



Thrift Savings Plan

Participant Behavior and Demographics



Analysis of 2012 – 2016

Introduction

This analysis of Thrift Savings Plan (TSP) participant demographics prepared by the Federal Retirement Thrift Investment Board is based on participant data. The analysis of calendar year 2016 data is similar to analysis of data conducted in previous years, except that additional indicative data from the Office of Personnel Management (OPM) used in previous years was not available this year.

As with the 2014 report, the 2016 analysis will focus solely on participants in FERS, the Federal Employee Retirement System. The participant population in the Civil Service Retirement System (CSRS) is a very small and declining segment of the TSP, and the Uniformed Services participation will be included after the introduction of the Blended Retirement System in 2018. Information from this analysis provides insight on demographics, investment behaviors and how plan design changes may have influenced participation and contribution behaviors. Finally, this analysis helps us identify trends with participant usage of benefit options.

Background

The Federal Retirement Thrift Investment Board is an independent Federal agency that was established to administer the Thrift Savings Plan (TSP) under the Federal Employees' Retirement System Act of 1986 (See 5 U.S.C. §§ 8351; 8401 et seq.). Similar to the type of savings and tax benefits that many private corporations offer their employees under I.R.C. §401(k) plans, the TSP provides Federal civilian employees and members of the uniformed services the opportunity to save for additional retirement security. The Agency's mission is to act solely in the interest of its participants and beneficiaries.

TSP participants can invest their employee and employer contributions in the following core funds:

- Government Securities Investment Fund (*G Fund*)
- Fixed Income Index Investment Fund (*F Fund*)
- Common Stock Index Investment Fund (*C Fund*)
- Small Cap Stock Index Investment Fund (*S Fund*)
- International Stock Index Investment Fund (*I Fund*)

In addition to these indexed core funds, participants may also invest in five Lifecycle Funds (*L Funds*). The L Funds are custom target-date funds invested exclusively in the G, F, C, S, and I Funds.

During the period covered by this report, the TSP underwent one major plan design change. In September 2015 the default investment switched from the G Fund to an age-appropriate L Fund. The ongoing impact of this change on participant behavior will be discussed in this analysis.

Data Collection and Methodology

This report is based on data extracted from the TSP recordkeeping system for all TSP participants identified as active civilian Federal employees covered by the FERS retirement system.

As OPM data was not available, the demographics data presented in this report is not as comprehensive as used in previous reports. In order to estimate an individual's salary for FERS employees, the 1% automatic contributions were used. This value is then used to calculate salary quintiles and the average deferral rate. As a result, there are small variances when compared to previous reports. The salary reported in previously included all salary reported to OPM, including overtime and performance awards. However, matching percentages are based solely on basic salary including locality pay, which excludes overtime and awards. The effect is that the average deferral rate (calculated using a smaller denominator) will be higher using this methodology, but will match the participant's elected deferral rate percentage. This effect is expected to be roughly equivalent across salary ranges, so the use of salary quintiles will mitigate the impact.

This method also allows us to include participants from the Judicial and Legislative branch which had historically not been included, as OPM does not maintain records on those individuals. In addition, participants who work part-time or intermittently are included in the analysis as information on participant work schedules is not available in the TSP data extract.

In this report, salaries are shown in quintiles. The first quintile represents the 20% of all records in the lowest annual salary band; the fifth quintile represents the 20% of records in the highest salary band.

In summary, the analysis provided in this report is subject to the following limitations:

The calculation of salary based on automatic 1% contributions may modestly distort the findings compared to previous years, showing a higher rate but one more representative of the participant's actual deferral choice.

The inclusion of TSP accounts for employees of the Legislative and Judicial branches may modestly alter the findings when compared to previous reports.

The inclusion of TSP accounts for part-time and intermittent workers is likely to have a more meaningful impact on the findings. Since this group is likely to participate and contribute at lower rates than full-time employees, this inclusion will also likely result in a negative bias compared to analysis of only full-time employees, particularly in the lowest salary quintile.

Employees' actual deferral rate elections are not included in the TSP or OPM databases. Therefore, an approximation of annualized deferral rate is calculated by comparing the actual total employee contributions to the estimated annual salary rate for each calendar year.

