500 Part II, 6a(2) or Form 5500-SF Part II, 5d(2)	Number of active participants	
TOT_ACTIVE_PARTCP_CNT	Combined Original	Numeric	Form 5500 Part II, 6a(2) or Form 5500-SF Part II, 5d(2)	Number of active participants	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
TOT_ADMIN_EXPENSES_AME	Combined Edited	Numeric	Schedule H Part II, 2i(5) or Schedule I Part I, 2h or Form 5500-SF Part III, 8f	Total administrative expenses	
TOT_ADMIN_EXPENSES_AMT	Original	Numeric	Schedule H Part II, 2i(5)	Total administrative expenses	
TOT_ADMIN_SRVC_PROVIDERS_AME	Edited	Numeric	Form 5500-SF Part III, 8f	Administrative service providers (salaries, fees, commissions)	
TOT_ASSETS_BOY_AME	Combined Edited	Numeric	Schedule H Part I, 1f or Schedule I Part I, 1a or Form 5500-SF Part III, 7a	Total assets, BOY	
TOT_ASSETS_BOY_AMT	Original	Numeric	Schedule H Part I, 1f	Total assets, BOY	
TOT_ASSETS_EOY_AME	Combined Edited	Numeric	Schedule H Part I, 1f or Schedule I Part I, 1a or Form 5500-SF Part III, 7a	Total assets, EOY	
TOT_ASSETS_EOY_AMT	Original	Numeric	Schedule H Part I, 1f	Total assets, EOY	
TOT_CONTRIB_AME	Combined Edited	Numeric	Schedule H Part II, 2a(3) or Sum of Schedule I Part I, 2a(1), 2a(2), 2a(3), and 2b or Sum of Form 5500-SF Part III, 8a(1), 8a(2), 8a(3)	Total contributions	
TOT_CONTRIB_AMT	Original	Numeric	Schedule H Part II, 2a(3)	Total contributions	
TOT_CORRECTIVE_DISTRIB_AME	Combined Edited	Numeric	Schedule H Part II, 2f or Schedule I Part I, 2f or Form 5500-SF Part III, 8e	Corrective distributions	
TOT_CORRECTIVE_DISTRIB_AMT	Original	Numeric	Schedule H Part II, 2f	Corrective distributions	
TOT_DISTRIB_BNFT_AME	Combined Edited	Numeric	Schedule H Part II, 2e(4) or Schedule I Part I, 2e or Form 5500-SF Part III, 8d	Total benefit payments	
TOT_DISTRIB_BNFT_AMT	Original	Numeric	Schedule H Part II, 2e(4)	Total benefit payments	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
TOT_DM_DISTRIB_PTCP_LNS_A	Original	Numeric	Schedule H Part II, 2g	Certain deemed distributions of participant loans	
TOT_DM_DISTRIB_PTCP_LNS_E	Edited	Numeric	Schedule H Part II, 2g	Certain deemed distributions of participant loans	
TOT_EXPENSES_AME	Combined Edited	Numeric	Schedule H Part II, 2j or Schedule I Part I, 2j or Form 5500-SF Part III, 8h	Total expenses	
TOT_EXPENSES_AMT	Original	Numeric	Schedule H Part II, 2j	Total expenses	
TOT_GAIN_LOSS_SALE_AST_AME	Edited	Numeric	Schedule H Part II, 2b(4)(C)	Net gain on sale of assets	
TOT_GAIN_LOSS_SALE_AST_AMT	Original	Numeric	Schedule H Part II, 2b(4)(C)	Net gain on sale of assets	
TOT_INCOME_AME	Combined Edited	Numeric	Schedule H Part II, 2d or Schedule I Part I, 2d or Form 5500-SF Part III, 8c	Total income	
TOT_INCOME_AMT	Original	Numeric	Schedule H Part II, 2d	Total income	
TOT_INT_EXPENSE_AME	Edited	Numeric	Schedule H Part II, 2h	Interest expense	
TOT_INT_EXPENSE_AMT	Original	Numeric	Schedule H Part II, 2h	Interest expense	
TOT_LIABILITIES_BOY_AME	Combined Edited	Numeric	Schedule H Part I, 1k or Schedule I Part I, 1b or Form 5500-SF Part III, 7b	Total liabilities, BOY	
TOT_LIABILITIES_BOY_AMT	Original	Numeric	Schedule H Part I, 1k	Total liabilities, BOY	
TOT_LIABILITIES_EOY_AME	Combined Edited	Numeric	Schedule H Part I, 1k or Schedule I Part I, 1b or Form 5500-SF Part III, 7b	Total liabilities, EOY	
TOT_LIABILITIES_EOY_AMT	Original	Numeric	Schedule H Part I, 1k	Total liabilities, EOY	
TOT_PARTCP_BOY_CNE	Combined Edited	Numeric	Form 5500 Part II, 5 or Form 5500-SF Part II, 5a	Total participants, BOY	
TOT_PARTCP_BOY_CNT	Combined Original	Numeric	Form 5500 Part II, 5 or Form 5500-SF Part II, 5a	Total participants, BOY	

