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Bridge Report for Quarterly Units: A Study of the Quarterly Retirement Survey Frame Change for 2009

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Carma R. Hogue Erika Becker Medina Nichele Waller Sheryl Jones September 29, 2009

The Quarterly Finances of Selected Public Employee-Retirement Systems is a summary of the cash and security holdings, receipts, benefits, and withdrawals of major public employee retirement systems. As authorized by Title 13, U.S. Code, Section 182, the U.S. Census Bureau collects the data from the 100 largest retirement systems based on Total Cash and Security Holdings as identified in the most recent Census of Public Employee Retirement Systems.

It is important to note that this is not a probability sample of all public employee retirement systems, so the results of this survey cannot be used to infer distributions for the entire universe of retirement systems. Neither can the sample be weighted to obtain an estimate of total cash and security holdings, receipts, benefits, or withdrawals for the entire public employee retirement system universe. The totals given in this report reflect only the universe of the 100 largest public employment retirement systems.

After a census has been taken, it is considered a best practice to reselect the top 100 systems. It is also important to provide the data user with a bridge between the old set of 100 units and the new set. This report contains the bridge between the old and new survey units for the fourth quarter of 2008 and the first quarter of 2009. We examine the magnitude of any change that may affect the estimates.

Changes to the Quarterly Retirement Universe

In the fourth quarter of 2008, the list of the 100 largest retirement systems was revised to reflect the findings of the 2007 Census. The following units were added to the new frame (or list):

Contra Costa County Employees' Retirement Association Sacramento County Employees' Retirement System San Bernardino County Employees' Retirement Association San Diego City Employees' Retirement System Wyoming Retirement System

The following units were removed from the frame (or list):

Alaska Teachers' Retirement System
District of Columbia Police Officers & Firefighters' Retirement Fund
General Retirement System of the City of Detroit
Police and Fire Retirement System of the City of Detroit
West Virginia Consolidated Public Retirement Board

<u>Note</u>: The data presented on the Website for the fourth quarter of 2008 are aggregates of the data from the old frame. Data for the new frame units were not aggregated and published on the Website until the data for the first quarter of 2009 were released.

This bridge report is provided for users of these data to enable them to more fully understand the impact of replacing the five units from the original frame with the new units. In this bridge report, Table 1 shows Cash and Security Holdings of the selected public employee retirement systems using the old set of 100 and the new set of 100 for fourth quarter 2008 and first quarter 2009. Likewise, Table 2 provides Total Receipts data while Table 3 displays Total Payments data. In Tables 1, 2, and 3 the change and percentage change between the old and new frames for each variable are provided. Charts 1, 2, and 3 show the old and new distributions for both quarters for Cash and Security Holdings, Total Receipts, and Total Payments with the new and the old frame units.

Discussion of Results

The replacement of the five old systems by the five new systems resulted in a minor change in the percentage of Cash and Security Holdings in the 2007 Census that was covered by the top 100 retirement systems. The new group of systems account for 89.4 percent of 2007 Cash and Security Holdings while the old group accounted for 89.0 percent.

The data in Table 1 show that with the exception of Mortgages and Corporate Bonds, which dropped 2.6 percent and 0.6 percent, respectively, all other holdings changed less than a half percent with the replacement of the prior systems with the new systems for the fourth quarter of 2008. Likewise for the first quarter of 2009, we see very similar results. The exception is that in addition to mortgages and corporate bonds, the percentage difference between the old and new frames for Other Securities rose slightly above 0.5 percent.

Table 2 shows the comparison of the old and new frames for Total Receipts. Although fourth quarter 2008 showed little difference between the results obtained from the two frames, the results for Earnings on Investments, and consequently the results for Total Receipts for first quarter 2009 showed a drop when substituting the new units.

The percentage changes shown in Table 3 for all three variables are nearly identical for fourth quarter 2008 and first quarter 2009. The percentage change for Withdrawals is rather sizeable, but this is due to the small magnitude of the Withdrawals numbers. The difference affects Total Payment very little.

The charts show that the distributions of Cash and Security Holdings, Total Receipts, and Total Payments are nearly the same for the old and new frame units.

Sampling and Nonsampling Error

As stated in the first section, this is not a probability sample of retirement systems. We have surveyed the 100 largest public employee retirement systems based on their 2007 reports of Total Cash and Security Holdings. No inferences can be made beyond these 100 systems. As such there is no sampling error, but the data are subject to nonsampling errors.