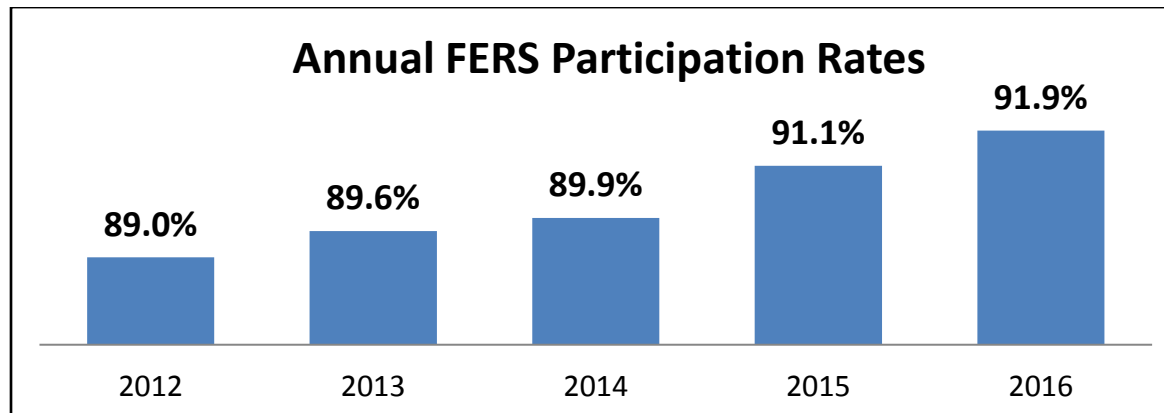
Analysis

The following sections of this report examine the behaviors of FERS participants across a five-year timeframe ending December 31, 2016 and through the lens of two demographic filters – age and salary. The exhibits and narratives display the relationships between these demographic factors and participant behaviors associated with participation and automatic enrollment, contribution deferral rates, investment allocation, and loan and hardship withdrawal usage.

Plan Participation

FERS participation was at an all-time high of 91.9% by the end of 2016. Figure 1 illustrates the steady improvement in the participation rate since the implementation of automatic enrollment for new hires in 2010. Automatic enrollment provides that new employees automatically have 3% of their salary deferred into the TSP unless the employee makes an active election not to participate in the Plan. Until September 2015, contributions for automatically enrolled participants were defaulted into the Government Securities Investment (G) Fund. With the passage of the Smart Savings Act, Public Law 113-255, the default investment fund for new participants changed from the G Fund to an age-appropriate Lifecycle (L) Fund.

Figure 1



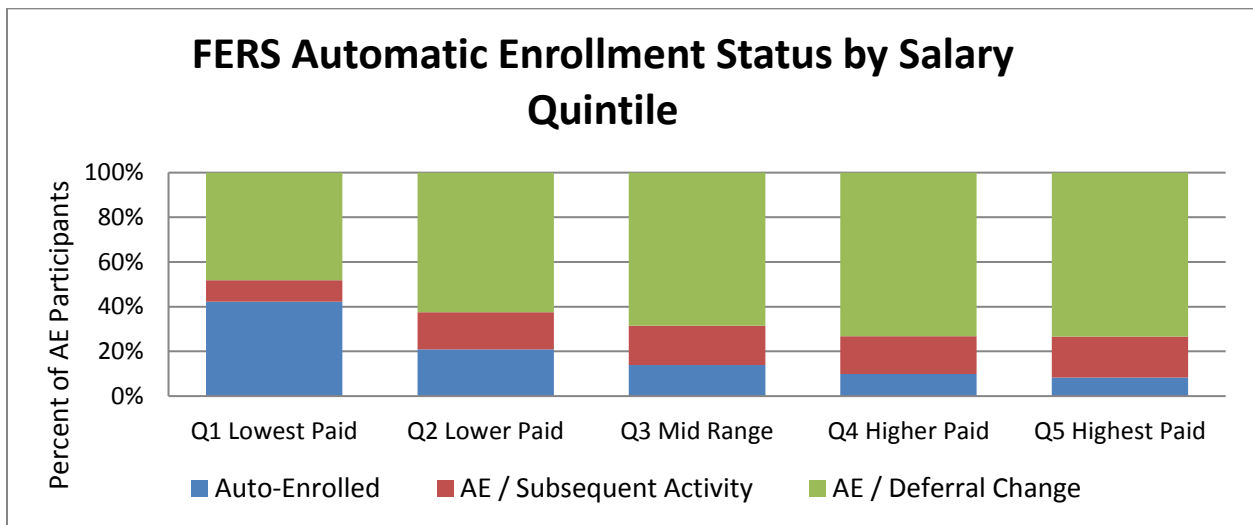
Automatic enrollment has also led to similar improvements in the participation of the youngest and lowest-paid. Reversing historical precedent, the younger the participant, the more likely they are to participate. As these participants are also the most likely to have been hired after the introduction of automatic enrollment in 2010, there is a clear linkage between the trend in these rates and automatic enrollment. Notably, the gap in participation rates between the highest paid and lowest paid has shrunk dramatically, from a 13% difference in 2012 to 7% in 2016. See Table 1 below:

Table 1

Annual FERS Participation Rates by Demographic Cohorts					
	2012	2013	2014	2015	2016
Age					
<= 29	91.7%	93.3%	94.6%	95.6%	96.8%
30 – 39	89.5%	90.5%	91.3%	93.0%	94.2%
40 – 49	87.6%	88.0%	88.4%	90.2%	91.3%
50 – 59	88.7%	88.9%	89.0%	90.2%	90.8%
60 – 69	89.1%	89.1%	89.1%	89.9%	90.2%
70+	87.5%	87.8%	87.2%	87.1%	86.9%
Salary Quintile					
Q1 Lowest Paid	82.7%	84.3%	85.8%	89.8%	89.1%
Q2 Lower Paid	83.6%	83.8%	84.2%	86.7%	87.7%
Q3 Mid-Range	89.0%	89.4%	89.1%	89.2%	90.2%
Q4 Higher Paid	92.8%	93.1%	93.3%	93.8%	94.4%
Q5 Highest Paid	95.6%	95.7%	95.8%	96.3%	96.6%

Auto enrollment has resulted in increased participation rates, with less than 4% of auto enrolled participants opting out of making contributions. In addition, auto enrolled participants have demonstrated a degree of engagement with the TSP as 59.4% have actively made deferral changes, interfund transfers or other transactions since entering the Plan. However, as shown in figure 2, the 40% who have made no change since being auto-enrolled are mostly in the lowest salary quintiles.

Figure 2



Contribution Deferral Rates

The FERS deferral rate (includes employee Roth, traditional and catch-up contributions) dropped slightly during the five years since the implementation of automatic enrollment, from 8.4% to 7.8% in 2016 as shown in figure 3. While the FERS deferral rate exceeds the 5.9% average deferral rate (ADP)¹ of other defined contribution plans, it is significantly lower than the 9.5% FERS deferral rates of the mid-2000s.

This drop is a side effect of automatic enrollment. Automatic enrollment brings many new participants into the Plan who would not otherwise have been participating. However, many, if not most of these auto-enrolled

participants have continued to contribute at the 3% default level. This increase in new participants at the default level has caused the average deferral rate to slowly decline.

Figure 3

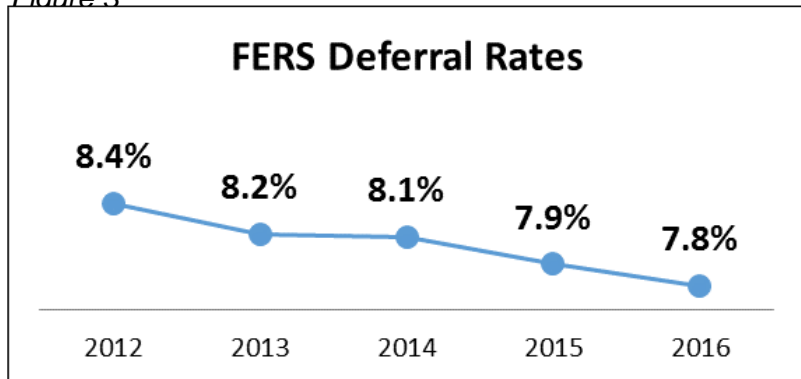
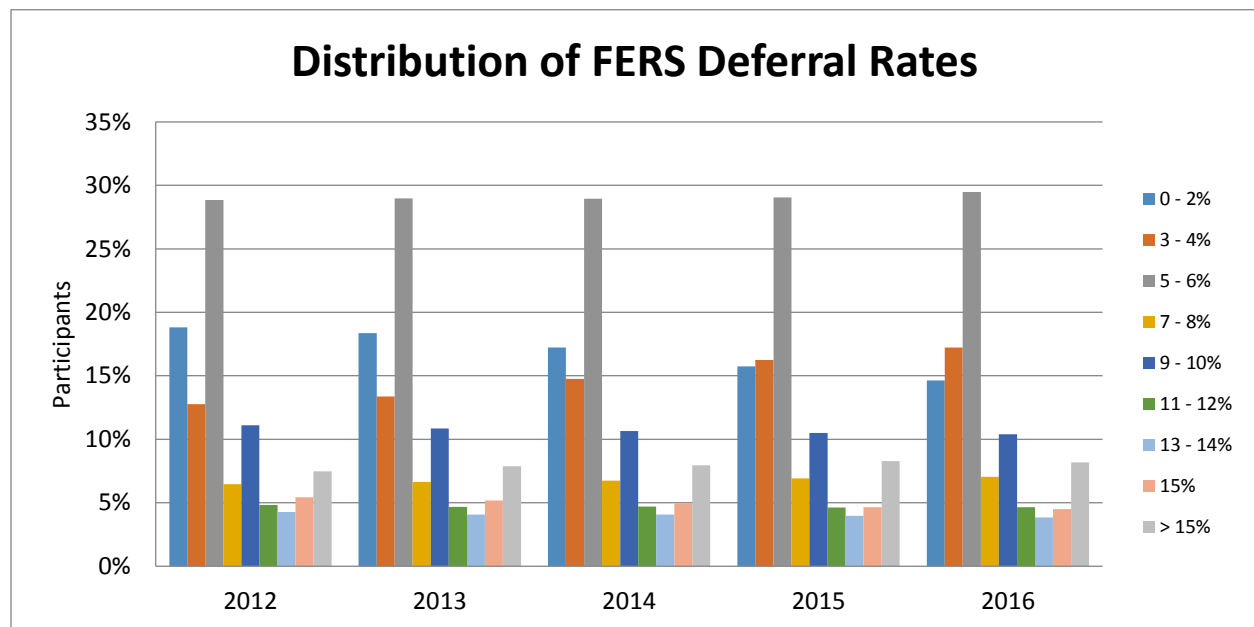