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
TOT_TRANSFERS_FROM_AME	Combined Edited	Numeric	Schedule H Part II, 2l(2) or Schedule I Part I, 2l or Form 5500-SF Part III, 8j	Transfers of assets from this plan	
TOT_TRANSFERS_FROM_AMT	Original	Numeric	Schedule H Part II, 2l(2)	Transfers of assets from this plan	
TOT_TRANSFERS_TO_AME	Combined Edited	Numeric	Schedule H Part II, 2l(1) or Schedule I Part I, 2l or Form 5500-SF Part III, 8j	Transfers of assets to this plan	
TOT_TRANSFERS_TO_AMT	Original	Numeric	Schedule H Part II, 2l(1)	Transfers of assets to this plan	
TOT_UNREALZD_APPRCTN_AME	Edited	Numeric	Schedule H Part II, 2b(5)(C)	Unrealized appreciation – Total	
TOT_UNREALZD_APPRCTN_AMT	Original	Numeric	Schedule H Part II, 2b(5)(C)	Unrealized appreciation – Total	
TOTAL_DIVIDENDS_AME	Edited	Numeric	Schedule H Part II, 2b(2)(D)	Dividends – Total	
TOTAL_DIVIDENDS_AMT	Original	Numeric	Schedule H Part II, 2b(2)(D)	Dividends – Total	
TOTAL_INTEREST_AME	Edited	Numeric	Schedule H Part II, 2b(1)(G)	Interest earnings – Total	
TOTAL_INTEREST_AMT	Original	Numeric	Schedule H Part II, 2b(1)(G)	Interest earnings – Total	
TOTAL_RENTS_AME	Edited	Numeric	Schedule H Part II, 2b(3)	Rents – Total	
TOTAL_RENTS_AMT	Original	Numeric	Schedule H Part II, 2b(3)	Rents – Total	
TPART	OPR Generated	Numeric		Total participants, EOY. Equal to SUBTL_ACT_RTD_SEP_C NE	
TYPE_PENSION_BNFT_CODE	Combined Original	Character	Form 5500 Part II, 8a or Form 5500-SF Part IV, 9a	Pension characteristics codes	1A – 1I, 2A – 2T, 3B – 3J (see Form 5500 instructions for details)
TYPE_PENSION_BNFT_CODE_E	Combined Edited	Character	Form 5500 Part II, 8a or Form 5500-SF Part IV, 9a	Pension characteristics codes	
TYPE_PLAN_ENTITY_CD	Combined Original	Character	Form 5500 Part I, A or Form 5500-SF Part I, A	Type of plan entity	1 = multiemployer plan, 2 = single-employer plan, 3 = multiple-employer plan, 4 = DFE
TYPE_PLAN_ENTITY_CD_E	Combined Edited	Character	Form 5500 Part I, A or Form 5500-SF Part I, A	Type of plan entity	1 = multiemployer plan, 2 = single-employer plan, 3 = multiple-employer plan, 4 = DFE

<u>SAS Variable Name</u>	<u>Type of Variable</u>	<u>Variable Format</u>	<u>Source</u>	<u>Variable Description</u>	<u>Values</u>
TYPE2	OPR Generated	Character		Plan type (2 values)	1 = DB, 2 = DC
TYPE3	OPR Generated	Character		Plan type (3 values)	1 = Defined Contribution (total), 2 = Cash Balance or similar, 3 = Other Defined Benefit
TYPE9	OPR Generated	Character		Plan type (9 values)	1 = Defined Benefit (total), 2 = Profit- Sharing (including thrift-savings), 3 = Stock Bonus, 4 = Target Benefit, 5 = Money Purchase, 6 = 403(b)(1), 8 = 403(b)(7), 9 = Code 408, X = Other Defined Contribution
UNREALZD_APPRCTN_OTH_AME	Edited	Numeric	Schedule H Part II, 2b(5)(B)	Unrealized appreciation – Other	
UNREALZD_APPRCTN_OTH_AMT	Original	Numeric	Schedule H Part II, 2b(5)(B)	Unrealized appreciation – Other	
UNREALZD_APPRCTN_RE_AME	Edited	Numeric	Schedule H Part II, 2b(5)(A)	Unrealized appreciation – Other	
UNREALZD_APPRCTN_RE_AMT	Original	Numeric	Schedule H Part II, 2b(5)(A)	Unrealized appreciation – Real estate	
UNSPEC_DIST_BNFT_AME	OPR Generated	Numeric		Unspecified benefits distributed	
UNSPEC_INVEST_EOY_AME	OPR Generated	Numeric		Unspecified investments, EOY	
WGT	OPR Generated	Numeric		Plan weight	

Volume 2: Summary of Historical Changes

I. Summary of Historical Changes for the Form 5500 Private Pension Plan Research File

Volume 1 of this document describes the process and methodology used to develop the most recent version of the *PPP Research File*. This methodology has evolved over time to respond to changes to the Form 5500 itself, technological improvements, and other constraints. This Volume provides detail on these various methodological changes chronologically by topic.

a) EBSA Form 5500 Processing

As discussed in Volume 1, the Department currently receives all Form 5500 filings electronically through the EFAST2 system. Prior to January 1, 2010, the Department mailed Form 5500 filings received in paper format through the mail to a facility in Lawrence, KS, where they were electronically scanned using Optical Character Recognition (OCR) software. Each month these electronic images were loaded into an Oracle relational database called the EFAST Master File (EMF). The EMF consists of all information from the Form 5500 Series, as well as some generated summary information, for each plan year. EBSA received a subset of the EMF which primarily included the Form 5500 Annual Return/Report, Schedules and Attachments for retirement plans, welfare plans, and direct filing entities (DFEs) and excluded such items as Form 5500-EZ (One-Participant Plan) filings and Internal Revenue Service (IRS) entity information. This subset of tables, known as the Electronic Disclosure System (EDS), was the source of unedited data for the *PPP Research File*.

