OFFICE OF
INSPECTOR
GENERAL
UNITED STATES POSTAL SERVICE

Using U.S. Postal Service-Specific Assumptions for Calculating the Federal Employees Retirement System Liability

Management Advisory Report

September 27, 2013

Report Number FT-MA-13-024

September 27, 2013

OFFICE OF INSPECTOR GENERAL
UNITED STATES POSTAL SERVICE

HIGHLIGHTS

Using U.S. Postal Service-Specific Assumptions for Calculating the Federal Employees Retirement System Liability

Report Number FT-MA-13-024

BACKGROUND:

The Federal Employees Retirement System (FERS) is a pension program offered to employees of the U.S. Postal Service and federal agencies. The Postal Service and its employees contribute to the pension program for future benefits. The U.S. Office of Personnel Management (OPM) administers the FERS.

As of September 30, 2012, the OPM projected a $3 billion FERS surplus. The U.S. Postal Service Office of Inspector General previously analyzed Postal Service funding levels and compared them to federal and state governments, the military, and corporations. Those comparisons showed the Postal Service funded its retirement liabilities at a substantially higher level than the other organizations. Additionally, we reported on the causes of the FERS surplus. Using the research results, we analyzed how the causes contributed to the surplus and impacted the Postal Service liability.

Our objective was to review the assumptions used for the Postal Service's FERS liability calculation and determine what effect those assumptions may have on the FERS liability calculation estimate.

WHAT THE OIG FOUND:

Postal Service employees have distinguishing employee characteristics (salary growth, termination, retirement, disability, death, and life expectancy) that the OPM does not take into consideration when applying actuarial assumptions. These characteristics, as well as other non-employee factors, impact the FERS liability calculation. Currently, the OPM uses the same actuarial assumptions for Postal Service and federal employees without regard to the characteristic differences between them.

Using Postal Service-specific actuarial assumptions, the liability would be reduced by an additional $9.5 billion, from $90.5 billion to $81 billion, resulting in a total surplus of $12.5 billion. Accordingly, the Postal Service could achieve a more accurate liability estimate that more closely aligns with future benefits.

WHAT THE OIG RECOMMENDED:

We recommended management coordinate with the OPM to modify the future FERS liability calculation using actuarial assumptions specific to the Postal Service and, based on the results, take action as appropriate.

Link to review the entire report

OFFICE OF INSPECTOR GENERAL
UNITED STATES POSTAL SERVICE

September 27, 2013

MEMORANDUM FOR: JOSEPH A. CORBETT
CHIEF FINANCIAL OFFICER AND
EXECUTIVE VICE PRESIDENT

FROM: John E. Cihota
Deputy Assistant Inspector General
for Financial and Systems Accountability

SUBJECT: Management Advisory Report – Using U.S. Postal Service-Specific Assumptions for Calculating the Federal Employees Retirement System Liability (Report Number FT-MA-13-024)

This report presents the results of our review of Using U.S. Postal Service-Specific Assumptions for Calculating the Federal Employees Retirement System Liability (Project Number 13BG015FT000).

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Denice M. Millett, director, Finance, or me at 703-248-2100.

Attachments

cc: Corporate Audit and Response Management

TABLE OF CONTENTS

Introduction

This report presents the results of our self-initiated review of Using U.S. Postal Service-Specific Assumptions for Calculating the Federal Employees Retirement System (FERS) Liability (Project Number 13BG015FT000). Our objective was to review the assumptions used for the Postal Service's FERS liability calculation and determine what effect those assumptions may have on the FERS liability calculation estimate. See Appendix A for additional information about this review.

The FERS is a pension program offered to employees of the Postal Service and federal agencies. The Postal Service and its employees contribute to the pension program for future benefits. The U.S. Office of Personnel Management (OPM) administers the FERS and reported that as of September 30, 2012, the Postal Service had fully funded its FERS liability and was overfunded by $3 billion. The U.S. Postal Service Office of Inspector General (OIG) previously analyzed funding levels and provided comparisons to the federal government, military, state governments, and corporations. Those comparisons supported the Postal Service's funding of its pension liabilities at 105 percent.

Previous recommendations focused on legislation to refund the current surplus and address future surpluses. In fiscal year (FY) 2013, the OIG issued two white papers addressing the causes of the FERS surplus.[1] The white papers focused on the calculations behind the FERS liability. The OIG contracted with Hay Group, an independent actuarial firm with expertise in Postal Service pension benefits, to identify whether there were characteristics of Postal Service employees that distinguish them from other federal employees. Using the research results, we analyzed the extent that those characteristics contribute to the FERS surplus and impact the FERS liability.

Conclusion

Demographic differences between Postal Service and other federal employees impacted the calculation of the FERS liability estimate. Specifically, Postal Service employees have distinguishing employee characteristics (salary growth, termination, retirement, disability, death, and life expectancy) that the OPM does not take into consideration when applying actuarial assumptions. When calculating the FERS liability using actuarial assumptions specific to the Postal Service, the liability is reduced by $9.5 billion. Using assumptions that more closely align with Postal Service employees causes the FERS liability to decrease from $90.5 billion to $81 billion, resulting in a total surplus of $12.5 billion.

We believe the Postal Service's FERS liability should be calculated using actuarial assumptions specific to Postal Service employees. This approach provides a more

[1] See Prior Audit Coverage section for additional information.

accurate estimate of retirement liabilities that are more likely to match future retirement benefits actually paid.

Postal Service-Specific Assumptions

Characteristic and demographic differences between Postal Service employees and other federal employees impact the projected FERS liability. Specifically:

- Postal Service employees have received smaller pay increases than assumed, general increases have been lower than predicted, and Postal Service employees have fewer steps in their pay scale than typical federal employees. Consequently, Postal Service employees reach the top step more quickly and salary growth ceases, effectively reducing the FERS liability.

- The demographic characteristics and career patterns of Postal Service employees are different from those of federal employees. Postal Service employees are less likely to leave their positions and withdraw from the FERS, less likely to take early retirement, yet more likely to die while employed or retire on disability. The overall effect reduces the FERS liability.

- The OPM projected improved mortality rates for federal employees, which increased the FERS liability. However, when considering only Postal Service employees, the mortality improvements for retired men ages 55 to 64 were significantly lower at 0.3 percent compared to 1.7 percent for the OPM's projections. Overall, the mortality improvement for retired men was 1 percent for Postal Service employees compared to the OPM's 2 percent projection. For retired females, the mortality improvement was slightly higher at 1.5 percent for Postal Service employees compared to the OPM's 1.2 percent projection. The combined effect of these differences reduces the FERS liability.

We also identified other factors that impact the FERS liability but are not directly related to employee characteristics or demographics.

- The FYs 2011 and 2012 freeze on general pay increases for federal employees contributed to a lower estimated FERS liability.[2]

- Actual investment returns on FERS assets have been lower than expected and have increased the FERS liability. In July 2012, the assumed investment rate for FERS assets was reduced from 5.75 percent to 5.25 percent. Interest rates have a dynamic effect on pension assets and projected liabilities. As interest rates rise, liabilities decrease. Conversely, when interest rates lower, liabilities increase. Recent slight rises in interest rates have bolstered corporate pension assets and reduced liabilities. This trend may also reduce the Postal Service's FERS liability in the future, effectively escalating the current FERS surplus.

[2] Although the Postal Service's pay systems are different from the federal government's pay systems, this assumption more closely matches the Postal Service's pay increases than the previous actuarial assumption.

To review the FERS liability, we analyzed salary growth, demographic experiences,[3] life expectancies, and investment returns using census data on Postal Service employees and retirees provided by the OPM.[4] We concluded that some characteristics and demographics of Postal Service employees differ from those of federal employees and these differences impact the FERS surplus. When calculating the FERS liability, the OPM applies actuarial assumptions to Postal Service employees and federal employees equally, without regard to the characteristic differences.

We recalculated the Postal Service's FERS liability and found that the combined effect of the characteristic and demographic differences (and other factors) reduce the Postal Service's FERS liability by $9.5 billion. Using the OPM's assumptions, the FERS surplus was $3 billion; while using Postal Service-specific assumptions, the FERS surplus would be $12.5 billion.[5] See Attachment A and Attachment B for further information on the characteristic differences and adjusted calculations for FERS. See Appendix B for monetary impact calculations.

The Postal Service's employee population is large enough to support the development of Postal Service-specific actuarial assumptions, which should be used to calculate the Postal Service's FERS liability. Adjusting actuarial assumptions for Postal Service employees will provide a more accurate estimate of the Postal Service's FERS liability. Additionally, this approach would better align the estimated FERS liability with future benefits paid to Postal Service FERS retirees.

Providing a more accurate estimate of the Postal Service's FERS liability is important to better understand the Postal Service's financial position; however, a more accurate estimate cannot prevent a FERS surplus. The Postal Service should not continue to make FERS contributions that are unnecessary for future benefits. To control future surpluses, the Postal Service's contribution rates could be adjusted to reflect Postal Service-specific actuarial assumptions. Under current law, solutions exist to address a FERS unfunded liability, but not to return a FERS surplus.

[3] Demographic experiences include termination, retirement (including early retirement), disability, and death.
[4] Most recent census data is from September 30, 2011.
[5] The FERS surplus is based on a 12.7 percent future contribution rate, rounded from $12.48 billion. The Postal Service estimates a $6 billion FERS surplus based on a reduced future contribution rate.

Current Legislation

Congress has introduced several bills that address the Postal Service's retirement liabilities:

- *Postal Reform Act of 2013* (S. 1486), introduced on August 1, 2013, includes a provision to calculate the FERS liability by using demographic factors specific to Postal Service employees and economic assumptions regarding wage and salary growth that reflect specific past, and likely future, pay for Postal Service employees. The act provides an opportunity for the Postal Service to request funding surpluses up to $6 billion, which it could use to pay financial obligations. The act also provides the Postal Service the ability to bargain over the extent to which new employees will participate in the FERS.

- *Postal Reform Act of 2013* (H.R. 2748), introduced on July 19, 2013,[6] provides for the transfer of FERS surpluses to the Postal Service Retiree Health Benefits Fund. The act will use demographic and economic assumptions specific to Postal Service employees to calculate the FERS liability.

- *Innovate to Deliver Act of 2013* (H.R. 2690), introduced on July 16, 2013, includes a provision to provide separate contributions to FERS for Postal Service employees and return FERS surpluses to the Postal Service.

- *United States Postal Service Stabilization Act of 2013* (H.R. 961), introduced on March 5, 2013, provides for recalculation of the FERS liability using actuarial assumptions specific to the Postal Service and return current and future FERS surpluses.

- *Postal Service Protection Act of 2013* (S.316), introduced on February 13, 2013, would return the FERS surplus to the Postal Service.

- *Postal Service Protection Act of 2013* (H.R. 630), introduced on February 13, 2013, would require the recalculation of the FERS liability and restore retirement annuity obligations.