Figure 4 below illustrates the power of plan design on participant behavior. FERS participants receive dollar-for-dollar matching contributions on the first 3% of pay and 50 cents on the dollar on the next 2%. The full match is achieved with a 5% contribution. Consequently, deferral rates aggregate in the 5-6% range, with 29.5% of TSP contributors being in this range in 2016. The impact of automatic enrollment can clearly be seen as the percent of participants contributing 2% or less shows a steady decline while the percent at the default contribution rate of 3% has consistently grown over the last 5 years. Still of significant note, however, 31.9% of participants are not receiving the full matching contribution as they are contributing less than 5%.

¹ “For [Non-highly compensated employees], the median ADP was 5.9% . . . , while the median ADP for [highly compensated employees] was 7.0%” Deloitte, Annual Defined Contribution Benchmarking Survey – Ease of Use Drives Engagement in Saving for Retirement, 2015 Edition

Figure 4



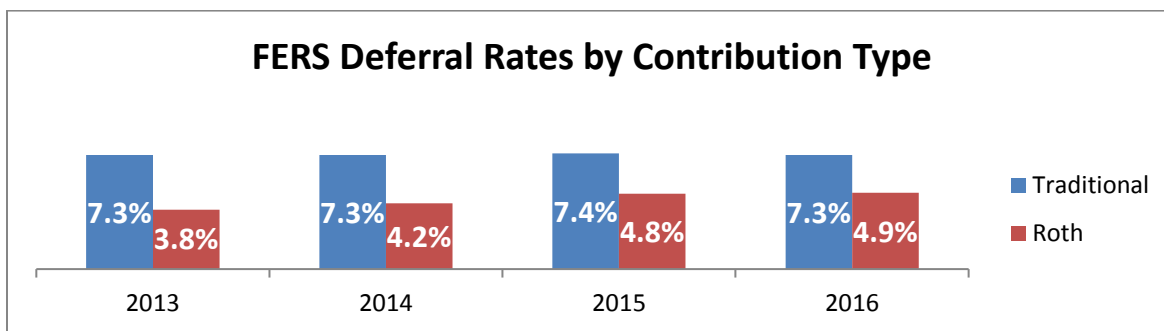
The lowest-paid participants are deferring the least – 4.3% less than the highest paid. See table 2. However, with an average deferral rate of 5.5%, many of the lowest paid are still receiving the full match. The youngest participants have the lowest deferral rates with deferrals steadily increasing with age.

Table 2

Annual FERS Deferral Rates by Demographic Cohorts					
	2012	2013	2014	2015	2016
Age					
<= 29	5.2%	4.9%	4.9%	5.3%	5.3%
30 – 39	6.3%	6.1%	6.1%	6.4%	6.4%
40 – 49	7.4%	7.1%	7.2%	7.2%	7.2%
50 – 59	9.2%	9.0%	9.0%	9.2%	9.1%
60 – 69	10.5%	10.3%	10.2%	10.5%	10.0%
70+	11.9%	11.6%	11.4%	11.6%	10.8%
Salary Quintile					
Q1 Lowest Paid	5.4%	5.1%	5.1%	5.7%	5.5%
Q2 Lower Paid	7.5%	7.4%	7.4%	7.0%	7.2%
Q3 Mid-Range	7.5%	7.3%	7.5%	8.0%	8.1%
Q4 Higher Paid	8.8%	8.6%	8.7%	8.8%	8.9%
Q5 Highest Paid	9.8%	9.7%	9.8%	9.9%	9.8%

Roth TSP was introduced in May 2012. With Roth TSP, participants make contributions from after-tax dollars, and their earnings on these contributions are tax-free at withdrawal as long as certain IRS requirements are met. While the majority of participants continue to defer only traditional (pre-tax) contributions, deferrals to Roth TSP are increasing. For those contributing to Roth, their average deferrals were 4.9% as opposed to the average traditional deferral of 7.2%. (Roth and traditional average deferral rates in Figure 5 do not include catch-up contributions which are reflected in the deferral rates shown in Figures 3 and 4.)