Beginning January 1, 2010 (affecting all *PPP Bulletins* subsequent to 2009), the Department moved to a new filing system called EFAST2. Under EFAST2, all Form 5500 filings are required to be submitted electronically. Form 5500 filers can either electronically prepare and submit a plan year Form 5500 Annual Return/Report using EFAST2-approved third-party software or electronically prepare and submit a plan year Form 5500 Annual Return/Report using IFILE, a free limited-function web application. As a result, all Form 5500 Series data are now directly available as tables under the EFAST2 system. Any additional attachments, such as the report of auditors, are available only as a PDF image.

b) Data Selection and Sampling

1. Timing of Data Extraction

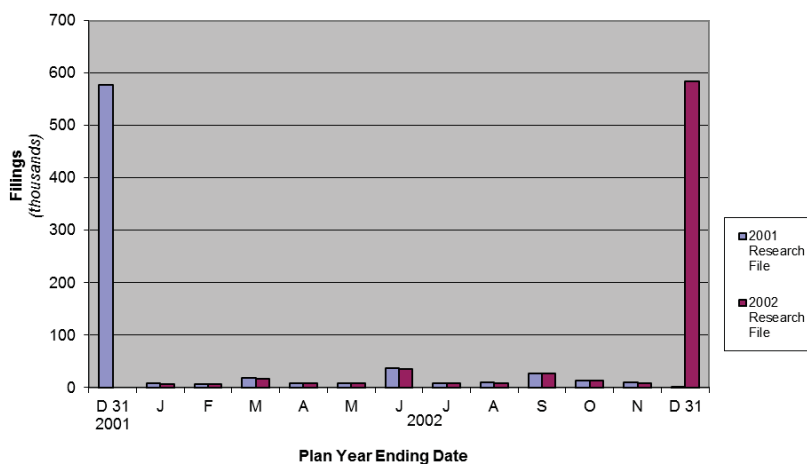
Prior to the *2002 PPP Research File*, for a given year, the *PPP Research File* database consisted of a cohort of plans with a plan year beginning date in the given year. For instance, the *2001 PPP Research File* included all relevant Form 5500 filings with a reported plan year beginning date of January 1, 2001 through December 31, 2001. This plan year selection methodology required a *PPP Research File* data selection date which fell after EBSA received the 20 percent of plan filings that operate on a non-calendar year basis, significantly delaying the publication of data for a given year.

Beginning with the *2002 PPP Research File*, the data for a given calendar year reflects filings for plan years that end, rather than begin, in that calendar year. For example, the *2002 PPP Research*

File and the corresponding *2002 PPP Bulletin*, contain data for plans with plan years ending between 1/1/2002 and 12/31/2002, rather than plan years which end between 12/31/2002 and 12/30/2003. This timing definition change does not affect calendar year filers (i.e., plans beginning January 1 and ending December 31), which make up approximately 80 percent of all filers for a given plan year. Although the ending date methodology contrasts with the methods used by other government agencies and private entities, it allows EBSA to publish statistics in a timely fashion.

The chart below summarizes the number of plans with plan year end dates of 12/31/2001, dates ending in each month of 2002 (except for the single day 12/31/2002), and then separately 12/31/2002. Versions of the *PPP Research File* generated prior to 2002 contain data corresponding to all but the right-most bar of the chart. Beginning in 2002, the *PPP Research Files* and the corresponding *PPP Bulletins* contain data corresponding to all but the left-most bar.

Number of Pension Filings, by Plan Year Ending Date
Data for 2001 and 2002 Form 5500 Private Pension Plan Research Files



2. Sampling Prior to the 2010 PPP Research File

The *PPP Research File* contains a subset of the Form 5500 retirement filings for a given year. DFEs, welfare plans, one-participant plans, public retirement plans, and duplicate filings of other retirement plans are excluded from the *PPP Research File*. Additionally, given the large number of private sector employer sponsored retirement plans filing a Form 5500, OPR utilized a sampling methodology for the creation of each *PPP Research File* through the *2009 PPP Research File*.

The sampling methodology used was based on a 5-tier stratification of the pension plan universe:

1. Mega Plans: those plans with greater than \$2.5 billion in assets as of the end of the plan year
2. Large Defined Benefit (DB) plans: those DB plans with either (a) greater than 100 active, retired, and separated participants as of the end of the plan year or (b) an attached Schedule H
3. Large Defined Contribution (DC) plans: those DC plans with either (a) greater than 100 active, retired, and separated participants as of the end of the plan year or (b) an attached Schedule H

4. Small DB plans: those DB plans not classified as large above
5. Small DC plans: those DC plans not classified as large above

All Mega Plans and all Large DB and DC plans were included on the *PPP Research File*. A five percent sample of Small DB and DC plans was selected based on the penultimate two digits in the sponsoring employer's Employer Identification Number (EIN). Plans with penultimate digits in the set of 91, 92, 94, 98, or 99 were selected. This sampling methodology ensured maximum longitudinal consistency among chosen small plans.

