



Defined Contribution Plans Advisory Committee (DCPAC) Meeting

**1111 E. Main Street, Pavilion Building
Richmond, VA 23219**

**Thursday, 9/2/2021
1:00 - 3:00 PM ET**

I. Welcome

II. Meeting Minutes

Adoption of the Minutes from the June 24, 2021 Meeting
DCPAC Minutes 06-24-2021 - Page 2

III. DCPAC Appointments

- **Appointment to fill unexpired term ending June 20, 2022**
- **RBA for DCPAC Appointment**
Motion to approve recommendation for appointment
RBA_AppointDCPAC_Member - Page 8

IV. Investments

- **DC Investment Belief Statements**
- **RBA for DC Investment Belief Statements**
RBA Revised DC Plan Investment Belief Statements - Page 9
- **Annual Investments Review**
Final DC Investments 9-2-21 slide deck - Page 10

V. Administration

Administrative Reports & Communications

- **DC Plans and Hybrid Plan Update**
- **ORPHE**
2021Q2 Administrative Summary - Page 36

VI. Discussion of New Ideas

VII. 2021 Meetings

- **2021 Meetings**
December 2, 2021 at 1:00 p.m.
- **ORPHE Annual Employer Update**
(not a meeting of the DCPAC)--September 30, 2021
- **Upcoming poll for 2022 meetings**

VIII. Adjournment

IX. Appendix

For informational purposes only; will not be reviewed in detail during the meeting,
November 12, 2015 VRS DC Investment Beliefs - Page 62
Annual DC Investment Review - FY 2021 - Page 65
2021Q2 Administrative Summary [Appendix Slides] - Page 101
Q2 2021 Quarterly Review - VRS Copy - FINAL_LORES - Page 112
GOA July 2021 - Many Participants Do Not Understand Fee Information - Page 195

Minutes

An electronic meeting, held in accordance with §2.2-3708.2(A)(3) of the *Code of Virginia* and Chapter 56 of the 2020 Special Session I Acts of Assembly, of the Defined Contribution Plans Advisory Committee (DCPAC) of the VRS Board of Trustees convened electronically on June 24, 2021, with the following members present:

Committee Members:

Hon. J. Brandon Bell, Chair
Dr. Susan Gooden
Shannon Irvin
Rick Larson
Brenda Madden
David Winter

Members of the Board of Trustees:

O'Kelly McWilliams, III
John Bennett
Michael Disharoon
William Garrett

VRS staff members in attendance:

Trish Bishop, Steve Cerreto, Jeanne Chenault, Michael Cooper, Jon Farmer, Josh Fox, Kelly Hiers, KC Howell, Robert Irving, Ciara Lawson, Rebecca Nicholas, Joyce Monroe, Laura Pugliese, Kristy Scott, Michael Scott, Jillian Sherman, Jennifer Schreck, Peter Thompson, Rachel Webb and Cindy Wilkinson.

Also in attendance were Lauren Albanese, Financial Investment News; Adam Rosatelli, Virginia Senate Finance & Appropriations Committee Staff; Kimberly Sarte, Joint Legislative Audit and Review Commission Staff; Latosha Johnson, Virginia Department of Planning and Budget Staff; and Denise Fortune, Voya

The meeting convened at 1:00 p.m.

Ms. Sherman served as facilitator and walked participants through the logistics of an electronic meeting. Ms. Sherman turned the meeting over to Mr. Bell to call the meeting to order.

Chairman Bell welcomed committee members, board members, VRS staff, representatives from other stakeholder groups and members of the public.

Mr. Bell noted that given the current circumstances related to COVID-19, the DCPAC was unable to meet in person. However, utilizing electronic means, the DCPAC could hold this meeting in accordance with §2.2-3708.2(A)(3) of the *Code of Virginia* and Chapter 56 of the 2020 Special Session I Acts of Assembly as it relates to conducting business during the pandemic.

Mr. Bell took a roll call of each DCPAC member for attendance purposes:

Dr. Gooden – Present
Ms. Irvin – Present
Mr. Larson – Present
Ms. Madden – Present
Mr. Winter – Present
Mr. Bell – Present

There was no public comment.

APPROVAL OF MINUTES

Upon a motion by Mr. Bell, with a second by Mr. Larson, the minutes of the April 15, 2021 meeting were approved.

Mr. Bell asked for each Committee member to vote on the motion:

Dr. Gooden - Aye
Ms. Irvin – Aye
Mr. Larson – Aye
Ms. Madden – Aye
Mr. Winter – Aye
Mr. Bell – Aye

Trish Bishop, VRS Director, informed the Committee that due to the nature of electronic meetings, a change was made to the format of the presentation materials to help facilitate discussion and focus attention on the most important items .

DC PLANS INVESTMENTS UPDATE

Laura Pugliese, Portfolio Manager, Defined Contribution Plans, shared with the Committee a new performance table that provided an overview of the number of investment options that met or exceeded their benchmarks based on the 1-, 3-, 5-, and 10-year periods in the Unbundled DC Plan Structure and Bundled TIAA ORPHE Structure for the period ending April 30, 2021. She informed the Committee that the investment options in the Unbundled DC Plan Structure, including the Target Date Portfolios and individual investment options, as well as the investment options in the Bundled TIAA ORPHE Structure are performing as expected.

The Committee found the new format helpful. Ms. Irvin inquired if the information would be presented differently when investment options did not meet or exceed the benchmark performance and noted her preference for more information. Ms. Pugliese informed the Committee that additional information could be provided to address any underperforming funds.

Ms. Pugliese noted the difference in the number of total options measured over a specific period can differ across the 1-, 3-, 5- and 10-year periods because the total number of options are based on investment options' inception dates. She stated for example an investment option may not have a 10-year performance history based on its inception date resulting in the total number of investment options within the 10-year category differing from the total number of investment options in other periods. She also noted that additional detailed information would be provided to the Committee in those instances when investment options did not meet or exceed the benchmark performance.

Ms. Pugliese shared with the Committee that the performance reports for the Unbundled DC Plans and TIAA ORPHE for the period ending April 30, 2021, were included the appendix.