Figure 5



Roth deferral rates are highest among older participants, as well as the highest-paid. However, most demographic cohorts experienced an increase in Roth deferrals in 2016.

Table 3

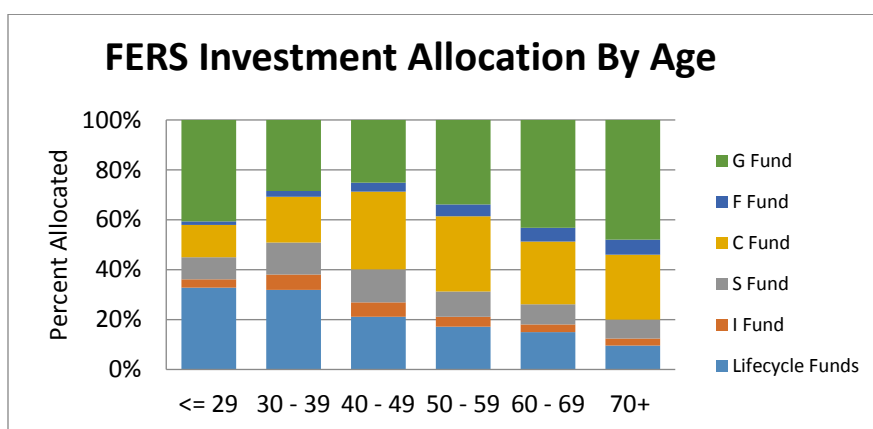
FERS Traditional and Roth Deferral Rates						
by Demographic Cohorts						
	2014		2015		2016	
	Traditional	Roth	Traditional	Roth	Traditional	Roth
Age						
<= 29	4.5%	3.9%	4.7%	4.8%	4.6%	4.9%
30 – 39	5.8%	3.9%	6.0%	4.6%	5.9%	4.7%
40 – 49	6.9%	3.9%	6.9%	4.4%	6.8%	4.5%
50 – 59	8.4%	4.7%	8.5%	5.1%	8.3%	5.2%
60 – 69	9.4%	6.0%	9.6%	6.7%	9.1%	6.4%
70+	10.4%	6.8%	10.6%	8.3%	9.8%	7.6%
Salary Quintile						
Q1 Lowest Paid	4.8%	3.4%	5.3%	4.5%	5.1%	4.4%
Q2 Lower Paid	7.1%	4.1%	6.6%	4.6%	6.7%	4.6%
Q3 Mid-Range	7.2%	4.3%	7.6%	4.9%	7.6%	5.1%
Q4 Higher Paid	8.3%	4.5%	8.3%	5.1%	8.3%	5.2%
Q5 Highest Paid	9.1%	4.8%	9.1%	5.1%	9.0%	5.2%

Investment Allocation

In Figure 6, we note that allocations to the G Fund increase as the age of the TSP's population increases. This behavior is consistent with the expectation that participants shift their investment allocation toward the relative safety of guaranteed/income producing assets as they approach retirement age. The noteworthy exception to this observation is in the grouping of participants aged 29 and under. In this age cohort, we note that participants invest 40.7% of their accounts in the G Fund, probably as a result of the default investment option being the G Fund prior to 2015. This is a slight improvement from 2014 when the youngest participants held 41.7% of their assets in the G Fund.

*The youngest participants who have the longest time horizon to reap the benefits of compounding returns have **40.7%** of their assets invested in the G Fund.*

Figure 6



The lowest-paid participants have approximately 50.9% allocated to the G fund as compared to the highest paid who allocated only 25.4% to the G Fund. See Table 4.