We will continue to monitor the legislative activity as part of our ongoing analysis.

[6] On July 24, 2013, the House Oversight and Government Reform Committee sent the bill to the House as a whole for consideration.

Recommendation

We recommend the executive vice president, chief financial officer:

1. Coordinate with the Office of Personnel Management to modify the future Federal Employees Retirement System liability calculation to use actuarial assumptions specific to the Postal Service and, based on the results, take action as appropriate.

Management's Comments

Management agreed with the finding, recommendation, and monetary impact. Management stated they are ready to assist the OPM; however, management understands that OPM's position, under current law, is that OPM does not have the authority to change the calculation of the Postal Service's liability. Management will continue to support pending legislation that would direct the OPM to use Postal Service-specific actuarial assumptions in calculating the Postal Service's liability, as well as provide a mechanism for the return of the FERS surplus. See Appendix C for management's comments in their entirety.

Evaluation of Management's Comments

The OIG considers management's comments responsive to the recommendation and management's corrective actions should resolve the issue identified in the report. The OIG considers the recommendation significant; however, since management's corrective actions are ongoing and subject to legislative action, the OIG will close the recommendation upon issuance of the report.

Appendix A: Additional Information

Background

The FERS is a pension program offered to employees of the Postal Service and federal agencies. Career employees hired after December 31, 1983, generally participate in the FERS.[7] The OPM administers the Civil Service Retirement and Disability Fund to pay FERS benefits to retirees.

The OPM calculates the FERS contribution rate based on a percentage of an employee's salary. The Postal Service contributes at the same rate as other federal agencies. For most employees, the FERS contribution rate is 12.7 percent, 0.8 percent of which is paid by the employee and 11.9 percent of which is paid by the Postal Service. The FERS contribution rate for employees hired after January 1, 2013, increased to 3.1 percent, while the Postal Service's contribution rate decreased to 9.6 percent.

To account for future FERS benefits, a liability is estimated and disclosed in the financial statements. The OPM calculates the FERS liability using actuarial assumptions for salary growth, demographic experiences,[8] life expectancies, and investment returns. Changes in the economic climate or demographics can alter the liability from year to year. Understandably, actuarial assumptions will never equal the actual experiences, resulting in actuarial gains or losses. In recent years, lower interest rates and longer life spans have increased the liability.

The OPM provides an annual estimate of the FERS assets and liability for the federal government, including the Postal Service. The assets include actual contributions, plus interest earned on those contributions, less benefits paid to retirees. The liability includes projections of future benefits paid to retirees, less expected future contributions. A surplus exists when the assets exceed the estimated liability. Conversely, an unfunded liability exists when the estimated liability exceed the assets.

The OIG has previously offered a variety of recommendations to assist the Postal Service in controlling expenses and decreasing future losses caused by funding the FERS liability. The Postal Service continues to work with Congress to develop legislation to address the comprehensive issues identified in our prior reports.

[7] Some employees hired prior to 1984 had the option to switch from the Civil Service Retirement System to the FERS.
[8] Demographic experiences included termination, retirement (including early retirement), disability, and death.

Objective, Scope, and Methodology

Our objective was to review the assumptions used for the Postal Service's FERS liability calculation and determine what effect those assumptions may have on the FERS liability calculation estimate. To achieve our objective we:

- Reviewed prior OIG and Government Accountability Office reports.
- Contracted with Hay Group, an independent actuarial firm with expertise in the Postal Service's FERS liability.
- Considered proposed legislation and current news articles.

We conducted this review from January through September 2013 in accordance with the Council of the Inspectors General on Integrity and Efficiency, *Quality Standards for Inspection and Evaluation*. We discussed our observations and conclusions with management on September 11, 2013, and included their comments where appropriate. We did not rely on computer-generated data to support the opinions and conclusions presented in this report.

Prior Audit Coverage

Since 2010, we have issued a series of reports discussing the FERS liability and how the Postal Service pays more than its fair share to the federal government:

- *Causes of the Postal Service FERS Surplus – Update* (Report Number RARC-WP-13-002, dated December 4, 2012).
- *Causes of the Postal Service FERS Surplus* (Report Number RARC-WP-13-001, dated October 16, 2012).
- *Pension and Retiree Health Care Funding Levels* (Report Number FT-MA-12-002, dated June 18, 2012).
- *Leveraging Assets to Address Financial Obligations* (Report Number FF-MA-11-118, dated July 12, 2011).
- *Substantial Savings Available by Prefunding Pensions and Retirees' Health Care at Benchmarked Levels* (Report Number FT-MA-11-001, dated November 23, 2010).
- *Summary of Substantial Overfunding in Postal Service Pension and Retiree Health Care Funds* (Report Number FT-MA-10-002, dated September 30, 2010).

Appendix B: Monetary Impact

Recommendation	Impact Category	Amount (in billions)
1	Funds Put to Better Use[9]	$9,480,000,000

As of September 30, 2012, the OPM projected a $3 billion surplus for the Postal Service's FERS program. Using Postal Service-specific actuarial assumptions, the surplus would be $12.48 billion, resulting in a $9.48 billion increase in the surplus.

[9] Funds that could be used more efficiently by implementing recommended actions.

Appendix C: Management's Comments

JOSEPH CORBETT
CHIEF FINANCIAL OFFICER
EXECUTIVE VICE PRESIDENT

UNITED STATES POSTAL SERVICE

September 26, 2013

JUDITH LEONHARDT
DIRECTOR, AUDIT OPERATIONS

SUBJECT: Draft Management Advisory Report–Using U.S. Postal Service-Specific Assumptions for Calculating the Federal Employees Retirement System Liability (Project Number 13BG015FT000)

Thank you for the opportunity to review and comment on the subject draft management advisory report. Management appreciates the efforts the Office of Inspector General (OIG) has taken with respect to assumptions used to calculate this portion of our financial liability.

Management agrees with the recommendations identified in this draft.

Recommendation:
We recommend the executive vice president, chief financial officer:

1. Coordinate with the Office of Personnel Management to modify the future Federal Employees Retirement System liability calculation to use actuarial assumptions specific to the Postal Service and, based on the results, take action as appropriate.

Management agrees that the Postal Service's liability to the Federal Employees Retirement System (FERS) should be calculated using demographic and pay increase assumptions specific to the Postal Service. We stand ready to assist the Office of Personnel Management (OPM) in developing this calculation by providing any necessary information. However, it is our understanding that OPM's position is that it does not have the authority under current law to change the calculation of the Postal Service's liability. Therefore, management continues to support pending legislation that would direct OPM to use postal-specific assumptions in calculating the Postal Service's liability, as well as to provide a mechanism for the return of the FERS surplus.

Management does not believe this report contains any proprietary or business information and may be disclosed pursuant to the Freedom of Information Act.

Joseph Corbett

cc: audittracking@uspsoig.gov
CARMManager@usps.gov

475 L'ENFANT PLAZA SW
WASHINGTON, DC 20260-5000
202-268-5272
FAX: 202-268-4364
www.usps.com

Attachment A: Hay Group Report – FERS – December 4, 2012

December 4, 2012

U.S. Postal Service

Evaluation of the USPS Postal Service Fund for Employees Enrolled in the Federal Employees Retirement System

HayGroup®

Submitted by:

HayGroup®

4301 N. Fairfax Drive
Suite 600
Arlington, VA 22203
Phone: 703-841-3100
Fax: 703-841-3108

HayGroup

Contents

HayGroup

EXECUTIVE SUMMARY

USPS Office of Inspector General (OIG) retained Hay Group to perform an analysis of the USPS portion of the Federal Employees Retirement System (FERS).

We issued a report on October 12, 2012, that examined the effect of applying USPS-specific assumptions to the FERS valuation. It was based on 2010 census data and economic assumptions adopted by the Civil Service Retirement and Disability Fund Board of Actuaries on June 11, 2010, including an interest rate of 5.75 percent. Since we issued that report, the Office of Personnel Management (OPM) has released an updated estimate of the USPS portion of FERS based on 2011 census data and revised economic and demographic assumptions adopted by the Board of Actuaries in July 2012.

This report provides an updated measurement of the USPS portion of FERS that uses USPS-specific assumptions and is comparable to OPM's updated estimate. The economic assumptions have been updated to reflect the July changes by the Board of Actuaries, and the underlying census data has been updated to 2011. We have also incorporated more recent forecasts of USPS-salary increases and revised the annuitant mortality rates to reflect OPM's recent changes to its mortality assumptions.

Table E-1 compares our updated measurement of the FERS surplus under USPS-specific assumptions to OPM's results. As of September 30, 2011, the surplus was measured to be $11.4 billion under USPS-specific assumptions rather than $2.6 billion.

We also projected the results to September 30, 2012 to be comparable to OPM's projection. The projected surplus of $3.0 billion increases to more than $12.4 billion when remeasured using USPS-specific assumptions.

Table E-1
FERS Surplus under Different Assumptions
Amounts in $Billions

	OPM Assumptions	USPS-Specific Assumptions
Surplus Estimate as of September 30, 2011	$2.60	$11.46
Surplus Projection as of September 30, 2012	$3.00	$12.48

HayGroup

I. UPDATED MEASUREMENT OF SURPLUS

This report includes the following new information:

1. Revised economic assumptions
2. Updated 2011 census data
3. Revised salary increase forecasts from the USPS forecasting unit
4. Revised annuitant mortality rates

In addition, for FY2012 the actual COLA of 2.6 percent for FERS was applied in place of the long term COLA assumption.

Revised economic assumptions

OPM's most recent valuation uses the new economic assumptions the Board of Actuaries adopted in July 2012. Table I-1 shows the prior and current economic assumptions. The reduction of the interest rate had the effect of increasing the liability and reducing the surplus, although this effect was partially offset by the decrease in salary growth.

Table I-1
Economic Assumptions

Date Approved	Inflation	FERS COLA	Interest Rate	Salary Growth
6/11/2010	3.00%	2.40%	5.75%	3.75%
7/13/2012	3.00%	2.40%	5.25%	3.25%
Change	None	None	(0.50%)	(0.50%)

OPM assumed a general salary increase of 0.0 percent for FY2012 in place of the long term salary increase assumption of 3.25 percent.

Updated 2011 census data

OPM provided updated information on USPS employees enrolled in FERS and postal annuitants. More information appears in Section III.

Revised salary increase forecasts

Table I-2 shows the USPS forecast team's projected pay increases for FERS employees. The pay increases have been updated since the July 2012 forecast. The revised forecast produces a slightly larger final pay for employees who retire prior to 2017 and a slightly (less than 0.5 percent) smaller final pay for employees who retire after 2017.