Ms. Pugliese also thanked the Committee for their feedback and suggested edits to the VRS DC Investment Belief Statements. She noted an opportunity was provided to receive additional comments during the June 24th meeting from the DCPAC prior to the September 21st meeting of the VRS Board of Trustees. There being no additional comments at this time, Ms. Pugliese suggested an extension to the deadline for additional comments up until July 16th and informed the Committee that a red lined version with any additional edits, a final clean document and request for board action would be provided to the DCPAC at the September 2nd meeting.

Following Ms. Pugliese's report, the Committee took a five-minute recess.

The meeting reconvened upon the following roll call vote:

Dr. Gooden – Present
Ms. Irvin – Present
Mr. Larson – Present
Ms. Madden – Present
Mr. Winter – Present
Mr. Bell - Present

ADMINISTRATIVE REPORTS AND COMMUNICATIONS UPDATE

Kelly Hiers, DC Plans Administrator, provided an update of the VRS Defined Contribution Plans for the first quarter ending March 31, 2021. Ms. Hiers shared the total assets and accounts under management across all DC plans as of March 31, 2021.

Ms. Hiers informed the Committee of recent initiatives, including the ICMA-RC name change to MissionSquare Retirement. She noted that phase out of the ICMA-RC name is expected to be completed in September 2021. Ms. Hiers also provided an update regarding financial planning services with MissionSquare, highlighting preliminary results since the launch of the service.

Ms. Hiers shared that VRS DC Plans was the recipient of the 2021 Communicator Award of Distinction for its COVID-19 Response Campaign.

Ms. Hiers also provided an overview of the COV 457 Splash Screen initiative to encourage eligible employees to increase deferral elections and participation in the plan. She noted the new feature utilizes enhanced active choice and is presented to eligible employees behind the account login.

DC Plans and Hybrid Plan Update

Ms. Hiers provided an update on total assets and accounts in the COV 457 and Virginia Cash Match plans through March 31, 2021. She also provided a review of total assets and accounts in the Hybrid Retirement Plan for the first quarter of 2021.

Ms. Hiers provided an overview of Hybrid Retirement Plan participation highlights, noting the overall participation in Hybrid 457 voluntary contributions and the number of hybrid plan members making voluntary contributions.

Ms. Hiers provided an overview of the first quarter DC Plans goal focused on the Annual Review and Benchmarking. The 2020 Annual Service Review with MissionSquare was held electronically on April 21 and April 28, 2021. She shared with the Committee that all 2020 performance standards were met and highlighted several agenda topics addressed as well as current and future initiatives, including a future initiative to increase participation in the COV 457 Plan and an initiative designed to allow employers to customize a pay increase campaign for their employees.

With respect to the COV 457 Participation initiative, Dr. Gooden inquired if there was opportunity to further customize the direct mail campaign communication materials to reach eligible participants in underserved communities across the Commonwealth, including employees in rural areas and people of color. Ms. Hiers indicated that although information as it pertains to the race and ethnicity of the DC Plans participant population was not available, efforts could be made to target participants by gender and potentially geographic region.

Mr. Larson also shared efforts underway in the higher education community to approach policies through a diversity, equity, and inclusion (DEI) lens to ensure information has a broad appeal, and inquired of measures taken by staff to address diversity and inclusion in the absence of information about race and ethnicity. Ms. Hiers informed the Committee that efforts are made to ensure imagery used across various communication channels is representative of diverse populations and language content is crafted through a readability and accessibility lens so the average person can read and understand the information.

Ms. Hiers provided an update of VRS DC Plans' participation with the Public Retirement Research Lab (PRRL), a collaboration between the National Association of Government Defined Contribution Administrators (NAGDCA) and the Employee Benefit Research Institute (EBRI). Ms. Hiers shared with the Committee some of the data analysis the joint venture has produced, including a white paper published in February 2021 that looks at the state of public sector plans based on PRRL research. She also noted that a new benchmarking tool based on established standards that are consistent across all participating record keepers will allow for the plan to benchmark against public sector peers that have a similar plan structure.

ORPHE Update

Ms. Hiers provided an overview by provider of total ORPHE assets, participants and average balances for the first quarter of 2021. She also gave an update on ORPHE provider selections and provider initiatives for the first quarter of 2021.

Ms. Hiers informed the Committee of efforts underway to change and streamline the Administrative Summary in order to share the most relevant information with the DCPAC, including the use of dashboards to measure changes and performance in cash flows, contributions, deferral rates, distributions, participation rates, and investment holdings.

Ms. Hiers included in the meeting materials the *Q1 2021 Administrative Summary Appendix Supplement* for the Committee to review.

The Committee thanked Ms. Hiers for her presentation.

OTHER BUSINESS

Discussion of New Ideas

Mr. Larson discussed the opportunity for employers to assist DC Plans with promoting strategic communication initiatives around key objectives such as increasing contributions or participation rates. Given the role the Committee plays, Mr. Larson also expressed interest in being added to the email distribution for the monthly Employer Update.

Staff welcomed the opportunity to leverage assistance from employers to help promote and encourage employees to save more for retirement and indicated that DCPAC members would be included on the Employer Update email distribution.

Mr. Larson indicated that he would be willing to share and discuss the findings from his organization's exercise in reviewing materials through a DEI lens. Staff indicated they would be interested in receiving information and discussing their findings.

UPCOMING DEFINED CONTRIBUTION PLANS ADVISORY COMMITTEE MEETINGS

Mr. Bell confirmed the following DCPAC meeting dates for 2021:

The next meeting of the DCPAC will take place on September 2, 2021, from 1:00 p.m. to 4:00 p.m., with a remaining meeting on December 2, 2021 from 1:00 p.m. to 4:00 p.m.

The ORPHE Annual Employer Update is scheduled for September 30th, as required by the DCPAC Charter. This is not a DCPAC Committee meeting, however members may attend if interested.

ADJOURNMENT

Mr. Bell made a motion to adjourn the meeting. Ms. Irvin seconded the motion.

There being no further business, Mr. Bell adjourned the meeting at 2:29 p.m.

J. Brandon Bell, Chair
Defined Contribution Plans Advisory Committee



Appointment of DCPAC member.

Requested Action

The Board appoints Meghan F. Coates to fill the unexpired term of Kathleen T. Seay, which ends June 20, 2022.

Rationale for Requested Action

Ms. Seay informed the Defined Contribution Plans Advisory Committee (DCPAC) that she would step down from the committee due to her retirement. Ms. Seay's term expires on June 20, 2022.