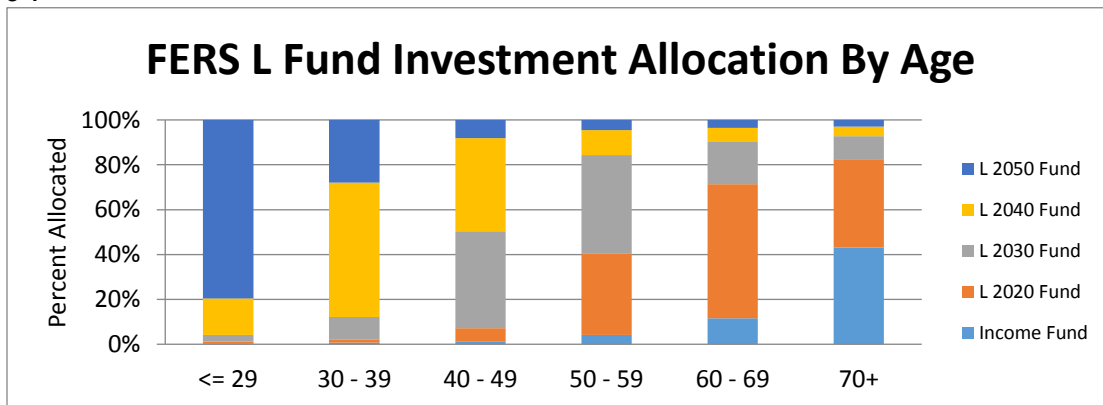
When examining L Fund allocations, the two youngest age cohorts had the highest level of usage at 32.8% and 31.8% while the two oldest age cohorts had L Fund allocations of 14.9% and 9.6%. When compared to 2014, the biggest increases were in the L fund allocations for those under 50. This is most likely influenced by the default investment changing from the G Fund to an age appropriate L Fund in 2015. See Table 4.

Table 4

2016 Investment Allocations by Demographic Cohorts						
	G Fund	F Fund	C Fund	S Fund	I Fund	L Funds
Age						
<= 29	40.7%	1.3%	13.0%	8.9%	3.4%	32.8%
30 – 39	28.4%	2.3%	18.3%	12.8%	6.3%	31.8%
40 – 49	25.1%	3.7%	31.1%	13.2%	5.8%	21.1%
50 – 59	33.8%	4.7%	30.1%	10.2%	4.0%	17.1%
60 – 69	43.2%	5.6%	25.2%	8.0%	3.2%	14.9%
70+	48.0%	5.9%	26.0%	7.6%	2.8%	9.6%
Salary Quintile						
Q1 Lowest Paid	50.9%	3.4%	19.2%	7.7%	3.5%	15.3%
Q2 Lower Paid	44.0%	4.5%	26.8%	8.1%	3.5%	13.0%
Q3 Mid-Range	36.3%	4.1%	24.4%	10.6%	4.5%	20.1%
Q4 Higher Paid	30.6%	4.3%	26.6%	12.0%	4.9%	21.7%
Q5 Highest Paid	25.4%	4.7%	33.2%	11.9%	4.9%	19.9%

Of the participants utilizing the L Funds, the allocation is largely as we would expect. Those in the age 29 and under cohort were taking advantage of the L2040 and L2050 Funds. Participants who would likely retire between 2027 and 2037 (the 40-49 age group) were in L2030 and L2040 Funds. The age 50-59 cohort was aggregated in the L2020 and L2030 Funds. Participants aged 60-69 were solidly investing in the L2020, while those 70 and over had the highest allocation in the L Income Fund. See Figure 7.