Although every effort is made in all phases of collection, processing, and tabulation to minimize errors, the data are subject to nonsampling errors. Such errors include the inability to obtain data for every variable from all units in the sample, inaccuracies in classification, response errors, misinterpretation of questions, mistakes in keying and coding, and coverage errors. These errors could affect the determination of the 100 largest systems.

Inaccuracies in keying and response error are addressed in the edits that are available in the web form. For the first quarter 2009, 49.5 percent of the mailed questionnaires were returned online; 7.6 percent, by fax or paper; and 23.8 percent were compiled by analysts from Comprehensive Annual Financial Reports. Most keying errors are due to rounding errors and can be fixed without contacting the respondent. Current to prior quarter ratio edits with simple parameters are used to edit every field on the paper, faxed, and compiled forms. Data are imputed to account for missing data in order to give the data users complete data sets and also in order to yield estimates of totals. The methodology used to impute for missing data (annual values divided by 4) and the ratio edits will be addressed in a redesign of the system as these methodologies may be dampening the trends.

Conclusions

The replacement of the five old retirement systems with the five new retirement systems has little effect on the data. Total Cash and Security Holdings with the new frame accounts for 89.4 percent of the total, while the old frame accounted for 89.0 percent of Cash and Security Holdings. As can be seen in the charts, the distributions of Holdings, Receipts, and Payments are relatively unchanged from the fourth quarter of 2008 to the first quarter of 2009. Most percent changes from the old frame to the new frame are under 3.0 percent. The lone exception is for Total Receipts.

Table 1: Two Quarter Comparison of Old and New Frames for Cash and Security HoldingsSource: U.S. Census Bureau, Quarterly Finances of Selected Public Employee-Retirement Systems. Data are not subject to sampling error, but are subject to nonsampling error. For a more complete reporting of the nonsampling error, refer to < link>

	Fourth Quarter 2008				First Quarter 2009			
	New	Old	Change	% Change	New	Old	Change	% Change
Total Holdings	2,234,477	2,230,437	4,040	0.18%	2,107,979	2,102,767	5,212	0.25%
Corporate Stocks	690,489	689,945	544	0.08%	664,964	663,819	1,145	0.17%
Corporate Bonds	415,658	413,083	2,575	0.62%	380,491	378,223	2,268	0.60%
Federal Government Securities	154,595	154,716	-121	-0.08%	151,200	151,222	-22	-0.01%
International Securities	292,879	293,344	-465	-0.16%	273,251	274,211	-960	-0.35%
Mortgages	9,335	9,586	-251	-2.62%	9,149	9,385	-236	-2.51%
State & Local Securities	2,133	2,134	-1	-0.05%	2,161	2,162	-1	-0.05%
Cash & Deposits		81,653	-284	-0.35%	85,084	85,194	-110	-0.13%
Other Securities	588,018	585,975	2,043	0.35%	541,679	538,552	3,127	0.58%

Table 2: Two Quarter Comparison of Old and New Frames for Total Receipts

Source: U.S. Census Bureau, Quarterly Finances of Selected Public Employee-Retirement Systems. Data are not subject to sampling error, but are subject to nonsampling error. For a more complete reporting of the nonsampling error, refer to < link>

	Fourth Quarter 2008				First Quarter 2009			
	New	Old	Change	% Change	New	Old	Change	% Change
Total Receipts	-80,142	-80,564	422	-0.52%	-14,496	-15,420	924	-5.99%
Government Contributions	18,632	18,509	123	0.66%	16,615	16,535	80	0.48%
Earnings on Investments	-107,033	-107,301	268	-0.25%	-38,844	-39,666	822	-2.07%
Employee Contributions	8,258	8,227	31	0.38%	7,733	7,711	22	0.29%