Meghan F. Coates has been director of the Henrico County Department of Finance since August 1, 2020. She joined the Henrico County staff in 2019 as deputy director of Finance and also served as acting director of the department.

Prior to her service at Henrico County, Ms. Coates held several positions with Chesterfield County, including budget analyst, budget manager and director of budget and management. She earned a bachelor's degree from Roanoke College and a Master of Science from Virginia Commonwealth University.

Ms. Coates is highly qualified and willing to be appointed to the DCPAC, and it is the Board's pleasure to appoint her to the Committee.

Authority for Requested Action

Code of Virginia § 51.1-124.26 authorizes the Board to appoint such other advisory committees as it deems necessary. Each member appointment requires a two-thirds vote of the Board, and advisory committee members serve at the pleasure of the Board.

The above action is approved.

O'Kelly E. McWilliams, III, Chair
VRS Board of Trustees

Date



Approve Revisions to VRS Defined Contribution Plans Investment Belief Statements.

Requested Action

The VRS Board of Trustees approves revisions to the VRS Defined Contribution Plans Investment Belief Statements.

Description/Background

In 2015 the Defined Contribution Plans Advisory Committee (DCPAC) along with senior investment staff completed a rigorous process with an outside consultant, Pension Consulting Alliance (PCA), to codify into a legacy document the VRS Defined Contribution Plans Investment Belief Statements. PCA surveyed all DCPAC members, and key senior investment staff members regarding forty-six belief statements under ten topical headings. Each survey participant scored the statements and provided comments. PCA reviewed the statement scores and looked for areas of agreement and areas of disagreement. PCA then discussed the survey results with the participants. The product of the discussions resulted in twelve Defined Contribution Plans Investment Belief Statements that were approved by the Board at its November 12, 2015 meeting.

The attached document reflects clarifications to the Defined Contribution Plans Investment Belief Statements and the document remains consistent with the Statements approved by the Board in November 2015. The DCPAC has reviewed and discussed the changes and supports their approval.

Rationale for Requested Action

The VRS Defined Contribution Plans Investment Belief Statements are intended to help guide the strategic management of the VRS DC Plans investment program. These Investment Belief Statements represent a high-level framework for making decisions that often require balancing multiple, often competing, factors and issues. The Defined Contribution Plans Investment Belief Statements provide context for VRS actions and reflect VRS values, with a focus on VRS maintaining its long-term commitment to provide benefits to its participants.

Authority for Requested Action

The Board adopts these Investment Belief Statements pursuant to its duty to oversee investments under the standard set forth in *Code of Virginia* § 51.1-124.30. Moreover, *Code of Virginia* § 51.1-124.22 authorizes the Board to promulgate regulations and procedures and make determinations necessary to carry out the provisions of Title 51.1.

The above action is approved.

O'Kelly E. McWilliams, III, Chair
VRS Board of Trustees

Date



Virginia
Retirement
System

DC Plans Investments

September 2, 2021



DC Plans Investment Belief Statements



- April 2021: The Committee and staff began a comprehensive review of the November 12, 2015 investment belief statements
- June 2021: Initial edits discussed and incorporated into the document with any additional edits to be included during the DCPAC September 2021 meeting
- September 2021: Finalize additional edits; DCPAC vote to approve revisions and recommend revisions to the Board
 - Additional edits provide further clarification and improve sentence structure

VRS Defined Contribution Plans Investment Belief Statements

Approved by the Board of Trustees: September 21, 2021

I. Introduction

The Virginia Retirement System (VRS) ~~strives to be consistent with~~ fulfills the fiduciary obligations outlined in the *Code of Virginia*, which require the VRS Board of Trustees (Board) to discharge its duties with respect to the defined contribution (DC) plans solely in the interest of the beneficiaries thereof and affords the Board the opportunity to contract with private corporations or institutions subject to the standards set forth in §51.1-124.30 to provide investment products and services. The Board, therefore, developed these ~~DC~~ Defined Contribution Plans Investment Beliefs to guide the strategic management of the VRS DC Plans investment program. These ~~DC Investment Beliefs~~ statements represent a high-level framework for making decisions that require balancing multiple, often competing, factors and issues. In addition, the ~~DC~~ Defined Contribution Plans Investment Beliefs provide context for VRS actions and reflect VRS values, with a focus on maintaining the long-term commitment to provide benefits to participants.

II. VRS DC Investment Belief Statements

The Board developed the following ~~DC~~ Defined Contribution Plans Investment Belief Statements to guide ~~its~~ decisions and provide an anchor to the stated goals and objectives.

Goals and Objectives

A defined contribution plan ~~provides participants is~~ an individual account ~~program whereby participants to~~ exercise discretion over ~~their retirement~~ assets ~~in their accounts using investment options selected by VRS or selected by the participant through the brokerage window~~. Each participant has ~~his or her own~~ an individual risk tolerance, time horizon, and investment objectives.

1. The primary objective of the VRS DC Plans is to provide participants with an array of investment choices across a range of asset classes, risk levels and investment strategies so participants have the opportunity to develop a ~~stream of~~ retirement income ~~stream~~ that complements the VRS Defined Benefit (DB) Plan or other retirement income.
2. Given the vital role of the DC Plans in VRS' primary retirement plan offerings, appropriate governance of the DC Plans is critical.

- a. The VRS Board of Trustees has overall fiduciary authority over the DC investment program. To assist the Board in fulfilling its duty the Board has appointed a Defined Contribution Plans Advisory Committee to provide the Board with objective DC plan design and investment advice.
 - b. Governing documents such as the Charter for the DC Plans Advisory Committee, DC Investment Policy Statements, Master Trusts and Plan Documents delineate various roles and responsibilities amongof the Board, the Committee, VRS Investment Sstaff and other interested parties.
3. VRS is responsible for offering a reasonable range of diversified portfolios to serve as the Plans' default investment option and for participants thatwho do not have the time, desire, or expertise to design and manage a diversified portfolio.
 4. To the best extent possible, VRS will explore and implement capabilities, controls, and procedures that are transferrable from VRS' DB plan activities to VRS' DC plans activities, particularly with respect to investments.
 - a. Well-structured alternative investments can enhance an individual participant's portfolio risk/reward profile. VRS will examine methods for providing qualifying alternative investment options into its menu of pre-mixed diversified investment options, where feasible.
 5. VRS will monitor and evaluate DC plans industry best practices and incorporate them where feasible to seek to enhance plan outcomes as demonstrated by qualitative and quantitative measures.
 6. Controlling and managing costs is critical to a successful DC plan investment program.
 - a. Investment options should provide competitive net-of-cost risk adjusted returns.
 - b. The DC Plans' costs should be transparent to the individual participant.
 - c. Given VRS' large-scale presence in the institutional marketplace, it is beneficial for the individual participant to access VRS' expertise and capabilities.
 - d. Unbundling of DC administration and investment activities should lead to improved cost management.