Table I-2
USPS Forecast Team's Projected Pay Increases for FERS Employees

Fiscal Year	Weighted Average Percentage Increase (July 2012)	Weighted Average Percentage Increase (November 2012)
2012	0.33%	1.33%
2013	2.27%	1.56%
2014	2.39%	2.90%
2015	2.13%	1.95%
2016	2.39%	1.85%
2017	2.52%	2.34%
2018	2.55%	2.38%
2019	2.57%	2.48%
2020	2.56%	2.51%
2021	2.55%	2.52%
2022	2.55%	2.52%

For years after 2022, the USPS combined merit and general increase rate is assumed to be 2.85%.

Revised annuitant mortality rates

The revised annuitant mortality rates were based on recent experience and projected improvements based on the rate of improvement observed over the last 10 years. The improvements are projected to 2024 and produced a static mortality table. For more information, see the discussion of assumptions in Section II.

Remeasured Estimates

Table I-3 shows the remeasured estimates of the FERS liability and surplus as of September 30, 2011. The first column ("OPM Assumptions") shows the results from the OPM valuation using FERS-wide assumptions. The second column ("USPS-Specific Assumptions") includes both USPS pay assumptions and USPS demographic assumptions based on USPS employee experience for turnover, disabilities, retirement and annuitant mortality rates.

Table I-3 shows the liability is 10.5 percent lower when measured using USPS-specific assumptions resulting in an increase in the surplus of nearly $9 billion.

This increase in the surplus is driven by the use of USPS-specific pay assumptions. In fact, if only USPS-specific pay assumptions are applied, the liability is reduced further to $74.22 billion, a 12 percent reduction, and the surplus increases to $12 billion. The use of USPS-specific demographic assumptions for active employees increases the liability whereas the use of USPS-specific mortality assumptions reduced the liability resulting in a surplus of $11.46 billion.

Table I-3
Estimate of FERS Surplus as of September 30, 2011
Based on Alternate Pay Increase and Demographic Assumptions
Amounts in $Billions

	OPM Assumptions	USPS-Specific Assumptions
Assumed Investment Return Rate	5.25%	5.25%
Assumed Post-Retirement COLA Increases	2.40%	2.40%
Salary Increase Assumptions:		
General Salary Increase	3.25%	USPS
Merit Salary Increase	OPM	USPS
Active Demographic Assumptions	OPM	USPS
Annuitant Mortality Assumption	OPM	USPS
Assets	$86.60	$86.60
Actuarial Accrued Liability	$84.00	$75.14
Surplus	**$2.60**	**$11.46**

HayGroup

The results as of September 30, 2011 were projected to September 30, 2012. Table I-4 shows the surplus of $3.0 billion increases by $9.48 billion to $12.48 billion when remeasured using USPS-specific assumptions.

Table I-4
Estimate of FERS Surplus as of September 30, 2012
Based on Alternate Pay Increase and Demographic Assumptions
Amounts in $billions

	OPM Assumptions	USPS-Specific Assumptions
Assets	$93.50	$93.50
Actuarial Accrued Liability	$90.50	$81.02
Surplus	**$3.00**	**$12.48**

II. METHODS AND ASSUMPTIONS

Methods

No two valuation systems prepare valuation data or value the benefits in exactly the same manner. We therefore prepared an initial valuation run using the OPM assumptions and compared the results to the published OPM valuation results. The resulting adjustment factor (ratio of Hay Group results to OPM results both using OPM assumptions) was used in subsequent valuations to develop the adjusted results. This methodology ensures that if OPM were to apply the USPS-specific assumptions, the valuation results should match the results in this report. Separate adjustment factors were developed for annuitants and employees.

Assumptions

Our initial valuation used the revised OPM assumptions for withdrawal, disability, in-service mortality, and retirement. Our subsequent valuations used USPS-specific assumptions. Development of the USPS-specific assumptions is documented in the October 2012 Hay Group report, which were based on a recent experience study.

The OPM revised assumptions included a change to the annuitant mortality rates that projected improvements in mortality (based on a study of the last 20 years experience) to 2024. We analyzed the mortality experience of USPS annuitants from 2000 to 2011 and developed a USPS-specific set of mortality rates based on that experience. These rates were then adjusted by mortality improvement factors through 2024, in parallel to the approach used by OPM.

The analysis of the USPS experience showed that there was no improvement in rates for male annuitants under age 65 (rather, the rates had increased for ages under 60 and were flat for ages 60-64), and improvement that varied from under 0.5 percent per year to about 2 percent per year for male annuitants over age 65. The improvement in rates for female annuitants was between 0.5 percent and 3 percent per year. The table below shows the average improvement factors used for FERS-wide and USPS-specific mortality rates. Overall, the mortality improvement factors for USPS were lower for males and higher for females than FERS-wide.

Table II-1
Annual Rate of Mortality Improvement

	FERS-wide		USPS	
	Males	Females	Males	Females
Under age 65	1.7%	1.2%	0.3%	1.9%
Age 65 & over	1.4%	0.8%	1.3%	1.3%
Ages 55-90	2.0%	1.2%	1.0%	1.5%

HayGroup®

The combined impact of using USPS experience and USPS mortality improvement factors resulted in life expectancies for male USPS annuitants that are 1-2 years shorter than FERS-wide at ages 55 to 65 and longer for ages 75 and older. For female USPS annuitants the life expectancy is longer than FERS-wide at all ages, with the difference about 1 year at age 65.

Actuarial Cost Method

We used the Aggregate Entry Age Cost Method to determine the Actuarial Liability. Under this method the Actuarial Liability is determined as the Present Value of Benefits less the Present Value of Future Normal Costs.

Normal Cost Rate

The revised OPM measurement uses a higher Normal Cost rate as a result of the change in assumptions. Therefore in determining the present value of future contributions, we used the revised FERS-wide Normal Cost rate based on a FERS-wide new entrant population (prepared by OPM).

As the new Normal Cost rate has not yet been published in the Federal Register, USPS, along with other agencies, continue to be charged the rate of 11.9 percent of pay in FY2013.

III. DATA

We received group data summaries from OPM which contained average pay and the number of members in individual age and service cells by gender and retirement system group. The data was prepared for use in Hay Group's valuation system (PVL) and the total number of records compared to headcounts provided by USPS. The totals were consistent.

We received USPS annuitant records in single age summaries by gender, type of benefit, type of retirement, and retirement system.

Table III-1
USPS FERS Employees

Retirement Group	Gender	Number	Average Pay
FERS Elect 1987	Male	1,217	$59,664
FERS Elect 1987	Female	949	$58,299
FERS Elect 1998	Male	674	$61,693
FERS Elect 1998	Female	470	$61,355
FERS Automatic	Male	269,531	$56,092
FERS Automatic	Female	198,158	$54,908
Total		471,000	$55,621

Table III-2
USPS FERS Employees

Age Nearest Birthday	Closest whole year of service							
	<5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total
15 - 19	1	0	0	0	0	0	0	1
20 - 24	229	55	0	0	0	0	0	284
25 - 29	2,336	3,938	64	0	0	0	0	6,338
30 - 34	3,851	11,032	4,448	64	0	0	0	19,394
35 - 39	3,569	11,521	15,418	5,477	70	0	0	36,055
40 - 44	4,015	12,594	20,906	17,488	5,462	383	0	60,848
45 - 49	4,104	13,052	20,100	18,843	20,647	16,496	244	93,486
50 - 54	3,560	11,777	20,282	17,566	21,967	32,930	3,389	111,472
55 - 59	2,316	7,607	15,526	15,580	16,162	24,496	3,771	85,458
60 - 64	1,110	3,811	7,676	9,532	8,670	12,089	1,944	44,833
65 - 69	338	1,052	1,965	2,300	2,121	2,525	486	10,786
70 - 74	76	189	389	393	353	431	81	1,911
75+	3	13	21	24	32	33	8	134
Total	25,508	76,641	106,795	87,267	75,484	89,383	9,923	471,000

HayGroup

IV. ACTUARIAL CERTIFICATION

USPS Office of Inspector General (OIG) retained the Hay Group to perform an analysis of the USPS portion of the Civil Service Retirement and Disability Fund (CSRDF). The scope of this assignment was limited to the Federal Employees Retirement System. Use of these results for other purposes may not be appropriate.

This analysis has been conducted in accordance with generally accepted actuarial principles and practices.

The results shown in this report are reasonable actuarial results. However, a different set of results could also be considered reasonable actuarial results. The reason for this is that actuarial standards of practice describe a "best-estimate range" for each assumption, rather than a single best-estimate value. Thus, reasonable results differing from those presented in this report could have been developed by selecting different points within the best-estimate ranges for various assumptions.

The actuaries certifying to this report are members of the American Academy of Actuaries and other professional actuarial organizations, and meet the General Qualification Standards of the American Academy of Actuaries for purposes of issuing Statements of Actuarial Opinion.

Adam J. Reese, FSA, FCA, MAAA, EA

Craig Graby, FCA, MAAA, EA
December 4, 2012

Attachment B: Hay Group Report – FERS – October 12, 2012

October 12, 2012

U.S. Postal Service

Evaluation of the USPS Postal Service Fund for Employees Enrolled in the Federal Employees Retirement System

HayGroup

Submitted by:
HayGroup
4301 N. Fairfax Drive
Suite 600
Arlington, VA 22203
Phone: 703-841-3100
Fax: 703-841-3108

 www.haygroup.com

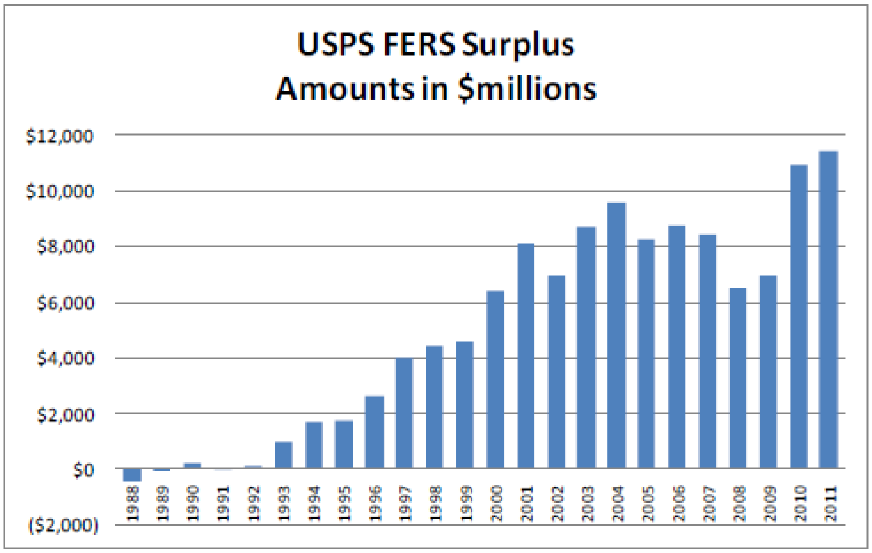
Contents

HayGroup

EXECUTIVE SUMMARY

USPS Office of Inspector General (OIG) retained Hay Group to perform an analysis of the USPS portion of the Federal Employees Retirement System (FERS), including the origins and causes of the current surplus.

