Thrift Savings Plan

Federal Retirement Thrift Investment Board

May 10, 2022

MEMORANDUM FOR EXECUTIVE DIRECTOR RAVINDRA DEO

FROM: MIKE JERUE, DEPUTY CHIEF INVESTMENT OFFICER

THROUGH: SEAN MCCAFFREY, CHIEF INVESTMENT OFFICER

SUBJECT: 2022 LIFECYCLE FUNDS ASSET ALLOCATION REVIEW

SUMMARY

The Office of Investments (OI), with assistance from Aon, recently concluded its annual review of the asset allocations of the Lifecycle Funds (L Funds). This memorandum describes OI's approach, findings, and recommendations.

BACKGROUND

OI Lifecycle Fund Policy and Lifecycle Fund Asset Allocation Procedures direct that "the Agency will conduct a comprehensive review of the Lifecycle Fund asset allocations at least annually, unless exception is given, or as economic conditions require." Further, "the TSP Lifecycle Funds are designed to provide participants with long-term, risk-efficient strategies, and the risk and return objectives of the Funds are intended to be consistent with an overall replacement rate (including defined benefit and Social Security) of a substantial portion of pre-retirement income."

The 2018 review resulted in several significant changes to the L Funds' asset allocations. First, the I Fund's weight in the overall equity allocation was increased from 30% to 35%. Second, the overall equity allocation in the L Income Fund began a ten-year climb from 20% to 30%. Third, even though the introduction of the L 2055, L 2060 and L 2065 Funds was still almost two years away, the 2018 review established a glide path for such longer-dated L Funds. This glide path began with an overall equity allocation of 99% and maintained that allocation until the average participant in the L Fund reaches age 35. Finally, the 2018 review led to the adoption of a "level off" strategy that froze the overall equity allocations of L 2030, L 2040, and L 2050 until those Funds' glide paths intercepted the proposed glide path for L 2060 and other longer-dated L Funds. This means that L 2030, L 2040, and L 2050 will maintain their current overall equity allocations until 2025, 2028, and 2032, respectively, instead of reducing their equity allocations as they were scheduled to do prior to the 2018 study.

The reviews conducted since 2018 generated relatively minor changes that were intended to bring the L Funds' asset allocations in line with broad market capitalizations but were not expected to result in materially different outcomes for participants. For example, the 2020 and 2021 reviews resulted in slight adjustments to the split of the U.S. equity allocation between the C and S Funds.

DATA, ASSUMPTIONS, AND APPROACH

Consistent with previous reviews, OI developed profiles of representative participants for each L Fund. These profiles included average values for current age, hire age, salary, deferral rate, and account balance as of December 31, 2021. The data set used to generate these profiles included all FERS[1] participants who were actively employed for all of 2021 and who held at least some assets in the L Funds. These profiles were then rolled forward to July 1, 2022.

OI also reviewed its demographic and behavioral assumptions for validity. One of these assumptions, the age of first withdrawal, is of particular importance, as it not only marks the beginning of the decumulation phase but also serves as the basis for assigning new participants to an age-appropriate L Fund. Analysis of withdrawal data through December 2021 showed that the age of first withdrawal continued to hover between 62 ½ and 63, a trend that has persisted over the past several years. Therefore, OI elected to leave the assumption unchanged at 63. The COVID-19 pandemic's lingering impact and potential legislative changes related to required minimum distributions could drive significant changes in participant behavior, so OI will continue to closely monitor withdrawal data.

In addition to the demographic and behavioral assumptions, the review also required capital market assumptions. Using its own projections for economic growth, inflation, interest rates, and other factors, Aon generated expected returns, volatilities, and correlations for the F, C, S, and I Funds. These assumptions enabled Aon to examine the L Funds' current placement relative to the efficient frontier. Before any simulations were run, the L Funds' proximity to the efficient frontier suggested that significant improvements in expected return would only be achieved by a corresponding increase in expected volatility.

OI and Aon collaborated to create the following set of glide path scenarios, which Aon then used in conjunction with the aforementioned demographic, behavioral, and capital market assumptions to simulate the growth of TSP account balances and the generation of retirement income.

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[1] Although the Uniformed Services participants represent a fast-growing group of L Funds investors, their relatively brief careers and their unique defined benefit plan make it challenging to incorporate their expected outcomes in the analysis. Furthermore, BRS is still relatively new; its short history prevents us from drawing conclusions about participant behavior. Future studies may have the benefit of extensive data sets that would support separate analysis for FERS and BRS participants. In the meantime, however, OI is confident that BRS participants, most of whom are young and will not spend their full careers in the Uniformed Services, are well-served by the L Funds even though this analysis uses only FERS demographic data.