7. Investment ~~option~~ offerings ~~must~~ should present ~~be~~ wide-ranging options to accommodate participants' varying investment knowledge and/or interest in managing their investments ~~and~~ while addressing the differences ~~between~~ among participants at varying career stages, who are early on or in the midst of their careers and those who are nearing or in retirement.
 - a. Individuals ~~must~~ should be educated to recognize that their specific ~~programs~~ investment plans require a long-term, multi-decade planning/investment horizon.
 - b. Investment horizons are unique to ~~each~~ the individual participant and may extend beyond the accumulation phase into the retirement (decumulation) phase.
 - c. In keeping with industry best practice, the ~~A~~ administrative and investment aspects of the individual's overall ~~program~~ investment plan ~~need to~~ should be unbundled/disaggregated to allow for maximum design flexibility.
 - d. VRS ~~will make a concerted effort~~ should continue efforts to contact eligible to reach out to employees who are eligible but not participating in the VRS DC plans to ~~provide~~ an ~~build~~ awareness of the plan benefits. ~~available through the plans.~~
8. ~~To provide investment flexibility to individual participants, a self directed brokerage window can be an effective feature of the VRS DC Plans. The self-~~ directed brokerage window that VRS provides in the VRS DC Plans can serve as an effective investment tool for individual participants.
9. ~~Managing the decumulation of retirement assets is critical. VRS will explore viable solutions to assist participants in managing this area. VRS should continue to explore viable solutions to assist participants in managing the critically important task of decumulation of retirement assets.~~
10. Participant investment education is a ~~valuable~~ to participants and necessary ~~for a successful program~~ resource to participants and can enhance a successful program.
 - a. Participant investment education ~~Minimum education~~ should cover certain key topics consistent with industry best practices including:
 - i. Identifying key/principal retirement planning risks (see Belief Statement 11).
 - ii. Understanding the accumulation phase ~~vs-~~ versus the decumulation phase.

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iii. Analyzing the costs associated with various investment options.

iv. Considering the impact of non-plan (outside) assets.

v. Considering other potential sources of retirement income.

b. VRS should also ~~explore~~consider making ~~available~~ various investment advice and financial planning solutions/products available to participants.

11. ~~The~~ VRS should seek to inform DC plan participants about ~~key~~fundamental retirement planning risks.

a. Shortfall risk – ~~T~~he probability or potential that an individual may not meet his/her long-term retirement savings goal.

b. Longevity risk – ~~T~~he potential that an individual may outlive his/her retirement assets.

c. Drawdown risk – ~~T~~he impact that short-term declines in a portfolio ~~values~~ can have on long-term ~~values~~success.

VRS Defined Contribution Plans Investment Belief Statements

Approved by the Board of Trustees: September 21, 2021

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II. VRS DC Investment Belief Statements

The Board developed the following Defined Contribution Plans Investment Belief Statements to guide decisions and provide an anchor to the stated goals and objectives.

Goals and Objectives

A defined contribution plan provides participants an individual account to exercise discretion over their retirement assets using investment options selected by VRS or selected by the participant through the brokerage window. Each participant has an individual risk tolerance, time horizon, and investment objectives.

1. The primary objective of the VRS DC Plans is to provide participants with an array of investment choices across a range of asset classes, risk levels and investment strategies so participants have the opportunity to develop a retirement income stream that complements the VRS Defined Benefit (DB) Plan or other retirement income.
2. Given the vital role of the DC Plans in VRS' primary retirement plan offerings, appropriate governance of the DC Plans is critical.
 - a. The VRS Board of Trustees has overall fiduciary authority over the DC investment program. To assist the Board in fulfilling its duty the Board has

appointed a Defined Contribution Plans Advisory Committee to provide the Board with objective DC plan design and investment advice.

- b. Governing documents such as the Charter for the DC Plans Advisory Committee, DC Investment Policy Statements, Master Trusts and Plan Documents delineate various roles and responsibilities of the Board, the Committee, VRS staff and other interested parties.
3. VRS is responsible for offering a reasonable range of diversified portfolios to serve as the Plans' default investment option and for participants who do not have the time, desire, or expertise to design and manage a diversified portfolio.
4. To the extent possible, VRS will explore and implement capabilities, controls, and procedures that are transferrable from VRS' DB plan activities to VRS' DC plans activities, particularly with respect to investments.
 - a. Well-structured alternative investments can enhance an individual participant's portfolio risk/reward profile. VRS will examine methods for providing qualifying alternative investment options into its menu of pre-mixed diversified investment options, where feasible.
5. VRS will monitor and evaluate DC plans industry best practices and incorporate them where feasible to seek to enhance plan outcomes as demonstrated by qualitative and quantitative measures.
6. Controlling and managing costs is critical to a successful DC plan investment program.
 - a. Investment options should provide competitive net-of-cost risk adjusted returns.
 - b. The DC Plans' costs should be transparent to the individual participant.
 - c. Given VRS' large-scale presence in the institutional marketplace, it is beneficial for the individual participant to access VRS' expertise and capabilities.
 - d. Unbundling of DC administration and investment activities should lead to improved cost management.
7. Investment offerings should present wide-ranging options to accommodate participants' varying investment knowledge and/or interest in managing their investments while addressing the differences among participants at varying career stages.