The chart below shows that the USPS FERS fund has been in surplus since 1992.



Source: Office of Personnel Management (OPM) actuarial valuations. The 2011 value is projected from the 2010 estimate.

Our key findings are:

- The primary reason for the surplus is due to USPS pay increases having been smaller than those assumed in the valuations. Furthermore, as over 70 percent of FERS Craft employees have reached the top step of their pay scale, additional surpluses will emerge unless the salary assumption is modified to reflect USPS experience and future expectation.
- The recent jump in surplus from nearly $7 billion as of September 30, 2009 to nearly $11 billion as of September 30, 2010 was due in part to the use of a two-year pay freeze assumption for fiscal years (FYs) 2011 and 2012. This assumption change was made

HayGroup

for the entire FERS population to reflect the freeze of federal pay increases, but it also more accurately reflects the expected changes in USPS salaries over these years than the prior assumption.

- An additional reason for the surplus is due to actual inflation experience being below the rate of inflation assumed. Annuitants receive cost-of-living adjustments (COLAs) to their annuities based on a measure reflecting actual inflation. As prices have increased less than expected, the annuities have increased less than assumed, resulting in experience gains.[1]

- Partially offsetting the experience gains from lower than expected salary growth and inflation, actual investment returns have fallen below the interest rate assumed for the valuation. Historical asset gains, which grew to over $2 billion from higher investment earnings than assumed, have now been erased by lower than expected investment earnings since 2004.

- Given the material difference between the USPS pay scales and the federal pay scales, we recommend that the USPS FERS liability be measured using USPS-specific assumptions. With USPS membership accounting for 20 percent of the FERS total, USPS is easily large enough to warrant population specific assumptions. Given that this assumption will more accurately reflect the likelihood that future payouts to postal retirees will be based on lower salary increases, it will have the effect of reducing the Postal Service's liability and increasing the surplus. Our analysis shows that using USPS-specific salary assumptions would reduce the FERS liability by $10.9 billion.

- USPS workforce demographic experience (turnover, retirement, disability, etc.) differs from the FERS overall experience. Reflecting the USPS specific demographic experience would reduce the FERS liability by an additional $0.9 billion.

- USPS annuitant mortality experience also differs from FERS overall mortality experience. Reflecting USPS mortality rates lowers the Actuarial Accrued Liability by about 1 to 2 percent. Using the USPS mortality rates in addition to the other USPS-specific assumptions further reduces the liability by $0.8 billion.

- Combining the USPS-specific assumptions for salary growth, workforce demographic experience, and annuitant mortality (i.e. using all USPS-specific assumptions) increases the FERS surplus from $11.4 billion to $24.0 billion.

[1] Experience gains or losses occur when actual experience differs from assumptions.

HayGroup

USPS-Specific vs. OPM Pay Increase Assumptions for FERS

The focus of our work has been on estimating the impact on USPS's FERS funding using alternative, USPS-specific actuarial assumptions to measure FERS liabilities/costs. These liabilities/costs have traditionally been measured by OPM's actuaries utilizing the same actuarial assumptions used to value the system-wide population in FERS.

Our studies demonstrate that OPM should consider the use of a more accurate assumption set for the USPS portion of FERS. That is, our review of the likely future experience of the USPS FERS population tells us that this population has had, and is expected to have, significantly different experience than OPM assumes in its FERS liability/cost measurements. With USPS's share of the overall FERS fund being over 20 percent, we believe sound actuarial practice calls for the USPS's liability/cost to be measured separately from the rest of FERS.

Specifically related to future pay increases for USPS FERS active employees, our analyses have shown that:

1) USPS pay increases are materially lower than the OPM FERS valuation assumptions, which are based on the federal pay schedule. USPS Craft employees tend to go through fewer steps in their pay schedules and therefore employees reach the top of their pay schedule earlier in their careers than do federal employees. The OPM assumptions anticipate that Craft employees will continue to receive step pay increases in line with the federal pay schedule. For example, an employee hired at age 25 reached the top of the USPS pay steps at age 37. OPM's valuation assumes step increases for the employee throughout the rest of his or her career at a rate of about 1 percent per year. In reality, USPS would likely only be granting COLA and small contractual pay increases. OPM actuaries have the Craft pay schedules, but do not have employee counts by Craft. Therefore, OPM has been unable to develop a separate USPS-specific salary assumption. Currently, 70 percent of Craft employees have reached the top of their pay schedule.

2) Due to the Postal Service's current financial condition, USPS pay increases for employees over the next several years will likely be materially lower than the 3.75 percent annual pay increases assumed in OPM's measurement. We note that OPM's latest valuation includes the two-year federal pay freeze, which while not applicable to USPS, generally brings the short-term pay assumption closer to USPS projections for the next two years.

USPS-Specific vs. OPM Demographic Assumptions for FERS

This report examines the assumptions used in the current FERS valuation and compares them to recent experience using USPS-specific experience where appropriate.

In 2010, at the request of the USPS, we conducted an experience study on USPS demographic experience. Section VII summarizes the findings from that analysis, which remain valid.

We obtained recent USPS annuitant experience and conducted a mortality study. Section VIII reports the findings from that analysis.

The report concludes with an estimate of the FERS surplus using the available Postal Service-specific assumptions.

Acknowledgement

Hay Group would like to note that the timely completion of this report was made possible due to the cooperation we received from the actuaries in the OPM Office of the Actuary.

I. Historical Surplus

If a retirement system is to operate on a sound actuarial basis, the funds on hand together with the expected future contributions must be adequate to cover the value of future promised benefit payments. Each year, as part of the actuarial valuation process, the actuary projects the expected value of future benefits and the stream of contributions needed to meet the benefit payments. The projection serves as the basis for the determination of the needed employer contributions to the retirement fund.

A surplus exists if the funds on hand exceed the value of the accrued benefits. When the funds on hand are less than the value of the accrued liabilities there is a deficit.

OPM conducts an annual actuarial valuation for the postal share of the FERS fund and issues a valuation report in the fall. The valuation assesses the fund as of the previous fiscal year, with a projection to the end of the current fiscal year. For example, the 2011 analysis evaluated the fund as of September 30, 2010. The most recent long-term funding valuation showed a surplus of $10.9 billion at the end of FY 2010 which was projected forwarded to $11.4 billion as of September 30, 2011. This surplus was $4 billion greater than the previous year's surplus.

The recent surplus is part of a historical trend in surpluses. As shown in Table I-1, since 1992, the postal share of the FERS fund has shown a persistent surplus.

HayGroup

Table I-1 USPS FERS Liability, Assets, and Surplus (Deficit) as of Year-End Amounts in $millions			
Year ending September 30,	Actuarial Accrued Liability	Postal FERS Assets	Surplus (Deficit)
1988	$2,600	$2,157	($443)
1989	$3,300	$3,224	($76)
1990	$4,300	$4,493	$193
1991	$6,000	$5,982	($18)
1992	$7,600	$7,659	$59
1993	$8,500	$9,470	$970
1994	$9,800	$11,487	$1,687
1995	$12,000	$13,708	$1,708
1996	$13,500	$16,091	$2,591
1997	$15,400	$19,344	$3,944
1998	$18,200	$22,610	$4,410
1999	$21,500	$26,074	$4,574
2000	$23,700	$30,040	$6,340
2001	$26,100	$34,179	$8,079
2002	$31,600	$38,532	$6,932
2003	$34,400	$43,056	$8,656
2004	$38,200	$47,732	$9,532
2005	$44,600	$52,800	$8,200
2006	$49,300	$58,000	$8,700
2007	$55,100	$63,500	$8,400
2008	$62,800	$69,300	$6,500
2009	$68,300	$75,200	$6,900
2010	$69,900	$80,800	$10,900
2011*	$75,900	$87,300	$11,400

Source: OPM actuarial valuations.

* *For 2011, liability, assets, and surplus were projected by OPM from its 2010 estimate.*

HayGroup

II. Actuarial Assumptions

Actuarial projections are based on a number of actuarial assumptions including economic assumptions, such as assumed investment returns and salary growth rates; and demographic assumptions, such as rates of turnover and mortality.

Economic assumptions include rates of inflation, investment return and salary growth. These relatively few rates, compared to the large number of demographic assumptions, have the most significant effect on the estimate of future contributions. The Postal Service retirement plans use the same economic assumptions as utilized by OPM's actuaries in their annual valuations of the Civil Service Retirement System (CSRS) and the Federal Employees Retirement System (FERS). The CSRS and FERS economic assumptions are reviewed periodically by an independent Board of Actuaries to assure that they continue to be current and appropriate predictors of the future, and they are typically adjusted upward or downward to keep pace with changes in the expected rate of general inflation.

Table II-1 shows the most recent economic assumptions set by the Board of Actuaries for CSRS and FERS. A history of economic assumptions appears in Appendix A.

Table II-1
Current Economic Assumptions for FERS

Inflation	3.00%
CSRS COLA	3.00%
FERS COLA	2.40%
Interest Rate[2]	5.75%
Salary Growth	3.75%

Assumptions last revised on June 11, 2010.

Demographic assumptions include the set of rates that predict certain events occurring to a group of employees or annuitants. Events of significance to a retirement system are those that result in a commencement or termination of a benefit payment. The events affecting active employees include reasons for leaving the system such as retirement, becoming disabled, terminating service, or death. The events affecting annuitants include death. If an annuitant

[2] The interest rate is also referred to as the "discount rate" as future benefit payments are "discounted" to the measurement date using the expected return on assets.

would return to service, or if a disabled annuitant were to recover, the benefit payments to the annuitant would stop.

It is general practice to introduce some degree of conservatism in setting actuarial assumptions. However, the degree of conservatism varies widely among retirement systems. Some systems set assumptions so that the retirement plan contributions will be at least as great as the contributions needed in the most adverse foreseeable circumstances. Other systems set assumptions that are close to the actual experience but conservative enough to protect against small deviations from past experience.

OPM conducts experience studies periodically and updates the demographic assumptions upon completion of the experience study and development of recommended assumptions, reviewed by the Board of Actuaries.

HayGroup

III. Investment Returns

One potential source of the surplus is higher than expected investment returns. Using historical data on employee and agency contributions, benefit payments, assets and reported investment income, we compared the actual returns with the valuation interest rate assumption as well as the amount of the annual asset gains (or losses).