Beginning with the *2010 PPP Research File*, sampling is no longer used. All large and small DB and DC plans are now included. This change in methodology was made possible by the conversion to the EFAST2 electronic processing system described above. Since paper filings are no longer scanned, errors in the data are no longer introduced. This, coupled with the increased processing power of today's computers, has made the sampling methodology obsolete.

c) Weighting Methodology

Weights are incorporated into the *PPP Research File* to account for filings that may not have been received by the Department or have not been filed. The weighting methodology divides the private pension plan universe into five strata—the same as those listed above for the sampling methodology—with a unique weight applied to each stratum:

Several weighting methodologies have been used on the *PPP Research File* beginning with the *2000 PPP Research File*. Generally, these methodologies involve estimating the number of plans in each of the five strata identified above in two different ways. First, a universe is estimated by taking all plan filings and all plan filings that are believed to be missing. Second, a sample is taken that is used as the basis for the *PPP Research File*. To calculate weights, the number of plans in the universe is divided by the number of plans in the sample. The plans in both the universe and the sample are divided amongst the five sampling strata in the following way:

1. The mega plans are identified specifically by EIN and PN. The list of mega plans for the current year is based on the mega plans identified in the prior year. Mega plans that are not found in the current year sample are located in the database manually. It may be that there was a change in EIN and PN or that the filer did not file.
2. Large DB plans have a 100 or more participants or filed a Schedule H and have a 1 in the TYPE_PENSION_BNFT_CODE (1 corresponds to defined benefit plan features, while 2 corresponds to defined contribution plan features).
3. Large DC plans have a 100 or more participants or filed a Schedule H and have a 2 in the TYPE_PENSION_BNFT_CODE.
4. Small DB plans have fewer than 100 participants and did not file a Schedule H and have a 1 in the TYPE_PENSION_BNFT_CODE.
5. Small DC plans have fewer than 100 participants and did not file a Schedule H and a 2 in the TYPE_PENSION_BNFT_CODE.

1. Straddle Method

Prior to the *2005 PPP Research File*, weights were calculated by a “straddle” method which tabulated a universe of retirement plan filings consisting of all plan filings for the year in question, along with all plan filings submitted in either of the prior two years and the upcoming year. For example, the *2004 PPP Research File* used weights calculated from a universe of all 2004 filings along with all filings submitted in **either** 2002 or 2003 **and** 2005. The major constraint presented by the “straddle” method is that the data for the following year must be complete. Beginning with the *2005 PPP Research File*, the dataset used the most recent available data; therefore, the 2006 data could not be used as it was not yet complete.

2. Adjusted Nonterminating Plans Method

Thus EBSA determined that the “straddle” method was no longer viable and investigated using a “nonterminating plans” weighting methodology that creates a universe of retirement plan filings by selecting all filings from the year in question, along with all nonterminating plan filings submitted in the prior year.¹² Unfortunately, the weights generated using the nonterminating plans methodology were much higher than those previously generated using the straddle methodology.

As a result of the higher than expected weights generated using the nonterminating plans method, the Department decided to use a method that adjusts the weights calculated under a nonterminating plans method based on weights calculated using the straddling method. To first calculate an adjustment, the Department calculated weights using both the straddle and nonterminating plans sampling methods for the prior two years. The Department calculated the multiplicative factors, by strata, of the sample that would be needed to transform the nonterminating plans weight to the straddle weight and averaged the two years. These multiplicative factors were applied to the nonterminating plans weight calculated for the given year. Unfortunately, this “adjusted nonterminating plans” weighting methodology produced weights for certain strata that would be less than one.

The Department ultimately decided to treat the weights as additive adjustments. The Department calculates weights using the following formula:

$$Weight = 1 + \left[\left(\frac{\left(\frac{Wgt_{Straddle} - 1}{Wgt_{Nonterm} - 1} \right)_{Yr X-2} + \left(\frac{Wgt_{Straddle} - 1}{Wgt_{Nonterm} - 1} \right)_{Yr X-1}}{2} \right) * (Wgt_{Nonterm} - 1)_{Yr X} \right]$$

¹² For the purposes of the *PPP Research File*, a “nonterminating plan” is defined as any filing plan that did not indicate their intent to terminate the plan in at least one of the following ways:

- Checking the “final return/report” option on either the Form 5500 or Form 5500-SF Part I: Annual Report Identification Information, Line B: This return/report is for;
- Answering “Yes” to either Schedule H, Part IV: Compliance Questions, Line 4k or Schedule I, Part II: Compliance Questions, Line 4j: “Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?”;
- Answering “Yes” to either Schedule H Part IV: Compliance Questions, Line 5a or Schedule I, Part II: Compliance Questions, Line 5a: “Has a resolution to terminate the plan been adopted during the plan year or any prior plan year? If yes, enter the amount of any plan assets that reverted to the employer this year.”

Where:

$Wgt_{Straddle}$ = Weights using straddle methodology
 $Wgt_{Nonterm}$ = Weights using nonterminating plans methodology
 $Yr X$ = Current data year

For small plan strata prior to the *2010 PPP Research File*, 20 was subtracted from (and added to) the weights rather than 1, due to 5-percent sampling. Currently, the small plan strata are treated the same as the large plan strata.

3. 2000-2004 PPP Research File Weights

The “straddling” method was used for all *PPP Research Files* up to and including the 2004 publication. For each of these publication years, the data for the year following was considered complete and the “straddling” weighting methodology was deemed sufficient.

4. 2005-2008 PPP Research File Weights

The production date for the *2005 PPP Research File* and *2005 PPP Bulletin* was advanced. As a result of the new publication schedule, the 2006 Form 5500 data were not sufficiently complete to continue using the “straddling” weighting methodology. The same issue was present in publication years 2006, 2007, and 2008. Therefore, for these publication years, the “adjusted nonterminating plans” weighting methodology was used.