- a. Individuals should be educated to recognize that their specific investment plans require a long-term, multi-decade planning/investment horizon.
 - b. Investment horizons are unique to the individual participant and may extend beyond the accumulation phase into the retirement (decumulation) phase.
 - c. In keeping with industry best practice, the administrative and investment aspects of the individual's overall investment plan should be unbundled/disaggregated to allow for maximum design flexibility.
 - d. VRS should continue efforts to contact eligible employees who are not participating in the VRS DC plans to build awareness of plan benefits.
8. The self-directed brokerage window that VRS provides in the VRS DC Plans can serve as an effective investment tool for individual participants.
9. VRS should continue to explore viable solutions to assist participants in managing the critically important task of decumulation of retirement assets.
10. Participant investment education is a valuable resource to participants and can enhance a successful program.
- a. Participant investment education should cover certain key topics consistent with industry best practices including:
 - i. Identifying principal retirement planning risks (see Belief Statement 11).
 - ii. Understanding the accumulation phase versus the decumulation phase.
 - iii. Analyzing the costs associated with various investment options.
 - iv. Considering the impact of non-plan (outside) assets.
 - v. Considering other potential sources of retirement income.
 - b. VRS should also consider making various investment advice and financial planning solutions/products available to participants.
11. VRS should seek to inform DC plan participants about fundamental retirement planning risks.
- a. Shortfall risk – The probability or potential that an individual may not meet his/her

long-term retirement savings goal.

- b. Longevity risk – The potential that an individual may outlive his/her retirement assets.
- c. Drawdown risk – The impact that short-term declines in a portfolio can have on long-term values.

Annual Investments Review Highlights



DCPAC Investment Duties and Responsibilities



- Review trends and identify best practices
- Assist staff in identifying potential asset classes and investment strategies
- Perform annual comprehensive review of investment program with emphasis on three-year and five-year periods
- Review VRS Defined Contribution Plans Investment Belief Statements
- Review DC Plans Investment Policy Statements
- Provide recommendations to the Board as needed

Annual Investments Review Highlights



- The complete annual investments review package is found in the Appendix
- Recommended changes to the VRS Defined Contribution Plans Investment Belief Statements
- Staff does not have any recommended changes to the two DC investment policy statements (unbundled & bundled)
- As of June 30, 2021 DC plans assets overseen by investment staff totaled \$6.6 billion (\$6.3 billion unbundled DC plans; \$333.4 million TIAA ORPHE)

Annual Investments Review Highlights



- An unbundled DC plan structure provides investment staff with maximum flexibility whereas a bundled plan structure does not provide the same flexibility
 - TIAA operates as a bundled plan provider for the ORPHE
- No changes were made to the unbundled DC plans investment platform
- No changes were made to the bundled TIAA ORPHE investment platform

Unbundled DC Plans



Unbundled DC Plans

Data for period ending June 30, 2021

Fund	Type	Fund Expense Ratio	Returns			3 Year Statistics				5 Year Statistics			
			1 Year	3 Years*	5 Years*	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio
		%	%	%	%	%	%	%	%	%	%	%	%
Money Market Fund	Capital Preservation	0.08	0.18	1.44	1.36	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
FTSE 3 Month Treasury Bill Index			0.08	1.31	1.14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Excess Return			0.10	0.13	0.22								
Stable Value Fund¹	Capital Preservation (Book Value)	0.24	1.89	2.23	2.09	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Custom Benchmark			0.45	1.54	1.66	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Excess Return			1.44	0.69	0.43								
<i>eVestment Alliance Stable Value Fixed Income Universe²</i>			1.89	2.28	2.14								
Bond Fund	Passive	0.03	-0.30	5.39	3.07	3.50	1.17	0.04	n/a	3.27	0.59	0.03	n/a
Bloomberg Barclays U.S. Aggregate Bond Index			-0.33	5.34	3.03	3.49	1.16			3.25	0.58		
Excess Return			0.03	0.05	0.04								
<i>MSTAR Ave: Intermediate Term Bond</i>			0.77	5.26	3.02								
Inflation-Protected Bond Fund	Passive	0.03	6.61	6.63	4.31	3.98	1.34	0.07	n/a	3.56	0.89	0.06	n/a
Bloomberg Barclays U.S. TIPS Index			6.51	6.53	4.17	3.94	1.33			3.54	0.86		
Excess Return			0.10	0.10	0.14								
<i>MSTAR Ave: Inflation-Protected Bond</i>			7.04	5.93	3.88								
High-Yield Bond Fund	Active	0.40	17.45	7.77	7.50	9.13	0.71	1.42	0.27	7.26	0.88	1.19	0.43
ICE BofA U.S. HY BB-B Constrained Index			13.44	7.39	6.99	8.84	0.69			7.04	0.83		
Excess Return			4.01	0.38	0.51								
<i>MSTAR Ave: High-Yield Bond</i>			14.69	6.16	6.21								
Stock Fund	Passive	0.01	40.84	18.73	17.69	18.53	0.94	0.03	n/a	14.99	1.10	0.03	n/a
S&P 500 Index			40.79	18.67	17.65	18.52	0.94			14.99	1.10		
Excess Return			0.05	0.06	0.04								
<i>MSTAR Ave: Large Blend</i>			40.47	16.77	16.15								
Small/Mid-Cap Stock Fund	Passive	0.02	57.81	15.26	16.40	24.51	0.57	0.09	n/a	19.79	0.77	0.08	n/a
Russell 2500 Index			57.79	15.24	16.35	24.50	0.57			19.78	0.77		
Excess Return			0.02	0.02	0.05								
<i>MSTAR Ave: Mid-Cap Blend</i>			50.44	13.15	13.75								
International Stock Fund	Passive	0.06	37.37	9.69	11.44	17.97	0.47	0.95	n/a	14.85	0.69	0.94	n/a
MSCI ACWI ex-U.S. IMI Index (linked to MSCI World ex-U.S. Index July 2012 - July 2016 and prior to July 2012 the MSCI EAFE Index)			37.18	9.42	11.17					14.86	0.68		
Excess Return			0.19	0.27	0.27	18.00	0.45						
<i>MSTAR Ave: Foreign Large Blend</i>			33.76	8.50	10.08								
Global Real Estate Fund	Passive	0.08	34.51	7.32	5.87	19.55	0.31	0.32	n/a	16.15	0.29	0.41	n/a
FTSE EPRA/NAREIT Developed Index			33.55	6.39	4.98	19.69	0.26			16.26	0.24		
Excess Return			0.96	0.93	0.89								
<i>MSTAR Ave: Global Real Estate</i>			32.33	7.75	6.57								

*Annualized.

¹ Stable value funds typically track the general movements of interest rates with a lag. It is expected that when interest rates are falling stable value yields do not fall as quickly and when interest rates are rising stable value yields do not rise as quickly.