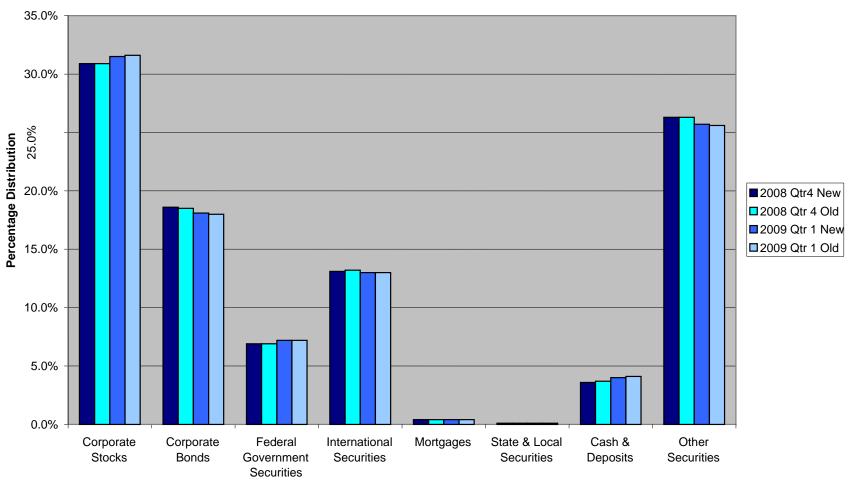
Table 3: Two Quarter Comparison of Old and New Frames for Total Payments

Source: U.S. Census Bureau, Quarterly Finances of Selected Public Employee-Retirement Systems. Data are not subject to sampling error, but are subject to nonsampling error. For a more complete reporting of the nonsampling error, refer to < link>

	Fourth Quarter 2008				First Quarter 2009			
	New	Old	Change	% Change	New	Old	Change	% Change
Total Payments	44,161	43,531	630	1.45%	41,301	40,722	579	1.42%
Benefits	43,271	42,620	651	1.53%	40,426	39,826	600	1.51%
Withdrawals	890	911	-21	-2.31%	874	896	-22	-2.46%

Chart 1: Cash & Security Holdings Distribution

Source: U.S. Census Bureau, Quarterly Finances of Selected Public Employee-Retirement Systems



Holdings

Chart 2: Total Receipts Distribution

Source: U.S. Census Bureau, Quarterly Finances of Selected Public Employee-Retirement Systems

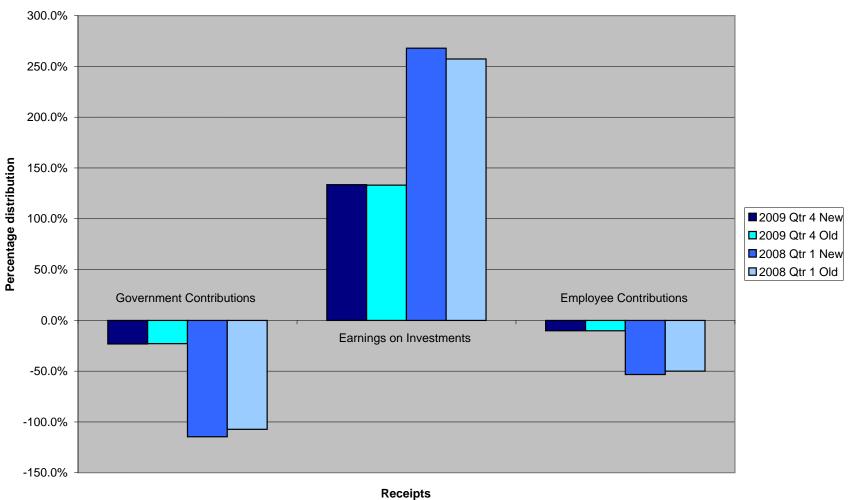
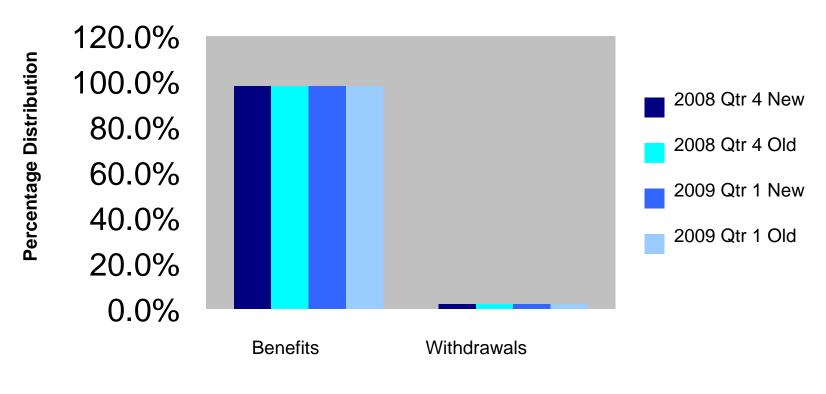


Chart 3: Total Payments Distribution

Source: U.S. Census Bureau, Quarterly Finances of Selected Public Employee-Retirement Systems



Payments