5. 2009 PPP Research File Weights

For the *2009 PPP Research File*, the Department returned to using the “straddling” weighting methodology due to the immediate availability of Form 5500 data through EFAST2. Total electronic filing meant the data for the following plan year was complete at the time of the *PPP Bulletin* publishing date. For example, the *2006 PPP Research File* was created between August and December of 2008; by the end of September 2008, the 2007 Form 5500 pension data consisted of only the 54 percent of the 2006 Form 5500 pension plan filings that did not indicate an intention to terminate. Corresponding percentages for October, November, and December were 65, 71, and 88 percent, respectively. The percentage of 2006 Form 5500 pension plan filings that did not indicate an intention to terminate present in the 2007 Form 5500 pension data did not reach its maximum of 93 percent until October of 2009.¹³ In contrast, by October of 2011, 94 percent of 2009 Form 5500 pension plan filings that did not indicate an intention to terminate in their 2009 filing had a corresponding 2010 filing. Therefore, the Department deemed the 2010 data complete as of October 2011 and reverted to using the “straddle” weighting method. The *2009 Form 5500 PPP Bulletin* was published in December of 2011.

¹³ The Form 5500 data will never be 100 percent complete as a portion of private pension plans terminate without indicating their intention to terminate on the Form 5500. For purposes of the *PPP Research File*, the Department uses an essentially complete definition.

6. 2010 and Later *PPP Research File Weights*

After publication of the *2009 PPP Bulletin*, the Department again accelerated the publishing schedule of future *PPP Bulletins*.¹⁴ Due to this acceleration, data for the year following the publication year is not complete during creation of the *PPP Research Files*. Thus, for 2010 and subsequent years, the “adjusted nonterminating plans” weighting methodology is used.

d) Participation Counts

1. Adjusted Participant Counts (prior to the *2005 PPP Research File*)

Prior to 2005, the IRS Form 5500 Schedule T provided information on line 4c(5) allowing EBSA to adjust the number of “active participants” actually reported on line 7g of the Form 5500 to exclude two groups of individuals:

1. Individuals eligible to participate in a 401(k) type plan who had not elected to have their employers make contributions and
2. Nonvested former employees who had not (at the time the Form 5500s were submitted) incurred the break in service period established by their plan.

EBSA adjusted the reported active participant counts to provide a statistic which more accurately reflects the definition used for research purposes. Although ERISA classifies the above groups of individuals as “active” participants, these groups of individuals are not “active” in the more intuitive sense – i.e., these individuals are not contributing to the pension plan and are not entitled to receive benefits from the plan. The individuals in the first group above are merely qualified to participate in the plan; they do not have account balances and are not contributing or receiving contributions from their employers. The individuals in the second group above were not employed with the plan’s sponsor long enough to have qualified to receive benefits under the plan and may only receive benefits if they return to employment with the filing sponsor and remain in service until they vest in their benefits. In a purely economic sense, and for research purposes, individuals in these groups should not be included in the count of active participants.

This differed from the definition of active participants given in the Form 5500 Instructions in the following ways:

1. The instructions specify that active participants include “**any** individuals who are eligible to elect to have the employer make payments to a Code section 401(k) qualified cash or deferred arrangement” (emphasis added). For defined contribution plans that have participants with account balances, the number of nonretired/separated participants with account balances was used as the “adjusted” active participants number, provided it was at least 40 percent of the unadjusted active participants number.
2. The instructions specify that active participants exclude “nonvested former employees who have incurred the break in service period specified in the plan.” Presumably, nonvested former employees who have **not yet** incurred the break in service were still

¹⁴ Specifically, scheduled publication dates were moved to approximately November 2012 for the *2010 PPP Bulletin* and to approximately July 2013 for the *2011 PPP Bulletin*.

included; therefore, the adjustment excluded an estimate of the number of these individuals. For defined benefit plans and defined contribution plans that were unaffected by the adjustment in (1.) the “number of non-excludable employees who benefit under the plan” (line 4c(5) from Schedule T, “Qualified Pension Plan Coverage Information”) was used as the “adjusted” active participants number, provided it was at least 75 percent of the unadjusted active participants number. For all plans, if the number of non-excludable employees who benefit under the plan was greater than the adjusted active participant count and less than or equal to the original active participant count, then the number of non-excludable employees who benefit was used as the adjusted active participants number.

Additionally, prior to 2005, the same two groups of individuals were excluded from “total participants” counts.

In 2005 the IRS discontinued the Form 5500 Schedule T, necessitating changes in the methodology of defining “active” and “total” participants for the *PPP Research Files* and the corresponding *PPP Bulletins*. Beginning in 2005, the number of “active participants” is no longer adjusted and instead corresponds directly to the reported number of “active participants” in each filing. Similarly, the number of “total participants” is also no longer adjusted to exclude the groups mentioned above.

To illustrate the effect this definitional change had on the counts of active participants, the following tables and graphs show the number of participants by types of plans using the previous (“Adjusted Actives”) and current (“Reported Actives”) definitions for plan years 2001–2004.