² eVestment Alliance universe returns are gross of investment management fees and net of wrap fees. The Stable Value Fund returns are net of all fees.

Data provided by BlackRock, Galliard, MissionSquare and Zephyr StyleADVISOR.

Unbundled DC Plans

Data for period ending June 30, 2021

Fund	Type	Fund Expense Ratio	Returns			3 Year Statistics				5 Year Statistics			
			1 Year	3 Years*	5 Years*	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio
Retirement Portfolio	Passive	0.08	%	%	%	%	%	%	%	%	%	%	%
Custom Benchmark			15.77	9.36	7.77	7.81	1.03	0.14	n/a	6.33	1.05	0.13	n/a
Excess Return			0.03	0.06	0.05								
Target Date 2025 Portfolio	Passive	0.08	20.20	10.32	9.46	10.17	0.88	0.19	n/a	8.26	1.01	0.18	n/a
Custom Benchmark			20.17	10.25	9.38	10.18	0.88			8.26	1.00		
Excess Return			0.03	0.07	0.08								
Target Date 2030 Portfolio	Passive	0.08	25.05	11.42	10.68	12.19	0.83	0.24	n/a	9.86	0.97	0.23	n/a
Custom Benchmark			25.01	11.34	10.57	12.20	0.82			9.87	0.96		
Excess Return			0.04	0.08	0.11								
Target Date 2035 Portfolio	Passive	0.08	29.86	12.49	11.85	14.11	0.79	0.29	n/a	11.39	0.94	0.27	n/a
Custom Benchmark			29.81	12.39	11.72	14.14	0.78			11.40	0.93		
Excess Return			0.05	0.10	0.13								
Target Date 2040 Portfolio	Passive	0.08	34.35	13.42	12.88	15.89	0.76	0.33	n/a	12.81	0.92	0.31	n/a
Custom Benchmark			34.26	13.30	12.74	15.92	0.75			12.82	0.91		
Excess Return			0.09	0.12	0.14								
Target Date 2045 Portfolio	Passive	0.08	37.97	14.18	13.63	17.20	0.75	0.37	n/a	13.84	0.90	0.34	n/a
Custom Benchmark			37.85	14.04	13.47	17.24	0.74			13.86	0.89		
Excess Return			0.12	0.14	0.16								
Target Date 2050 Portfolio	Passive	0.08	39.86	14.59	13.97	17.82	0.75	0.38	n/a	14.32	0.90	0.35	n/a
Custom Benchmark			39.73	14.44	13.81	17.85	0.74			14.34	0.88		
Excess Return			0.13	0.15	0.16								
Target Date 2055 Portfolio	Passive	0.08	40.14	14.67	14.01	17.88	0.75	0.39	n/a	14.37	0.90	0.35	n/a
Custom Benchmark			40.07	14.53	13.86	17.94	0.74			14.41	0.88		
Excess Return			0.07	0.14	0.15								
Target Date 2060 Portfolio	Passive	0.08	40.11	14.66	14.00	17.89	0.75	0.39	n/a	14.37	0.90	0.36	n/a
Custom Benchmark			40.07	14.53	13.86	17.94	0.74			14.41	0.88		
Excess Return			0.04	0.13	0.14								
Target Date 2065 Portfolio	Passive	0.08	40.02	N/A	N/A	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Custom Benchmark			40.06	N/A	N/A	n/a	n/a			n/a	n/a		
Excess Return			-0.04	N/A	N/A								

*Annualized.

Data provided by BlackRock, Galliard, MissionSquare and Zephyr StyleADVISOR.

Unbundled DC Plans - Fund Annual Operating Expenses
Information as of June 30, 2021

Investment Option ¹	Investment Manager	Type	Investment Management Costs	Wrap & Acquired Fund ² Costs	Fund Embedded Costs ²	State Street Cost to Strike Net NAV	Total Annual Expense Ratio	Expense Ratio YOY Change
Money Market Fund	BlackRock	Capital Preservation	0.080000%	n/a	0.000500%	n/a	0.08%	0.00%
Stable Value Fund	Galliard	Capital Preservation (Book Value)	0.066000%	0.176000%	n/a	n/a	0.24%	-0.01%
Bond Fund	BlackRock	Passive	0.030000%	n/a	0.003500%	n/a	0.03%	0.00%
Inflation-Protected Bond Fund	BlackRock	Passive	0.020000%	n/a	0.007200%	n/a	0.03%	0.00%
High-Yield Bond Fund	JPMorgan	Active	0.380000%	n/a	0.010000%	0.005001%	0.40%	0.00%
Stock Fund	BlackRock	Passive	0.007500%	n/a	0.001200%	0.004686%	0.01%	0.00%
Small/Mid-Cap Stock Fund	BlackRock	Passive	0.015000%	n/a	0.004000%	0.004380%	0.02%	0.00%
International Stock Fund	BlackRock	Passive	0.040000%	n/a	0.017800%	0.004507%	0.06%	0.00%
Global Real Estate Fund	BlackRock	Passive	0.070000%	n/a	0.009500%	0.004284%	0.08%	-0.01%
Retirement Portfolio	BlackRock	Passive	0.070000%	n/a	0.005200%	n/a	0.08%	0.00%
Target Date 2025 Portfolio	BlackRock	Passive	0.070000%	n/a	0.006200%	n/a	0.08%	0.00%
Target Date 2030 Portfolio	BlackRock	Passive	0.070000%	n/a	0.006900%	n/a	0.08%	0.00%
Target Date 2035 Portfolio	BlackRock	Passive	0.070000%	n/a	0.007700%	n/a	0.08%	0.00%
Target Date 2040 Portfolio	BlackRock	Passive	0.070000%	n/a	0.008400%	n/a	0.08%	0.00%
Target Date 2045 Portfolio	BlackRock	Passive	0.070000%	n/a	0.009100%	n/a	0.08%	0.00%
Target Date 2050 Portfolio	BlackRock	Passive	0.070000%	n/a	0.009400%	n/a	0.08%	0.00%
Target Date 2055 Portfolio	BlackRock	Passive	0.070000%	n/a	0.009400%	n/a	0.08%	0.00%
Target Date 2060 Portfolio	BlackRock	Passive	0.070000%	n/a	0.009600%	n/a	0.08%	0.00%
Target Date 2065 Portfolio	BlackRock	Passive	0.070000%	n/a	0.009600%	n/a	0.08%	0.00%
VRSIP	VRS	Active	n/a	n/a	n/a	n/a	0.60%	0.01%

¹ There are no short-term trading redemption costs associated with any of the investment options.