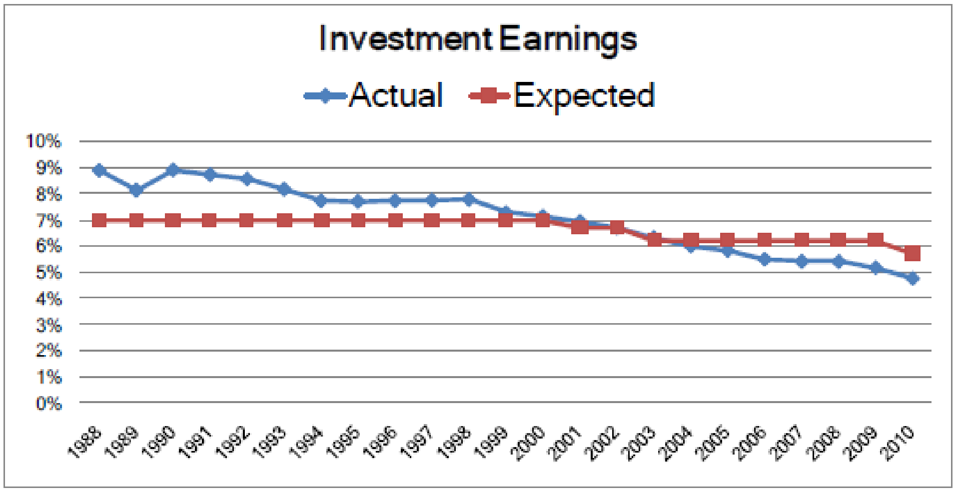
Table III-1
FERS Contributions, Benefit Payments, Assets, and Investment Income, 1988 to 2011 (millions)

Year	Employee Contributions	USPS Employer Contributions	Amortization Payments	Benefit Payments	Reported Investment Income	Postal Service Fund EOY	Actual Return	Assumed Return
1988	$55.7	$671.4	$170.0	$12.5	$133.2	$2,156.8	8.90%	7.00%
1989	$59.1	$787.2	$32.2	$20.6	$209.3	$3,224.0	8.14%	7.00%
1990	$58.0	$877.6	$32.2	$27.2	$328.1	$4,492.7	8.92%	7.00%
1991	$62.6	$987.4	$32.2	$30.6	$437.2	$5,981.6	8.74%	7.00%
1992	$67.5	$1,054.3	$32.2	$35.7	$559.2	$7,659.2	8.57%	7.00%
1993	$69.9	$1,087.4	$32.2	$50.6	$671.9	$9,470.2	8.18%	7.00%
1994	$78.5	$1,220.1	$0.0	$62.2	$780.6	$11,487.2	7.74%	7.00%
1995	$92.4	$1,263.8	$0.0	$72.0	$936.2	$13,707.6	7.72%	7.00%
1996	$107.5	$1,459.3	$0.0	$87.0	$903.5	$16,090.9	6.25%	7.00%
1997	$116.3	$1,579.5	$0.0	$109.5	$1,667.0	$19,344.2	9.87%	7.00%
1998	$127.2	$1,700.1	$0.0	$134.9	$1,573.8	$22,610.4	7.79%	7.00%
1999	$171.2	$1,739.5	$0.0	$159.4	$1,712.0	$26,073.8	7.29%	7.00%
2000	$223.2	$2,003.3	$0.0	$197.1	$1,937.1	$30,040.3	7.15%	7.00%
2001	$183.0	$2,042.6	$0.0	$243.2	$2,156.4	$34,179.1	6.95%	6.75%
2002	$165.6	$2,115.5	$0.0	$284.7	$2,356.6	$38,532.1	6.70%	6.75%
2003	$169.7	$2,176.6	$0.0	$327.4	$2,505.0	$43,056.1	6.34%	6.25%
2004	$175.2	$2,245.7	$0.0	$393.0	$2,647.9	$47,731.9	6.01%	6.25%
2005	$184.6	$2,484.5	$0.0	$481.3	$2,849.1	$52,768.8	5.84%	6.25%
2006	$195.7	$2,640.7	$0.0	$566.1	$2,968.1	$58,007.2	5.51%	6.25%
2007	$203.9	$2,767.8	$0.0	$681.7	$3,206.3	$63,503.4	5.42%	6.25%
2008	$211.6	$2,892.1	$0.0	$780.5	$3,503.3	$69,329.9	5.42%	6.25%
2009	$217.0	$2,955.0	$0.0	$951.0	$3,649.1	$75,200.2	5.18%	6.25%
2010	$213.4	$2,899.2	$0.0	$1,147.2	$3,632.7	$80,798.2	4.77%	5.75%
2011	$201.0	$2,993.0	$0.0	$1,310.0	$4,700.1	$87,382.3	TBD	5.75%

Source: OPM Valuation as of September 30, 2010. The FY 2011 values are projections, and the FY 2011 employer contribution includes $911 million that was not paid until FY 2012.

Note that from 1988 until 2001, the actual return exceeded the valuation interest rate, although returns have been lower since 2004. The investment income reported in 1996 appears to have been understated (and corrected in 1997). OPM is looking into this for us, but it may have resulted from a government shutdown.

Figure III-1 – Comparison of Actual to Expected Investment Earnings Rate



Source: Calculations by the authors.

Figure III-1 shows that the FERS Postal Service Fund experienced asset gains from 1988 through 2001. (In the graph above, 1996 and 1997 investment returns have been smoothed to eliminate the apparent 1996 understatement and apparent 1997 overstatement.) These asset gains, which grew to over $2 billion from higher investment earnings than assumed, have now been erased by lower than expected investment returns since 2004. The investment assumption was reduced from 7.00 percent in 2000 to 6.75 percent and further reduced to 6.25 percent in 2003, and 5.75 percent in 2010. By 2010, the actual investment returns had fallen to almost 1 percentage point below the 5.75 percent valuation interest rate. It should be noted that the size of the FERS Postal Service Fund is much larger in 2010 than it was in the late 1980's and the 1990's, so the current investment shortfalls have more substantial impact than the historical excesses.

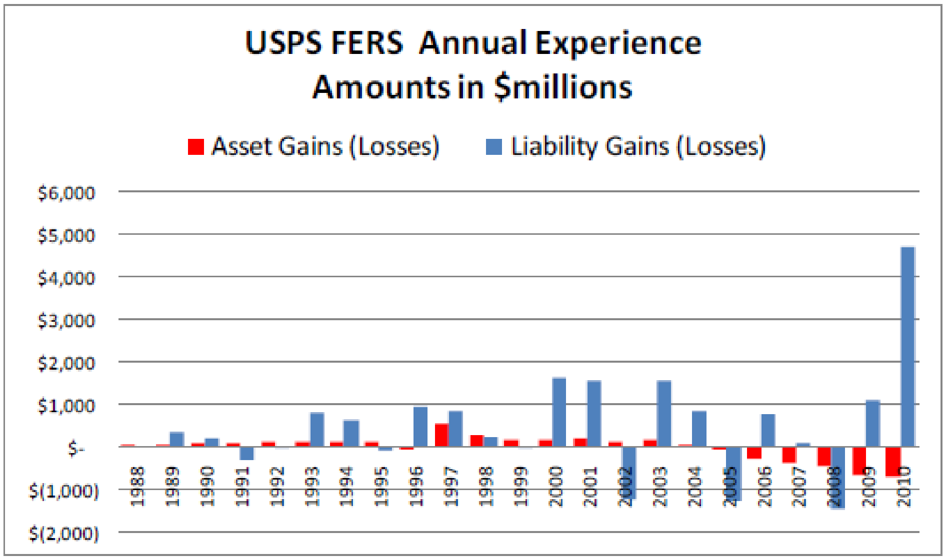
HayGroup

IV. Gains and Losses from Experience

After identifying the asset gains (and losses), we subtracted the dollar amount of the asset gains (or losses) from the total experience gains (or losses) to determine the liability gains (or losses).

Figure IV-1 shows the annual experience gains and losses by source.

Figure IV-1 – Annual Experience Gains and Losses by Source



From 1989 through 2001, there were nine years with reported liability gains and three years with liability losses. No liability losses exceeded $500 million, whereas six of the years reported had reported liability gains in excess of $500 million.

Since 2001, there have been three years with reported liability losses in excess of $1 billion (2002, 2005, and 2008). A key driver of these liability losses was the impact of assumption changes.

The interest rate was reduced from 7.00 percent to 6.75 percent in 2001, first reflected in the 2002 valuation; reduced again in the 2004 valuation to 6.25 percent. In 2007, the inflation assumption and salary increase assumption were each increased by 25 basis points.

Figure IV-2 – Cumulative Experience Gains or Losses by Source

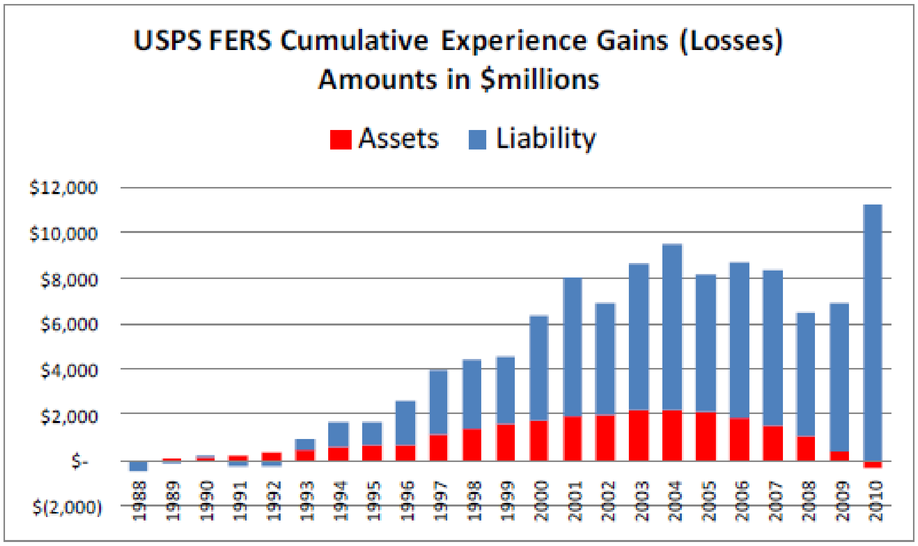


Figure IV-2 shows the cumulative experience gains and losses by source. As shown in Figure IV-1, the system had asset gains from inception through 2001. The lower than assumed investment returns since 2004 have erased the cumulative asset gains. By 2010, the cumulative asset performance was a small loss. In contrast, from 1988 through 1992, the system had cumulative liability losses. Since 1993, the system has had cumulative liability experience gains. Since 2000, the Postal Service Fund has had combined liability and asset gains of over $5 billion, and by 2010 they increased to over $11 billion. Liability gains could result from more favorable experience than assumed for salary growth, inflation, or demographic behavior.

HayGroup®

V. Pay Analysis

In general the pension awarded to any individual FERS employee is dependent on that individual's annual salaries just prior to retirement. Higher annual salaries will result in a larger retirement benefit for an individual and, as such, a larger overall FERS liability.