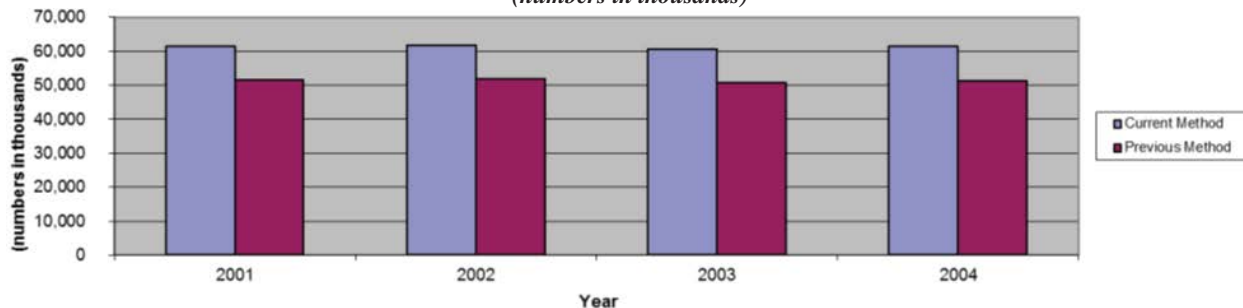
**Table. Adjustment to Active Participants in Defined Contribution Plans
by year, 2001–2004**
(numbers in thousands)

Year	Total Plans			Single Employer Plans 1/			Multiemployer Plans 2/		
	Current Method	Previous Method	Difference	Current Method	Previous Method	Difference	Current Method	Previous Method	Difference
2001	61,368	51,566	9,802	59,041	49,316	9,725	2,326	2,250	76
2002	61,790	51,845	9,945	58,831	48,976	9,855	2,959	2,868	91
2003	60,554	50,793	9,761	57,610	47,944	9,666	2,944	2,849	95
2004	61,320	51,287	10,033	58,343	48,392	9,951	2,978	2,895	83

1/ Includes single employer plans, plans of controlled groups of corporations, and multiple-employer noncollectively bargained plans.

2/ Includes multiemployer plans and multiple-employer collectively bargained plans.

**Chart. Adjustment to Active Participants in Defined Contribution Plans
by year, 2001–2004**
(numbers in thousands)



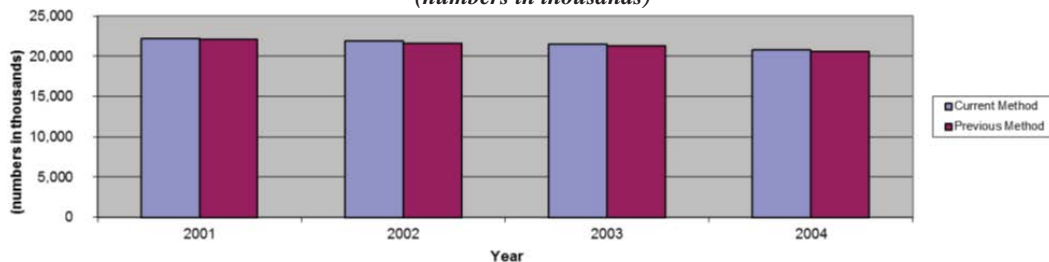
**Table. Adjustment to Active Participants in Defined Benefit Plans
by year, 2001–2004**
(numbers in thousands)

Year	Total Plans			Single Employer Plans 1/			Multiemployer Plans 2/		
	Current Method	Previous Method	Difference	Current Method	Previous Method	Difference	Current Method	Previous Method	Difference
2001	22,235	22,089	146	17,251	17,105	146	4,984	4,984	0
2002	21,921	21,633	288	17,218	16,930	288	4,703	4,703	0
2003	21,535	21,304	231	16,845	16,613	232	4,691	4,691	0
2004	20,797	20,586	211	16,168	15,957	211	4,629	4,629	0

1/ Includes single employer plans, plans of controlled groups of corporations, and multiple-employer noncollectively bargained plans.

2/ Includes multiemployer plans and multiple-employer collectively bargained plans.

**Chart. Adjustment to Active Participants in Defined Benefit Plans
by year, 2001–2004**
(numbers in thousands)



e) Addition of Active Participants to the 2014 Form 5500-SF

Since the introduction of the Form 5500-SF, the participation reported on the Form 5500 and the Form 5500-SF have not been identical. The Form 5500 has fields for the following types of participants:

- active,
- retired or separated receiving benefits,
- retired or separated entitled to future benefits, and
- deceased with beneficiaries receiving or entitled to receive benefits.

Prior to the 2014 Form 5500-SF, small employee benefit plans filing the Form 5500-SF were not required to report the number of active participants at either the beginning or end of year. The only fields required were the total number of participants at the beginning and end of year in addition to the number of participants with account balances at the end of the year. The 2009–2013 *Research Files* employed a simplifying assumption that all participants reported by Form 5500-SF filers were active participants.

Two new fields were added to the 2014 Form 5500-SF to capture the number of active participants at the beginning and end of year. Therefore, the difference between the number of total participants and the number of active participants should fall into one of the following three categories:

- retired or separated receiving benefits,
- retired or separated entitled to future benefits, or
- deceased with beneficiaries receiving or entitled to receive benefits.

Beginning with the *2014 PPP Research File*, the number of retired or separated participants receiving benefits and the number of retired or separated participants entitled to future benefits are imputed for Form 5500-SF filers. No deceased participants are imputed because of the low volume of such participants among pension filers.

For the *2018 PPP Research File*, the number of retired or separated participants receiving benefits for DB Form 5500-SF filers is set equal to 51.2% of the difference between the number of total participants and the number of active participants. The number of retired or separated participants entitled to future benefits is set equal to 48.8% of the difference.

For DC Form 5500-SF filers, the number of retired or separated participants receiving benefits is set equal to 9.3% of the difference between the number of total participants and the number of active participants. The number of retired or separated participants entitled to future benefits is set equal to 90.7% of the difference.