² Includes custody, audit and other specific investment option related administrative costs.

Defined Contribution Plans Advisory Committee Report
Unbundled Plans Investment Performance

Below are the totals for the period ending June 30, 2021. Returns greater than one year are annualized.

Investment Options	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs / Since Inception ¹	Fund Expense Ratio ²	Inception Date	Market Value	% of Market Value ²⁷	% of Participants Selecting an Option ²⁸
Do-It-For-Me: Target Date Portfolios^{3,4}	%	%	%	%	%	%	%	%		\$	%	%
Retirement Portfolio	0.98	4.16	4.53	15.80	9.42	7.82	6.32	0.08	8/1/05	437,429,436	7.0	5.7
Custom Benchmark	0.96	4.14	4.52	15.77	9.36	7.77	6.27					
Target Date 2025 Portfolio	1.02	4.73	6.00	20.20	10.32	9.46	7.52	0.08	7/5/06	339,487,336	5.4	6.4
Custom Benchmark	1.00	4.70	6.00	20.17	10.25	9.38	7.46					
Target Date 2030 Portfolio	1.07	5.39	7.69	25.05	11.42	10.68	8.25	0.08	8/1/05	326,388,428	5.2	8.0
Custom Benchmark	1.04	5.37	7.69	25.01	11.34	10.57	8.16					
Target Date 2035 Portfolio	1.12	6.02	9.34	29.86	12.49	11.85	8.94	0.08	7/5/06	330,664,775 ²⁴	5.3	9.2
Custom Benchmark	1.08	6.00	9.32	29.81	12.39	11.72	8.82					
Target Date 2040 Portfolio	1.16	6.58	10.83	34.35	13.42	12.88	9.52	0.08	8/1/05	283,042,371	4.5	9.2
Custom Benchmark	1.11	6.57	10.80	34.26	13.30	12.74	9.40					
Target Date 2045 Portfolio	1.19	7.05	12.05	37.97	14.18	13.63	9.98	0.08	7/5/06	268,746,971	4.3	10.4
Custom Benchmark	1.14	7.03	12.00	37.85	14.04	13.47	9.84					
Target Date 2050 Portfolio	1.21	7.30	12.71	39.86	14.59	13.97	10.23	0.08	9/30/07	265,900,700	4.2	12.0
Custom Benchmark	1.15	7.27	12.63	39.73	14.44	13.81	10.10					
Target Date 2055 Portfolio	1.21	7.34	12.82	40.14	14.67	14.01	10.40	0.08	5/19/10	315,250,980	5.0	16.2
Custom Benchmark	1.16	7.32	12.76	40.07	14.53	13.86	10.25					
Target Date 2060 Portfolio	1.21	7.34	12.80	40.11	14.66	14.00	10.61	0.08	11/17/14	136,786,705	2.2	11.9
Custom Benchmark	1.16	7.31	12.75	40.07	14.53	13.86	10.46					
Target Date 2065 Portfolio	1.21	7.34	12.77	40.02	n/a	n/a	21.01	0.08	9/23/19	6,704,824	0.1	1.5
Custom Benchmark	1.16	7.31	12.75	40.06	n/a	n/a	21.08					
Help-Me-Do-It: Individual Options												
Money Market Fund ^{5,6}	0.01	0.04	0.08	0.18	1.44	1.36	0.72	0.08	11/1/99	92,914,908	1.5	2.0
FTSE 3 Month Treasury Bill Index	0.00	0.01	0.03	0.08	1.31	1.14	0.60					
Yield as of 06/30/21: 0.15% ⁷												
Stable Value Fund ^{8,9}	0.13	0.40	0.83	1.89	2.23	2.09	1.98	0.24	2/1/95	631,966,531	10.1	7.7
Custom Benchmark ¹⁰	0.05	0.13	0.24	0.45	1.54	1.66	1.44					
Yield as of 06/30/21: 1.55% ¹¹												
Bond Fund ¹²	0.71	1.84	-1.62	-0.30	5.39	3.07	3.45	0.03	11/1/99	178,239,006	2.8	3.7
Bloomberg Barclays U.S. Aggregate Bond Index	0.70	1.83	-1.60	-0.33	5.34	3.03	3.39					
Inflation-Protected Bond Fund ¹³	0.60	3.26	1.75	6.61	6.63	4.31	3.50	0.03	7/30/02	54,574,447	0.9	1.5
Bloomberg Barclays U.S. TIPS Index	0.61	3.25	1.73	6.51	6.53	4.17	3.40					
High-Yield Bond Fund ¹⁴	1.58	3.45	6.12	17.45	7.77	7.50	6.84	0.40	5/31/04	51,466,274	0.8	1.8
ICE BofA U.S. High-Yield BB-B Constrained Index	1.27	2.57	2.88	13.44	7.39	6.99	6.43					
Stock Fund ¹⁵	2.33	8.56	15.27	40.84	18.73	17.69	14.88	0.01	11/1/99	1,565,720,012	25.0	10.7
S&P 500 Index	2.33	8.55	15.25	40.79	18.67	17.65	14.84					
Small/Mid-Cap Stock Fund ¹⁶	1.17	5.43	16.96	57.81	15.26	16.40	12.90	0.02	11/1/99	488,286,015	7.8	6.1
Russell 2500 Index ¹⁷	1.18	5.44	16.97	57.79	15.24	16.35	12.81					
International Stock Fund ¹⁸	-0.50	5.68	9.69	37.37	9.69	11.44	6.44	0.06	11/1/99	233,358,779	3.7	5.0
MSCI ACWI ex-U.S. IMI Index ¹⁹	-0.64	5.60	9.58	37.18	9.42	11.17	6.12					
Global Real Estate Fund ²⁰	0.83	9.39	16.06	34.51	7.32	5.87	8.23	0.08	10/1/02	109,784,855	1.8	3.2
FTSE EPRA/NAREIT Developed Index ²¹	0.78	9.17	15.50	33.55	6.39	4.98	7.54					
VRSIP ²²	0.89	6.40	7.95	23.46	10.41	10.23	8.47	0.60	7/1/08	49,753,307 ²⁵	0.8	0.5
VRS Custom Benchmark ²³	1.21	4.99	7.41	23.33	10.04	10.12	8.06					

VRSIP and benchmark returns are reported with a one month lag. [Return information shown is as of May 31, 2021.] [Market value as of May 31, 2021 was \$47,415,784.]