In calculating the FERS liability, the OPM valuations used the assumed annual rate of general salary increases approved by the Board of Actuaries plus a merit increase assumption developed from actual experience. General salary increases are those granted to everyone and not attributable to merit.

General Salary Increases

We performed an analysis to determine whether historical OPM general salary increase assumptions were reasonable, compared to actual USPS general increases granted. This analysis was performed for the period of 1/1/2002 through 1/1/2011.

We reviewed the OPM assumptions for annual general increases in pay.[3] OPM historically assumed general salary increases ranging from 3.75 percent annually to 4.25 percent annually during our study period. The average annual growth assumption, for the time period studied, was 4.11 percent. Table V-1 below shows the general salary increase assumptions used by OPM. The dates shown are the dates on which an assumption was changed.

TableV-1 General Salary Increase Assumption Used by OPM

Date	Salary Growth
03/16/01	4.25%
05/08/03	4.00%
06/08/06	4.25%
06/11/10	3.75%

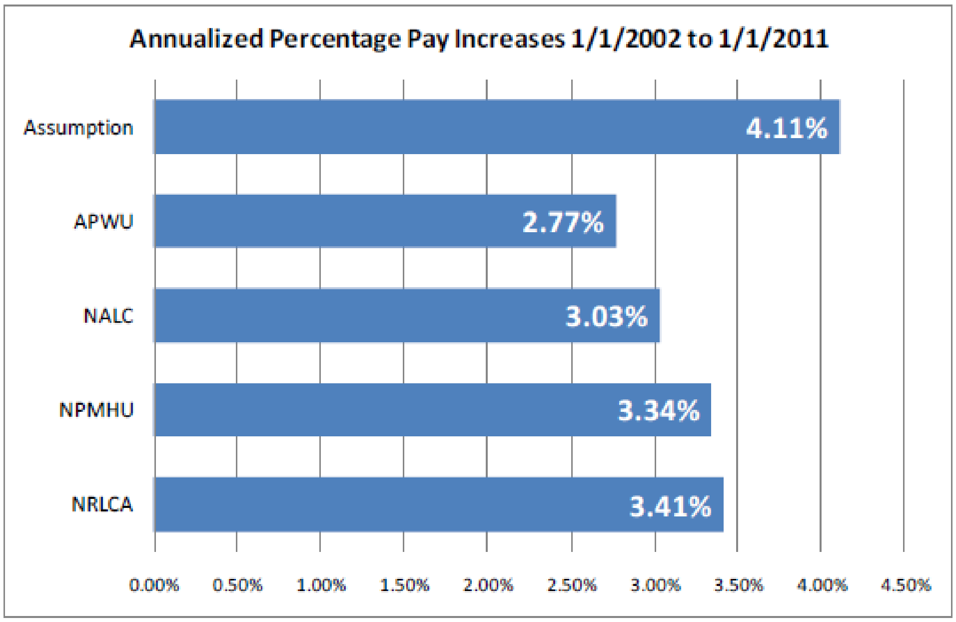
[3] The data provided included the salary increase assumption and a corresponding date of implementation. However, the data did not show the OPM valuation for which the assumption was effective. We have assumed that all changes in the assumptions were effective the following January 1.

HayGroup

Hay Group was provided with actual pay increases equivalent to general salary increases for NALC, NRLCA, APWU, and NPMHU union members, for the period from 2002 through 2010.[4] Based on our analysis of the data, we have found that annual pay increases for the unions ranged from a high of 3.41 percent for NRLCA, to a low of 2.77 percent for APWU. Based on these results, we have determined that the general salary increases assumed by OPM are higher than the actual pay increases awarded. This has resulted in OPM overestimating the salaries of USPS employees and, as such, the FERS liability.

Figure V-1 below shows the average annual pay increases for the four major unions as well as the average OPM assumption.

Figure V-1



[4] The pay increase data received for each union began with an increase at some time in 2002 and ended with an increase in either 2010 or 2011. In order to perform a consistent analysis of pay increases, we required data for a uniform time period for all unions. To this end, we assumed that the data included all 2002 increases. We did not include 2011 pay increases in our analysis, as some unions did not have 2011 pay increase data shown. Therefore, our analysis was performed for the period of 1/1/2002 through 1/1/2011.

Figure V-1 shows that over the last decade, USPS pay increases have been significantly lower than the FERS valuation assumption. The APWU bargaining unit has the largest enrollment and the NALC unit the second largest enrollment.

Other Salary Increases

We also reviewed differences in the step structure for USPS and federal employees. USPS Craft employees tend to go through fewer steps in their pay schedules and therefore employees reach the top of their pay schedule earlier in their careers than do federal employees. The OPM assumptions anticipate that Craft employees will continue to receive step pay increases in line with the federal pay schedule. For example, an employee hired at age 25 reaches the top of the USPS pay steps at age 37. OPM's valuation assumes step increases for the employee throughout the rest of his or her career at a rate of about 1 percent per year. In reality, USPS would likely only be granting cost-of-living adjustments and small contractual pay increases.

OPM actuaries have the Craft pay schedules, but do not have employee counts by Craft. Therefore, OPM has been unable to develop a separate USPS-specific salary assumption. Currently, 70 percent of FERS Craft employees have reached the top of their pay schedule. (See Appendix C for more information.)

Assumptions for USPS-Specific Projections

To reflect this experience, we incorporated a lower salary growth assumption into our USPS-specific projection in Section IX. In order to estimate the impact of the difference between USPS's expected future pay increases and the pay increase levels assumed in the OPM FERS valuations, we have utilized the 11-year projection of expected future pay increases shown in Table V-2, which was prepared by USPS's expense forecasting team.

These weighted average pay increases take into account contractual increases (some known, some estimated), step increases and COLA increases (across-the-board increases, generally reflective of inflation). This forecast does not reflect pay increases in connection with promotions. Therefore, for purposes of our analysis, to capture the weighted average impact of promotions, we have added to each of these forecasted increase levels another 0.10 percent. Based upon our discussions with Postal Service representatives, 0.10 percent is a conservative estimate for this purpose. In our USPS-specific projection, these estimates were used together in place of OPM's general salary growth and merit growth assumptions.

Table V-2 USPS Forecast Team's Projected Pay Increases for FERS Employees	
Fiscal Year	Weighted Average Percentage Increase
2012	0.33%
2013	2.27%
2014	2.39%
2015	2.13%
2016	2.39%
2017	2.52%
2018	2.55%
2019	2.57%
2020	2.56%
2021	2.55%
2022	2.55%

VI. COLA Analysis

Another source of experience gains is lower than expected inflation. After retirement, FERS annuitants over age 62 receive annual cost-of-living adjustments (COLAs). The increases are based on the Consumer Price Index (CPI), quarter ending September 30, and are applied effective the following January 1.

When inflation is less than 2.00 percent the COLA is the actual rate of inflation. When inflation is between 2.0 percent and 3.00 percent, the COLA is 2.00 percent. When inflation is over 3.00 percent, the COLA is the actual rate of inflation less 1.00 percentage point. USPS FERS retirees receive the same COLA as Federal FERS retirees.

Figure VI-1 – Comparison of Actual to Expected COLA

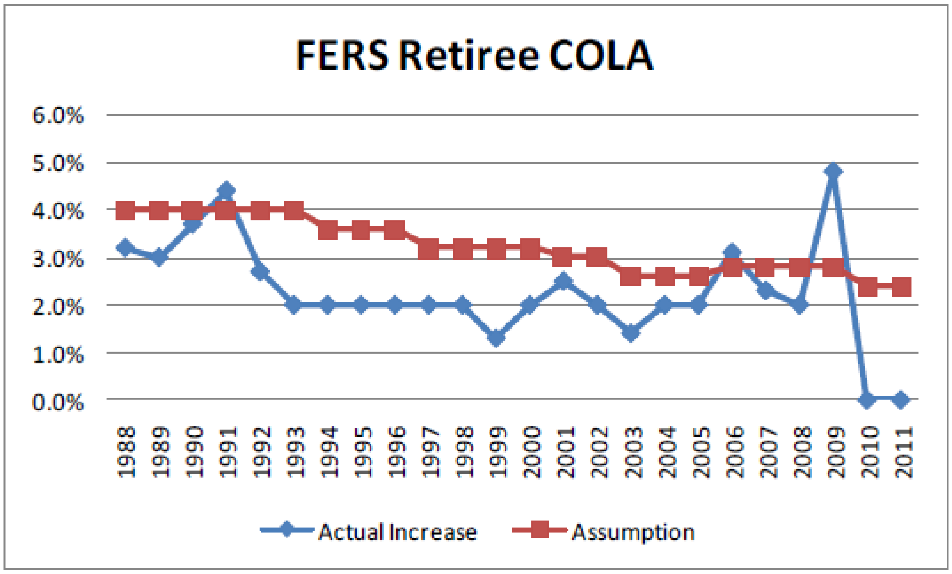


Figure VI-1 shows that since FERS was established through 2011, the actual COLA granted has exceeded the valuation assumption three times and has been less than the assumption 21 times.

When COLAs are smaller than assumed, annuities increase less than projected. The remeasured liability is lower than expected, resulting in an increase in the surplus. Since the COLA is the same for Postal Service and non-postal FERS participants, the entire FERS fund experiences gains from lower than expected COLAs.

The inflation assumption is set by the Civil Service Retirement and Disability Fund (CSRDF)[5] Board of Actuaries and was last changed effective June, 2010 when it was reduced from 3.50 percent to 3.00 percent. The FERS COLA assumption, which accounts for year to year fluctuation around the long-term rate, is 80 percent of the inflation assumption, so the current assumption is 2.40 percent.

[5] CSRDF includes both the Civil Service Retirement System and the Federal Employees Retirement System.

VII. USPS Demographic Experience

Experience gains (losses) can occur when demographic experience is different than expected. Hay Group conducted an actuarial investigation ("Experience Analysis") on the USPS FERS population in 2010 to see how it differed from the total FERS population. Individual data on all FERS members employed by USPS were gathered for nine snapshot annual dates, covering eight years of elapsed time. Also, an additional file was provided for each year that documented the Nature of Action for any active employee who separated between the snapshot dates.

A history for each member in the study was created for active employee's status on each of the nine snapshot dates. If the member was not yet hired, the status was blank. If the member was actively employed or had separated, then a code was used to indicate the status of that member. In the case of members who terminated during the study and then were rehired, the record indicated active status in the earlier years then a termination status up until the member was rehired. The first snapshot date following rehire then indicated that the member was active.

By stringing together the statuses for each employee, we were able to run the data through Access programs to summarize all actual and expected occurrences in the data plus counts of all members exposed to the valuation decrements. These actual counts, expected counts, and exposure were then compiled and analyzed to compare to the FERS valuation assumptions, as well as develop USPS specific assumptions.

All USPS specific rates were developed to be consistent with OPM rates. For example, if the OPM rates were age and service based, then the USPS rates were developed to mirror the age and service based rate format.