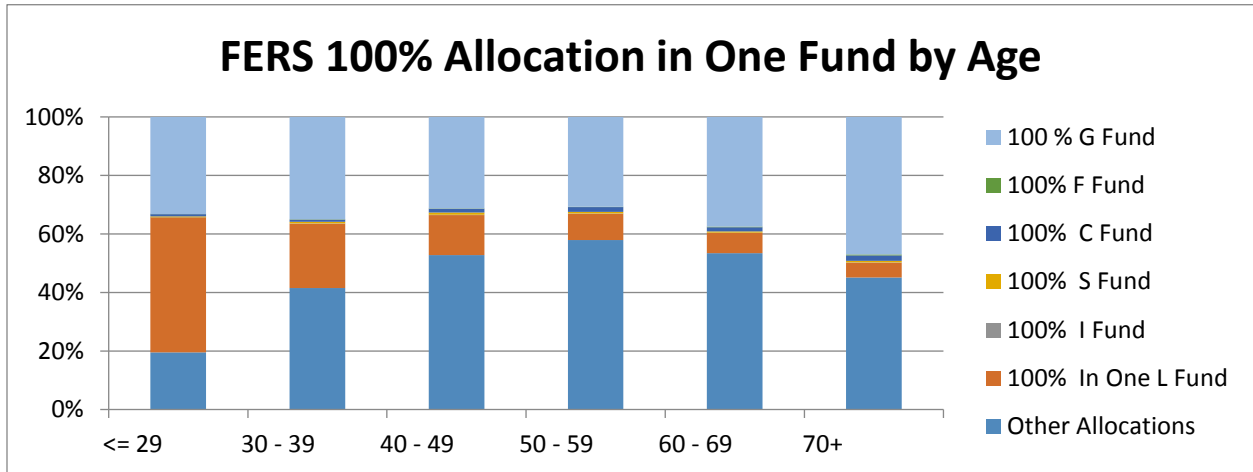
Figure 7



The L Funds' strategy is to invest in an appropriate mix of the G, F, C, S, and I Funds for a particular time horizon. The investment mix of each L Fund becomes more conservative as its target date approaches. Thus, the participant only needs to invest in one L Fund in order to achieve diversification among the core funds. As shown in Figure 8, the use of one L Fund is most common with the two youngest age cohorts – 46.1% for those age 29 and under and 22.1% for those age 30 to 39. While the percent of participants who invest solely in the F, C, S, and I Funds is minor, all age cohorts have a significant percentage of participants investing solely in the G Fund. Since 2014, the most significant change can be seen in the younger age

groups where there has been a significant increase in the number solely invested in one L fund. This was influenced by the change to an age-appropriate L fund as the default investment in 2015. See Figure 8.

Figure 8

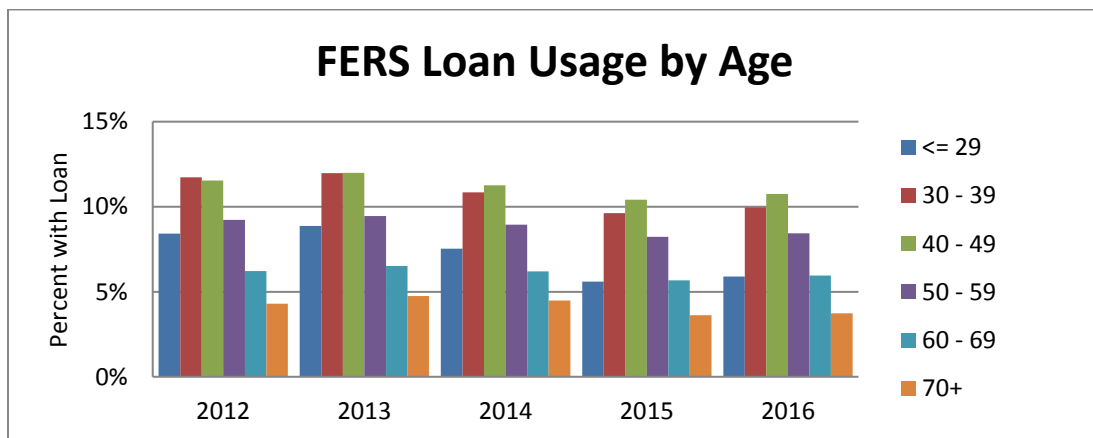


Loan and Hardship Withdrawal Usage

The TSP allows two types of loans – general purpose and residential. A general purpose loan has a repayment term of 1 to 5 years, while a residential loan for the purchase of a primary residence has a repayment term of 1 to 15 years. Participants may have only one of each loan type outstanding at the same time. Participants may only borrow their employee contributions, and the minimum loan amount is \$1,000.

Loan usage has consistently been highest among the 30-39 and 40-49 age cohorts, with just over 10% of the participants in these cohorts receiving a loan in 2016. These rates were essentially unchanged from 2015.

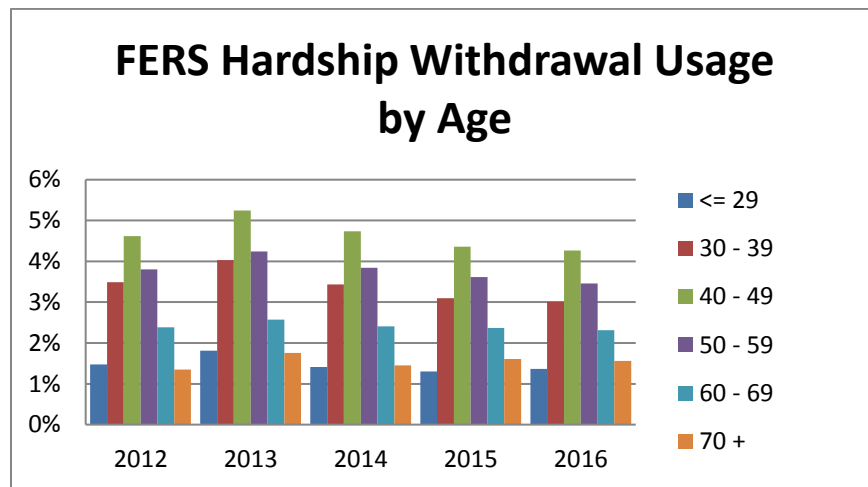
Figure 9



Participants may take a hardship withdrawal if they have a financial need as the result of a recurring negative cash flow, medical expenses, a personal casualty loss, or legal expenses associated with a divorce. Participants may only withdraw their employee contributions, and the minimum withdrawal amount is \$1,000. In addition to a 10% early withdrawal penalty if the participant is younger than 59 ½, employee contributions are suspended for six months after a hardship withdrawal. As a result of the employee contribution suspension, FERS participants do not receive any Agency Matching Contributions during this period.