The chart below shows the percentage of retirees that are receiving benefits (the complement are entitled to future benefits) for Form 5500 filers from 2009 to 2018 by type of plan and number of participants. The percentage chosen for imputation purposes is based on the 2018 value for all plans with under 100 participants. One reason for using the 2018 value is that it was the latest available information at the time the imputation was chosen. An average was considered but ultimately rejected because of the apparent trend towards retirees receiving benefits rather than being entitled to future benefits.

Retired or Separated Participants Receiving Benefits as a Percentage of All Retired or Separated Participants Reported by Form 5500 Pension Filers, by Type of Plan and Total Number of Participants, PYE 2009-2018

Defined Benefit										
Number of Participants	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total	47%	47%	48%	49%	50%	52%	53%	54%	54%	55%
2-9	16%	15%	16%	18%	16%	21%	18%	16%	16%	18%
10-24	34%	24%	26%	29%	31%	34%	30%	29%	29%	31%
25-49	27%	35%	36%	40%	39%	43%	43%	45%	45%	50%
50-99	32%	42%	43%	46%	47%	50%	52%	54%	54%	56%
Under 100	30.2%	37.1%	38.8%	41.7%	42.7%	46.2%	47.3%	49.2%	49.2%	51.2%
100-249	39%	40%	41%	43%	44%	46%	47%	49%	49%	52%
250-499	41%	41%	42%	44%	45%	48%	49%	52%	52%	54%
500-999	44%	45%	46%	47%	48%	50%	52%	54%	54%	56%
1,000-2,499	45%	45%	46%	48%	49%	51%	52%	55%	55%	57%
2,500-4,999	45%	46%	46%	48%	50%	52%	54%	57%	57%	57%
5,000-9,999	45%	47%	47%	49%	50%	52%	54%	55%	55%	56%
10,000-19,999	44%	44%	45%	46%	48%	50%	51%	54%	54%	55%
20,000-49,999	45%	46%	47%	49%	50%	52%	53%	53%	53%	53%
50,000 or more	50%	49%	50%	50%	50%	52%	53%	54%	54%	54%
Defined Contribution										
Number of Participants	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total	7%	7%	7%	7%	6%	6%	6%	5%	5%	5%
2-9	12%	15%	16%	16%	16%	17%	17%	19%	19%	18%
10-24	7%	8%	8%	9%	9%	9%	10%	11%	11%	11%
25-49	5%	6%	6%	7%	7%	7%	8%	9%	9%	9%
50-99	4%	5%	6%	6%	6%	6%	7%	8%	8%	8%
Under 100	5.7%	6.6%	6.9%	7.2%	7.5%	7.6%	8.4%	9.0%	9.0%	8.9%
100-249	4%	5%	5%	5%	5%	5%	5%	5%	5%	5%
250-499	4%	4%	4%	4%	4%	5%	4%	4%	4%	5%
500-999	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
1,000-2,499	5%	5%	4%	5%	4%	4%	5%	4%	4%	4%
2,500-4,999	5%	5%	5%	7%	5%	6%	6%	5%	5%	5%
5,000-9,999	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%
10,000-19,999	10%	8%	8%	7%	7%	7%	6%	4%	4%	4%
20,000-49,999	6%	8%	8%	7%	6%	7%	7%	6%	6%	6%
50,000 or more	10%	10%	10%	12%	11%	10%	9%	5%	5%	5%

f) Plan Classification

1. Entity Type Classification

Form 5500 and Form 5500-SF filers identify the type of plan entity for which they are submitting information from checkboxes on Part I, Line A of either form. Form 5500 filers select from the following options: “a multiemployer plan,” “a single-employer plan,” “a multiple-employer plan,” and “a DFE.” Because multiemployer plans and DFEs cannot use the Form 5500-SF to satisfy annual reporting obligations, Form 5500-SF filers identify plan entity type as either “a single-employer plan” or “a multiple-employer plan.”¹⁵

Prior to the *2017 PPP Research File*, all plans were classified as either single-employer or multiemployer. Filers that indicated being a multiple-employer plan on Part I, Line A were classified as either single-employer or, in the case of collectively bargained plans, multiemployer.

Beginning with the *2017 PPP Research File*, multiple-employer plans are now recognized as a distinct plan entity type category. In order to present data on multiple-employer plans, some new tables were added to the *2017 PPP Bulletin*, and other existing tables were relabeled. The table below presents a mapping of table titles between the 2016 version and the 2017 version of the *PPP Bulletin*.

2016 PPP Bulletin Table	2017 PPP Bulletin Table
A1, A2,..., A6	A1, A2,..., A6
B1, B2,..., B9	B1, B2,..., B9
C1,..., C4(a)	C1,..., C4(a)
C5, C6	C5(a), C5(b)
n/a	C5(c)
C7, C8, C9	C6, C7, C8
C10, C11	C9(a), C9(b)
n/a	C9(c)
C12, C13, C14	C10, C11, C12
D1,..., D14	D1,..., D14

For the purposes of the *PPP Research File*, filings are subjected to additional review to determine instances in which plans may have incorrectly self-reported the plan entity type. As a result of this review, some plans are reclassified under a different entity type than was reported on the Form 5500. Prior to the *2017 PPP Research File*, plans that reported as multiemployer but did not appear to be multiemployer plans based on review of plan/sponsor name and industry were reclassified as single-employer plans because multiple-employer plans were not separated out as a distinct entity type group. Beginning with the *2017 PPP Research File*, some of these plans are now reclassified as multiple-employer plans.¹⁶

¹⁵ Part I, Line A of the Form 5500-SF also includes checkboxes for “a one-participant plan” and “a foreign plan.” However, these plans are not required to file a report under title I of ERISA. Instead, these plans may elect to file a Form 5500-SF rather than filing a Form 5500-EZ to meet reporting requirements for the Internal Revenue Service. These plans are excluded from the *Private Pension Plan Research File*.