Name	Description	Purpose
Scenario 1: Current Glide Path	Use glide paths currently in place	Test the status quo and serve as baseline for comparison
Scenario 2: Move to Ultimate Glide Path	Immediately move L 2030, L 2035, L 2040, and L 2045 to the overall equity allocation called for by the glide path established for L 2055, L 2060, and L 2065	Determine the pros and cons of the transitional (also known as “level off”) strategy enacted in 2018
Scenario 3: Fixed Income 100% G	Assume the G Fund makes up the entire fixed income allocation	Test an extreme case in which the L Funds do not invest in the F Fund
Scenario 4: Fixed Income 100% F	Assume the F Fund makes up the entire fixed income allocation	Test an extreme case in which the L Funds do not invest in the G Fund
Scenario 5: Transition to S as 15% of U.S. Equity	Place all L Funds on a path such that the S Fund’s share of U.S. equity will be 15% in 2025 rather than 20%	Determine the pros and cons of decreasing the L Funds’ exposure to small- and mid-cap equity
Scenario 6: Transition to S as 25% of U.S. Equity	Place all L Funds on a path such that the S Fund’s share of U.S. equity will be 25% in 2025 rather than 20%	Determine the pros and cons of increasing the L Funds’ exposure to small- and mid-cap equity
Scenario 7: Decrease I to 30% of Equity	Place all L Funds on a path such that the I Fund’s share of total equity will be 30% in 2025 rather than 35%	Determine the pros and cons of decreasing the L Funds’ exposure to international equity
Scenario 8: Increase I to 40% of Equity	Place all L Funds on a path such that the I Fund’s share of total equity will be 40% in 2025 rather than 35%	Determine the pros and cons of increasing the L Funds’ exposure to international equity
Scenario 9: De-Risk 5 Years Sooner	Start decreasing the overall equity allocation at age 30 rather than age 35	Determine the pros and cons of moving away from equity at an earlier age
Scenario 10: De-Risk 5 Years Later	Start decreasing the overall equity allocation at age 40 rather than age 35	Determine the pros and cons of moving away from equity at a later age
Scenario 11: 10-Year Through Glide Path	Slow the rate of de-risking at age 58 so that each L Fund rolls into L Income at age 73 rather than 63	Determine the pros and cons of maintaining a higher allocation to equity in the early years of retirement

ANALYSIS OF OUTCOMES

First, we note that the outcomes of Aon's simulations pass the standard checks for reasonableness. As expected, glide paths with higher equity allocations show greater dispersion of replacement ratios and account balances as well as higher probabilities of negative real returns in the two years before withdrawal. Similarly, the dispersion of outcomes increases with time to maturity. For example, the L 2025 Fund's simulated outcomes are more tightly bunched than those of L 2065.

We caution against comparisons across L Funds. As in previous reviews, the outcomes do not account for any retirement savings outside of the three-legged stool of the TSP, the FERS defined benefit, and Social Security. This equates to an assumption that participants will have spent their entire careers in the Federal workforce, an unrealistic assumption given that the median hire age for new Federal employees was 35 in 2021. In reality, some participants in the L 2025 cohort have only been Federal employees for a few years and therefore have small TSP balances but presumably have non-TSP retirement savings not captured by this review. It is the presence of these mid- and late-career Federal new hires that brings down the average TSP balance for the L 2025 cohort, not any shortcoming in L 2025's asset allocation. By contrast, the L 2065 cohort is represented by a participant who joined the Federal workforce at a very young age and is assumed to stay until retirement. Thanks to a full career of contributions and market returns, this cohort enjoys a significantly larger account balance at retirement.

Comparisons within one L Fund's simulated outcomes, on the other hand, are valid. These comparisons reveal very few opportunities for unequivocal gains (i.e., increases in return without increases in risk or decreases in risk while maintaining the same return). Furthermore, the scale of the risk/return trade-offs is relatively small. This is demonstrated in the L 2040 Fund, whose cohort corresponds to the median participant in terms of age. Among potential L 2040 glide paths, the maximum and minimum values in the 5th percentile replacement ratio (one measure of risk) are separated by less than 30 basis points. The maximum and minimum values of the median replacement ratio (one measure of return) are separated by less than 70 basis points. Such small differences suggest that the current glide paths leave little room for enhancing outcomes.

With that in mind, we offer the following observations:

- *F Fund's Share of Fixed Income*: Scenario 4 moved 100% of the fixed income allocation to the F Fund. For all but the L 2025 Fund, this modification resulted in higher replacement ratios at the 50th and 5th percentiles. However, these improvements were very slight. As an example, the move to 100% F increased the L 2040 Fund's 50th percentile replacement ratio from 72.7% to 73.3%. The improvements are also very sensitive to capital market assumptions, a fact that led Aon to note that it has "less conviction" in this design change. The L Funds hold approximately $60 billion in the G Fund, all of which would need to move to the F Fund to implement this change. Such a move would run the risk of incurring material trading costs. Furthermore, OI observes that participant-facing communications have always noted that the L Funds are made up of all five individual Funds, and that many participants value the safety of the G Fund. The L Funds' divestment from the G Fund would therefore represent a significant communications undertaking. After considering these factors, OI does not believe that the very slight improvements shown by Scenario 4 justify such a drastic change in design.

- *S Fund's Share of U.S Equity*: OI maintains its faith in the benefits of asset allocation based on market capitalization, a philosophy that inspired the current glide path designs, which will bring the S Fund to 20% of the U.S. equity allocation in 2025. However, OI understands that market capitalizations are moving targets. By moving that weight to 15% and 25%, respectively, Scenarios 5 and 6 were designed to address the potential for this target to change. Both scenarios resulted in immaterial changes to participants' financial outcomes, leading OI to believe that maintaining the current course is prudent.
- *To vs. Through*: Moving to a 10-year "through" approach like the one modeled by Scenario 11 is not universally beneficial. Scenario 11 showed very small improvements in the median replacement ratio for all of the L Funds. For L 2025, L 2030, and L 2035, however, this approach also resulted in slightly worse outcomes in terms of the 5th percentile replacement ratios. Furthermore, under the "through" design, all of the L Funds experienced a higher probability of a negative real return in the two years leading up to first withdrawal. Participants experiencing such a loss during this critical period might be tempted to make rash decisions that are not in their long-term interest, such as fleeing to the safety of the G Fund or withdrawing their retirement savings entirely.
- *Other Potential Changes:* As with the "through" approach, the other scenarios considered in this review have risk/return impacts that are either unequivocally detrimental or, at best, marginally helpful for some L Funds but not for others. Scenario 2's immediate move to a higher equity allocation would be especially challenging, both in terms of participant communications and in terms of trading costs.

RECOMMENDATION

OI recommends that the Executive Director make no changes to the L Funds' current glide paths.

RAVINDRA DEO

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