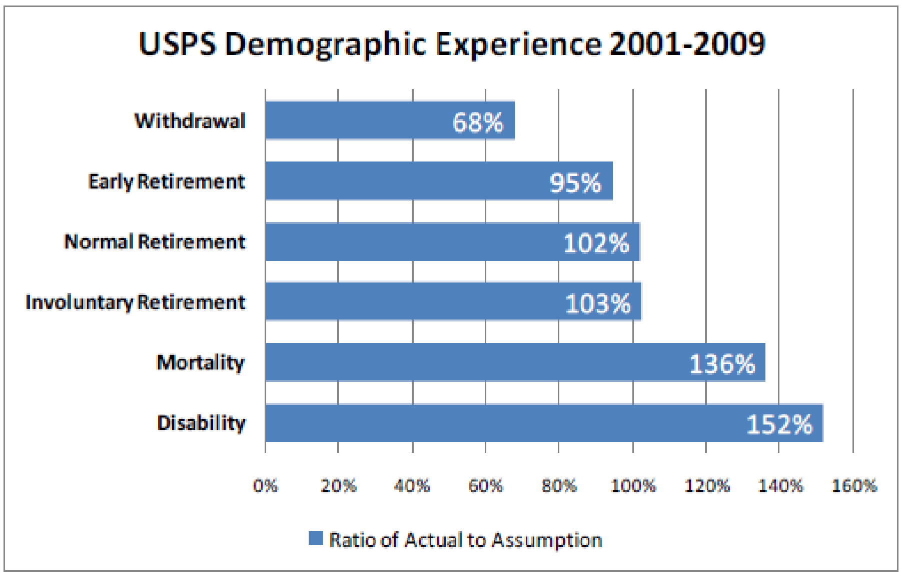
The actuarial investigation reviewed the following elements:

1. Distribution of new entrants by age, sex, and service;
2. Withdrawal rates;
3. Normal retirement rates;
4. Involuntary retirement rates;
5. Disability retirement rates;
6. Early retirement rates;
7. Employee death rates;

Development of demographic actuarial assumptions begins with the analysis of actual experience to expected experience, and the calculation of the actual-to-expected ratio. The actual-to-expected ratio gives a measure of how closely the assumption predicted what actually happened.

If the actual-to-expected ratio is greater than 100 percent, then the actuarial assumption under-predicted; if the actual-to-expected ratio is less than 100 percent, then the assumption over-predicted the number of occurrences.

Figure VII-1 – Comparison of USPS Demographic Experience to OPM Assumptions



The chart shows that the USPS withdrawal (voluntary turnover) rate was materially lower than assumed. When withdrawal is lower than assumed, more employees remain employed and a higher percent of employees vest in their benefits, resulting in a higher cost and therefore an actuarial loss.

The retirement rates are in line with the overall FERS assumption, with the exception of slightly lower rates for early retirement.

The in-service mortality rate is materially higher than the assumption, however OPM includes margin for expected mortality improvement in its valuation assumption. Moreover, this assumption has the smallest impact on liabilities for active employees of those shown.

The rate of disability retirement is over fifty percent higher than assumed.

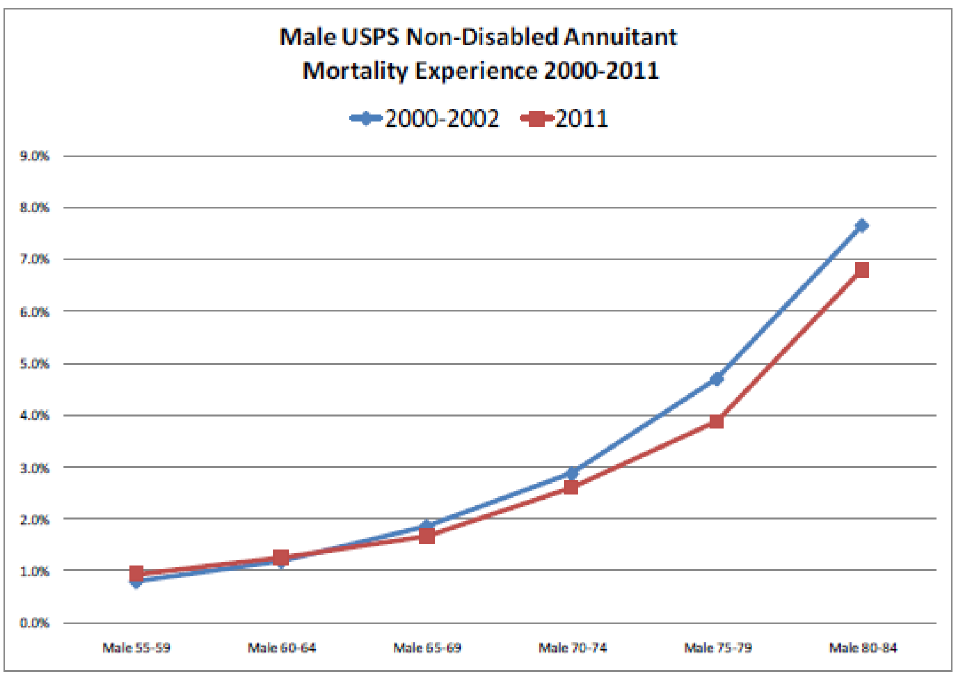
To determine the effect of using USPS-specific demographic data, we incorporated USPS-specific assumptions in our projection in Section IX. The overall effect was to slightly reduce the Postal Service's liability.

VIII. Mortality Analysis

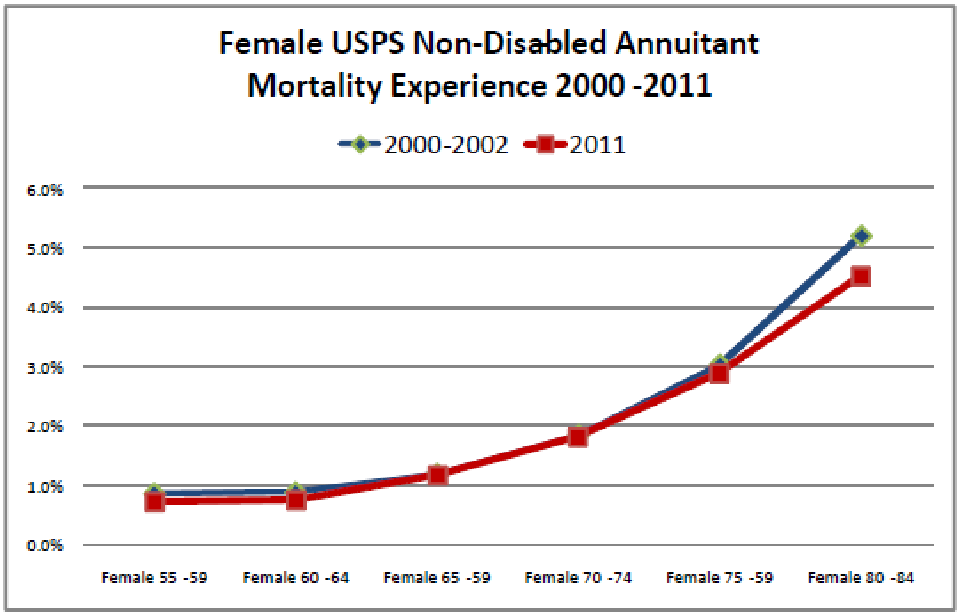
A study of USPS-specific mortality for annuitants was conducted using census and event data provided by OPM. The study included FERS and CSRS annuitants and was based on observed experience covering the period 2000 to 2011. Due to paucity of data on older FERS annuitants, data for CSRS annuitants was combined with FERS annuitants for this analysis.

The charts below compare USPS mortality observed from the earliest years of the periood analyzed to the experience in 2011, the latest year in the study period.

The study showed shifts in the rate of mortality by year – with improvements in mortality over the 11-year period for male annuitants over age 65, but deterioration in mortality rates for younger male annuitants.



For females, the study showed a small improvement in mortality rates at ages under 65, no material improvement at ages 65-74 and a small improvement at ages 75-79, with larger improvement at the older ages.



Based on the observed rates and the pattern of mortality changes over the past 11 years, we projected continued improvements at ages where we had seen improvements and stable rates for ages where mortality rates had increased. This projected set of rates was smoothed to develop the USPS specific mortality table.

This process (evaluation of historical changes and projection of future improvements) mirrors the process used by the OPM Office of the Actuary in developing the FERS and CSRS annuitant mortality rates.

We applied the OPM mortality rates to the current annuitant data set and calibrated the results to match the OPM valuation report on USPS FERS liability. We then applied the USPS specific mortality rates to the annuitant and active employee census data. The table below shows the impact of measuring the liability using the USPS specific mortality rates is a decrease in the Actuarial Accrued Liability of 1.4 percent.

Table VIII-1
Estimate of FERS Surplus as of September 30, 2011
Based on USPS Specific Mortality Assumptions

	Current – OPM Assumptions	USPS Specific Mortality Rates
Assumed Investment Return Rate	5.75%	5.75%
Salary Increase Assumptions:	OPM	OPM
Assumed Post-Retirement COLA Increases	2.40%	2.40%
Demographic Assumptions (other than annuitant mortality)	OPM	OPM
Annuitant Mortality Assumption	OPM	USPS
Assets	$87.3	$87.3
Actuarial Accrued Liability	$75.9	$74.8
Surplus	**$11.4**	**$12.5**

IX. Projection of Surplus Using USPS-Specific Assumptions

To show the effect of using USPS-specific assumptions, we developed a projection of the FERS surplus as of September 30, 2011. To be consistent with the current OPM economic assumptions (most recently approved by the CSRDF Board of Actuaries), our FERS surplus estimates have been based upon an interest rate of 5.75 percent and a post-retirement COLA increase rate of 2.40 percent per year.

To estimate the impact of the lower (versus those assumed by OPM) expected future USPS pay increases, we have assumed overall FY 2012 through FY 2022 pay increases in accordance with USPS's forecast (as shown in Table V-2 above), plus the 0.10 percent adjustment for promotion increases. For fiscal years 2023 and beyond, we have assumed USPS pay increase levels will be consistent with those assumed by OPM general salary increases, no future step increases will be applied, however we included the 0.10 percent adjustment for promotions. Using these USPS specific salary increases, the Actuarial Accrued Liability is remeasured as $65.0 billion, a decrease of $10.9 billion.

We also consider the Postal Service's past demographic experience. Based upon Hay Group's Experience Study of Postal Service's FERS population, we did see that USPS's past demographic experience (turnover, retirement, etc.) differed somewhat from what would have been expected under OPM's demographic assumptions. Using our USPS-specific demographic assumptions in place of the OPM demographic assumptions, in fact, gives rise to a $0.9 billion reduction in the FERS liability, and a slightly higher FERS surplus.