¹⁶ See the [Entity Edits](#) section of this document for a detailed description of edits to plan entity type.

Additionally, beginning with the *2012 PPP Research File*, data from the PBGC was used to improve the accuracy of the estimates. The Multiemployer Pension Plans and Single-Employer Pension Plans datasets were downloaded from <http://www.pbgc.gov/open/index.html> on May 19, 2014. These datasets were matched with the Form 5500 data to be used in the *2012 PPP Research File*. In the event that PBGC's plan designation disagreed with the Research File's plan designation (which may be based on either the original filing or edited), then the PBGC's designation was used. The result of incorporating the PBGC's data into the *2012 PPP Research File* was a shift of 25 plans from multiemployer to single-employer and 24 plans from single-employer to multiemployer. This led to a net shift of approximately 260,000 participants and \$40 billion in assets from multiemployer to single-employer. Similar editing procedures were applied to all subsequent *PPP Research Files*, including the most current.

2. Identification of 401(k) Type Plans

Prior to the *2014 PPP Research File*, 401(k) type plans were identified based on self-reported benefit code 2J, plan name string searches for phrases that would indicate a 401(k) feature, or self-reporting of the benefit code 2K for a code section 401(m) arrangement. Beginning with the *2014 PPP Research File*, benefit code 2K is no longer used to identify 401(k) type plans. In 2014 there were 2,703 instances where a plan filed with benefit code 2K but was not identified as a 401(k) type plan via either self-reporting of code 2J or plan name string searches. In contrast, there were 387,097 instances of plans filing with benefit code 2K that are also identified as 401(k) type plans.

3. Reclassification of Defined Contribution Plans

Beginning with the *2014 PPP Research File*, a new classification of DC plans was added in the form of a new field called DCTYPE. This new classification is readily apparent on Table A1 of the *2018 PPP Bulletin* where plan statistics are shown for the following classes of defined contribution plans: 401(k) type, 403(b), and other defined contribution. It is important to note that there are certain instances where plans report both 401(k) and 403(b) benefit codes. These ambiguities are mostly eliminated by performing plan name string searches to determine which of the two benefit codes is most accurate. In 2018, there was still minimal overlap of approximately 250 plans. These plans were all classified as 401(k) type.

As a result of the change in the classification of DC plans discussed above, the formats of Tables A1, A1(a), A1(b), B7, D1, and D2 of the *PPP Bulletin* changed. In addition, Tables D3, D11, and D16 from the *2013 PPP Bulletin* became obsolete under the new classification and have been removed. To preserve consistency with previous bulletins, additional SAS tabulation programs are available for tables that have changed formats or been removed. These programs display 2015 data in formats consistent with the *2013 PPP Bulletin* versions of the tables.

An additional table, D14, was also added to supplement the new Table A1.

The table below presents a mapping of table titles and format that changed from the 2013 version to the 2014 version of the *PPP Bulletin*. Where more than one SAS tabulation program is listed, the program with "(2013 format)" in the title is based on the pre-2014 DC plan classification. In

addition to these changes, Tables E5-E26 of the *Private Pension Plan Bulletin Historical Tables and Graphs* were renumbered to Tables E4-E25.

2013 PPP Bulletin Table	2014 PPP Bulletin Table	2014 SAS Tabulation Program(s)
A1	A1	A1 A1 (2013 format)
A1(a)	A1(a)	A1a A1a (2013 format)
A1(b)	A1(b)	A1b A1b (2013 format)
B7	B7	B7 B7 (2013 format)
D1	D1	D1 D1 (2013 format)
D2	D2	D2 D2 (2013 format)
D3	n/a	D3 (2013 format)
D4, D5,...,D10	D3, D4,...,D9	D3, D4,...,D9
D11	n/a	D11 (2013 format)
D12,..., D15	D10,..., D13	D10, D11, D12, D13
D16	n/a	D16 (2013 format)
n/a	D14	D14

4. Changes to Defined Benefit and Defined Contribution Plan Classification

Prior to the *2015 Private Pension Plan Bulletin*, plans were classified as either defined benefit or defined contribution based on a review of the pension benefit codes and plan name included with each filing. After systematically reviewing this algorithm and its results, the methodology for classifying plans as either defined benefit or defined contribution was revised to both better reflect self-reported benefit features and to resolve ambiguities in Form 5500 filings.

In general plan filings indicating only defined benefit or only defined contribution features are classified accordingly. Some plan filings include *both* defined benefit and defined contribution features, and some plan filings include *neither* defined benefit nor defined contribution features. In these cases indications of plan type may also be gleaned from other sources, such as the plan name or an attached Schedule SB or MB.

Under the prior methodology, a higher priority was placed on reviewing plan names in order to classify plans. The methodology beginning in 2015 places higher priority on self-reported benefit codes and the filing of a Schedule SB or MB. The updated methodology also introduces a manual review element, whereby plans that are difficult to classify based on self-reported pension benefit features are reviewed to confirm the classification if the filer reports assets above a certain threshold

The pre-2015 methodology is discussed in detail in prior versions of this document, located within the *Private Pension Plan Research Files* for those years. The current methodology is discussed under the [Plan Classification](#) section of this document.