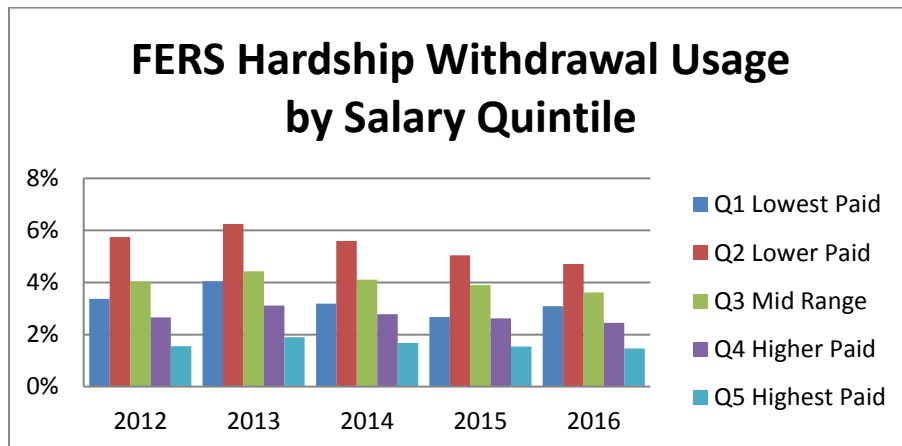
Hardship withdrawal usage is consistently highest among the age 40-49 cohort, with 4% to 5% of participants in this cohort receiving a hardship withdrawal during the five years covered in this report. All cohorts have experienced a slow decrease in hardship withdrawal usage since 2013.

Figure 10



There is a stair-step pattern of hardship withdrawal usage among the salary quintiles, with usage generally declining as salary levels increase. See figure 11. However, the first quintile presents an exception to this pattern, as hardship withdrawals were lower than those of the next highest quintile in each of the years examined. It is important to note that hardship withdrawal usage is lower than loan usage among all salary quintiles. In 2016, the second salary quintile had the highest usage rate at 4.7%, which is 1.5% percent drop from the peak in 2013.

Figure 11



Summary

The analysis reveals an improvement in the FERS participation with a five-year high of 91.9% by the end of 2016. However, the average contribution deferral rate dropped to 7.8% - the lowest rate in this reporting period. Automatic enrollment was a contributing factor to both of these observations.

Automatic enrollment continues to improve participation among the youngest participants. Participants under the age of 29 now participate at a rate of 96.8% – the highest rate of participation among all age groups. Consistent increases were also present when the participation rate was viewed from a salary quintile perspective. The only cohort that did not show an increase was the 70 and over age group, but given their proximity to retirement, this is not unexpected.

The analysis also revealed that the majority of auto-enrolled participants have “engaged” with 59.4% making deferral changes. Deferral behavior appears to be relatively unchanged, as deferral rates continue to aggregate in the 5-6% range, with 29.5% of TSP contributors falling in this range, nearly 70% of FERS participants are estimated to be receiving the full match. Participants are gradually increasing their contributions to Roth TSP with average Roth deferral rates growing by a half percent to 4.9% in 2016.

Participants aged 29 and under continue to have a disproportionate percentage (40.7%) of their account balances in the G Fund although this is an improvement from 2014 when 41.7% of their balances were in the G Fund. However, this group also has the highest utilization of the L Funds (32.8%). Overall, participants are investing in the L Fund in a manner appropriate for their age cohort.

When loan usage is examined by age cohort, the 30-39 and 40-49 age cohorts have the highest loan usage rate at approximately 10% each although loan usage trended downward among all age cohorts since 2012. The age 40-49 cohort also had the highest hardship withdrawal usage, with 3% to 4% of participants in this cohort receiving a hardship withdrawal in each year of this reporting period. From a salary perspective, participants in the second and third quintile have the highest rates of usage of hardship withdrawals. Overall, however, loan and hardship withdrawals usage trends have been decreasing in the under age 60 groups, but remained flat for those 60 and over.