In addition to the demographic experience study, which examined the turnover, disability, and retirement experience of employees, we also studied the mortality experience of non-disabled annuitants. The study was based on an analysis of actual deaths covering the period 2000 to 2011. The remeasurement based on USPS mortality experience reduces the Actuarial Accrued Liability by $0.8 billion.

Table IX-I compares the FERS surplus as currently measured to the remeasured surplus using USPS-specific assumptions. Whereas the current OPM FERS surplus measure of $11.4 billion represents about 17 percent of annual Postal Service revenues and about 15 percent of the USPS FERS liability, the revised FERS surplus estimate of $24.0 billion represents over 35 percent of annual Postal Service revenues and over 37 percent of the USPS FERS liability.

Table IX-1 Estimate of FERS Surplus as of September 30, 2011 Based on Alternate Pay Increase and Demographic Assumptions		
	OPM Assumptions	USPS-Specific Assumptions
Assumed Investment Return Rate	5.75%	5.75%
Salary Increase Assumptions:		
General Salary Increase	3.75%	USPS
Merit Salary Increase	OPM	USPS
Assumed Post-Retirement COLA Increases	2.40%	2.40%
Active Demographic Assumptions	OPM	USPS
Annuitant Mortality Assumption	OPM	USPS
Assets	$87.3	$87.3
Actuarial Accrued Liability	$75.9	$63.3
Surplus	**$11.4**	**$24.0**

It should be noted that, throughout the analyses described above, we have assumed no changes to the level of future employee contributions to FERS. Should such a change be legislated, it may have the impact of both (i) increasing the future FERS surplus and (ii) decreasing the FERS contribution needed from employers, the Employer Normal Cost. As well, such a change would reduce the remaining funding needed to fully fund USPS-FERS benefits and therefore could eliminate the need for payment of future annual employer normal costs.

HayGroup

Appendix A. Economic Assumption History

Table A-1 shows a history of the economic assumption changes for CSRS and FERS. The shortest period between assumption changes was two years, with most of the changes being implemented after a period of four or five years.

Table A-1
Historical Assumptions

Date	Inflation	Interest Rate	Salary Growth
10/1/1979	5.00%	6.00%	5.50%
10/1/1983	5.00%	6.50%	5.50%
10/1/1987	5.00%	7.00%	5.00%
12/31/1992	4.50%	7.00%	4.50%
2/11/1997	4.00%	7.00%	4.25%
3/16/2001	3.75%	6.75%	4.25%
5/8/2003	3.25%	6.25%	4.00%
6/8/2006	3.50%	6.25%	4.25%
6/11/2010	3.00%	5.75%	3.75%

The surplus is a function of the assumptions used to measure the liability. In the event that the CSRDF Board of Actuaries approves new assumptions, it is likely that they will select a lower interest rate (as the investment earnings on the assets are currently less than 5.75 percent), as well as lower expected salary growth and possibly lower inflation. If the change in the interest rate is matched by a similar change in the expected rate of inflation, the overall level of the surplus is likely to be similar to the current level. If, however, only the interest rate is reduced, then the liability will increase.

HayGroup

Appendix B. FERS Census Data

Categorization of Employees by Retirement System

USPS provided Hay Group with data for each union, by pay grade and career level. This data was further broken out by retirement code. USPS also provided a description of each of the retirement codes. Using the provided retirement codes and their corresponding descriptions, Hay Group categorized employees as either CSRS or FERS participants. Table B-1 below shows Hay Group's assignment of retirement system to employees for each of the provided retirement codes.

Table B-1
Assignment of Retirement System by Retirement Code

Retirement Code	Description	Hay Group Categorization
1	CSRS- Initial Appointment Prior To 1/1/84	CSRS
2	FICA (Non Career)	None
3	CSRS - Postal Inspectors	CSRS
4	Excluded (Subject To Medicare)	None
5	CSRS Offset (Meets "Five Year Test")	CSRS
6	CSRS Offset - Inspectors (Meets "Five Year Test")	CSRS
7	CSRS - Postal Rate Commission	CSRS
8	FERS	FERS
9	FERS - Postal Inspectors	FERS
A	Converted From CSRS To FERS - Regular Employees (Frozen CSRS Service)	FERS
B	Converted From CSRS To FERS - Postal Inspectors (Frozen CSRS Service)	FERS

HayGroup

Table B-2 shows a summary of the FERS employee population by age and length of service.

Table B-2
FERS Employee Census by Age and Years of Service

Age	Years of Service								
	Under 10	10 - 14	15 - 19	20 - 24	25-29	30 – 34	35 - 39	40+	Total
< 20	2	-	-	-	-	-	-	-	2
20 -24	454	-	-	-	-	-	-	-	454
25 - 29	7,521	74	-	-	-	-	-	-	7,595
30 - 34	16,915	5,033	67	-	-	-	-	-	22,015
35 - 39	17,140	17,157	6,071	67	-	-	-	-	40,435
40 - 44	18,474	22,837	18,421	6,827	389	-	-	-	66,948
45 - 49	18,735	21,507	19,403	25,198	17,651	240	-	-	102,734
50 - 54	16,436	21,595	17,728	25,839	33,589	3,419	91	-	118,697
55 - 59	10,706	16,389	15,458	18,626	23,780	3,065	665	10	88,699
60 - 64	5,278	7,982	9,459	9,649	11,762	1,469	317	72	45,988
65 - 69	1,415	1,980	2,173	2,240	2,311	336	58	34	10,547
70 - 74	289	403	386	373	413	45	15	14	1,938
75 +	71	71	88	130	118	12	4	12	506
Total	113,436	115,028	89,254	88,949	90,013	8,586	1,150	142	506,558

Appendix C. Employees by Pay Level

The following tables show the counts of the number of FERS union employees by pay grade. Table C-1, which shows summary information for the percent of employees by union that have reached the top step, shows counts for both FERS union employees and all union employees (CSRS and FERS). When including only FERS employees, 84 percent of APWU employees are at the top pay step whereas 40 percent of NRLCA members have attained the top step. Overall, 70 percent of FERS union employees have already reached the top step and would only be eligible for general pay increases. Tables C-2 through C-5 show, for each union, the counts of FERS employees at each pay grade, by career level.

Table C-1
Top Step Career by Union for FERS Employees and for All Union Employees
Pay Period 08 FY2012

Union	FERS Union Employees			All Union Employees		
	Top Step	Total Complement	% at Top	Top Step	Total Complement	% at Top
APWU	131,976	157,684	84%	166,735	192,714	87%
NALC	107,608	156,193	69%	130,812	179,602	73%
NRLCA	24,164	61,038	40%	27,063	64,065	42%
NPMHU	26,776	39,091	68%	31,786	44,208	72%
Total	290,524	414,006	70%	356,396	480,589	74%

HayGroup

APWU

There are 157,684 FERS employees in the APWU. Of these, 131,976 or 84 percent are at the top step.

Table C-2
APWU
FERS Employees by Pay Grade and Career Level

Level	FF	EE	BB	AA	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
3	-	-	-	-	-	-	2	2	7	9	7	7	1	3	8	4	10	5	224	-
4	-	-	1	1	-	11	24	148	286	182	297	263	145	137	149	308	402	401	7,568	-
5	349	-	-	-	-	-	2	2	6	18	21	34	136	131	23	40	135	31	1,229	-
6	3	1	-	-	5	2	7	16	37	691	1,690	1,114	2,104	3,156	2,989	1,593	691	348	86,414	-
7	1	-	-	-	4	13	29	45	55	144	187	157	227	299	252	185	143	172	20,761	-
8	18	2	-	-	-	5	3	6	8	47	122	214	196	282	220	258	217	140	4,994	-
9	-	-	-	-	-	-	-	29	67	84	155	140	141	245	242	226	216	311	396	5,665
10	-	-	-	-	-	-	-	8	23	56	62	104	133	206	175	216	206	200	218	5,057
11	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	64
Total	371	3	1	1	9	31	67	256	489	1,231	2,541	2,033	3,083	4,460	4,058	2,830	2,020	1,609	121,805	10,786

NALC

There are 156,193 FERS employees in the NALC. Of these, 107,608 or 69 percent are at the top step.

Table C-3
NALC
FERS Employees by Pay Grade and Career Level

Level	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	107	571	1,650	4,918	4,356	4,171	4,494	3,304	2,692	1,880	2,283	2,665	2,709	2,292	96,181
2	11	289	511	768	1,107	1,466	1,112	767	665	577	840	629	629	1,121	11,426
5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	119	860	2,161	5,686	5,463	5,637	5,606	4,071	3,357	2,457	3,123	3,294	3,338	3,413	107,608

NPMHU

There are 39,091 FERS employees in the NPMHU. Of these, 26,776 or 68 percent are at the top step.

Table C-4
NPMHU
FERS Employees by Pay Grade and Career Level

Level	AA	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
4	8	37	1,780	96	168	1,286	1,212	1,858	497	549	416	564	600	566	469	449	19,807
5	0	12	78	22	54	151	196	127	60	109	147	128	111	126	112	327	6,965
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	8	49	1,858	118	222	1,437	1,408	1,985	557	658	563	692	711	692	581	776	26,776

HayGroup

NRLCA

There are 61,038 FERS employees in the NRLCA. Of these, 24,164 or 40 percent are at the top step.

Table C-5
NRLCA
FERS Employees by Pay Grade and Career Level

Level	A	B	C	1	2	3	4	5	6	7	8	9	10	11	12
0	2,958	3,833	3,627	3,192	3,536	3,476	2,986	2,306	2,267	1,727	1,948	1,940	1,557	1,521	24,164
Total	2,958	3,833	3,627	3,192	3,536	3,476	2,986	2,306	2,267	1,727	1,948	1,940	1,557	1,521	24,164

HayGroup

Actuarial Certification

USPS Office of Inspector General (OIG) retained the Hay Group to perform an analysis of the USPS portion of the Civil Service Retirement and Disability Fund (CSRDF). The scope of this assignment was limited to the Federal Employees Retirement System. Use of these results for other purposes may not be appropriate.

This analysis has been conducted in accordance with generally accepted actuarial principles and practices.

The results shown in this report are reasonable actuarial results. However, a different set of results could also be considered reasonable actuarial results. The reason for this is that actuarial standards of practice describe a "best-estimate range" for each assumption, rather than a single best-estimate value. Thus, reasonable results differing from those presented in this report could have been developed by selecting different points within the best-estimate ranges for various assumptions.

The actuaries certifying to this report are members of the American Academy of Actuaries and other professional actuarial organizations, and meet the General Qualification Standards of the American Academy of Actuaries for purposes of issuing Statements of Actuarial Opinion.

Adam J. Reese

Adam J. Reese, FSA, FCA, MAAA, EA

Craig R. Graby

Craig Graby, FCA, MAAA, EA
October 12, 2012