Do-It-Myself: Self-Directed Brokerage Account												
TD Ameritrade	n/a	100,302,897	1.6	0.2								
Total										\$6,266,769,557²⁶		

- 1 If the fund was not in existence for 10 years, fund and corresponding benchmark returns shown represent performance from the since inception date.
- 2 Fund investment advisers may voluntarily agree to waive expenses. Expense waivers may be terminated at any time.
- 3 The Target Date Portfolios invest in units of BlackRock's LifePath Index Funds O. The LifePath Index Funds O invest in the master LifePath Index Funds F. The inception dates shown reflect the inception dates of the master LifePath Funds F. The inception dates for most LifePath Funds O were 12/9/11. The 2055 Fund's O inception date was 12/12/11, the 2060 Fund's O inception date was 1/2/15, and the 2065 Fund's O inception date was 9/23/2019. Returns prior to Funds' O inception dates are those of the Funds F with deductions taken for Funds O investment management fees.
- 4 Benchmarks are calculated using blended returns of third-party indices that proportionately reflect the respective weightings of the Portfolios' asset classes. Weightings are adjusted quarterly to reflect the Portfolios' asset allocation shifts over time. Indices currently used to calculate the custom benchmarks are: Russell 1000 Index, Russell 2000 Index, MSCI ACWI Ex-U.S. IMI Index, Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. TIPS Index, FTSE EPRA/NAREIT Developed Index and the Bloomberg Commodity Index Total Return.
- 5 The Money Market Fund invests in units of BlackRock's Short-Term Investment Fund W. The inception date shown reflects the VRS Defined Contribution Plan's investment strategy inception date. Returns of the Fund from July 2012 through July 2016 represent performance of other BlackRock funds. Returns prior to July 2012 represent performance by the previous investment manager, State Street Global Advisors. All performance returns are linked.
- 6 An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the Fund seeks to preserve the value of your investment it is possible to lose money by investing in the Fund.
- 7 The current yield more closely reflects the earnings of the Fund than the total net return information.
- 8 The inception date shown reflects the VRS Defined Contribution Plans investment strategy inception date.
- 9 Direct transfers from the Stable Value Fund to the Money Market Fund (considered a "competing fund") are not permitted. Before transferring to the Money Market Fund, participants must first transfer to a "non-competing" fund for 90 days. Optional Retirement Plan for Higher Education (ORPHE) participants who want to make a direct exchange to another ORPHE provider, must first exchange to a "non-competing" fund on the MissionSquare Retirement investment platform for 90 days.
- 10 Effective August 2016, the benchmark represents a hypothetical return generated by the monthly yields of actively traded U.S. Treasuries based on [50% 2- year maturity + 50% 3- year maturity] plus an annualized spread of 0.25% and is representative of the Fund's expected return profile, given how the Fund is managed and book value accounting treatment. Prior to August 2016 the custom benchmark was based on the monthly yield of actively traded U.S Treasuries with a 3-year maturity plus an annualized spread of 0.50%. The benchmark returns are linked.
- 11 The current yield more closely reflects the earnings of the Fund than the total net return information. There is no guarantee that the Fund will earn the current yield in the future.
- 12 The Bond Fund invests in units of BlackRock's U.S. Debt Index Fund M. The U.S. Debt Index Fund M invests in the master Fund F. The inception date shown reflects the VRS Defined Contribution Plans strategy inception date. Performance returns are linked to the previous investment manager. Returns prior to July 2012 represent performance by State Street Global Advisors.
- 13 The Inflation-Protected Bond Fund invests in units of BlackRock's U.S. Treasury-Inflation Protected Securities Fund M. The U.S. Treasury Inflation-Protected Securities Fund M invests in the master Fund F. The inception date shown reflects the inception date of the master Fund F. The inception date of BlackRock's U.S. Treasury Inflation-Protected Securities Fund M was July 20, 2012. Returns prior to Fund M's inception date are those of Fund F with deductions taken for Fund M's investment management fees.
- 14 The High-Yield Bond Fund invests in units of JPMorgan's Corporate High-Yield Fund-Investment Class. The inception date shown reflects the date the current investment team at JPMorgan commenced management responsibility of the Fund. Performance reflects the investment manager's returns for the aforementioned Fund with deductions taken for investment management fees negotiated by VRS and fund administrative expenses.
- 15 The Stock Fund invests in units of BlackRock's Equity Index Fund F. Performance represents BlackRock's returns for the master Fund F with deductions taken for management fees negotiated by VRS and fund administrative expenses. The inception date shown reflects the VRS Defined Contribution Plans investment strategy inception date. Performance returns are linked to the previous investment manager. Returns prior to July 2012 represent performance by State Street Global Advisors.
- 16 The Small/Mid-Cap Stock Fund invests in units of BlackRock's Russell 2500 Index Fund F. Performance represents BlackRock's returns for the master Fund F with deductions taken for investment management fees negotiated by VRS and fund administrative expenses. The inception date shown reflects the VRS Defined Contribution Plans strategy inception date. Performance returns are linked to the previous investment manager. Returns prior to July 2012 represent performance by State Street Global Advisors.
- 17 Effective July 2012, the performance benchmark is the Russell 2500 Index. Prior to July 2012, the performance benchmark was the Russell Small Cap Completeness Index. The benchmark returns are linked.
- 18 The International Stock Fund invests in units of BlackRock's MSCI ACWI ex-U.S. IMI Index Fund F. Performance represents BlackRock's returns for the master Fund F with deductions taken for investment management fees negotiated by VRS and fund administrative expenses. The inception date shown reflects the VRS Defined Contribution Plan's investment strategy inception date. Returns from July 2012 through July 2016 represent performance of another BlackRock Fund. Returns prior to July 2012 represent performance by the previous manager, State Street Global Advisors. All performance returns are linked.
- 19 Effective August 2016, the performance benchmark is the MSCI ACWI ex.-U.S. IMI Index. It was the MSCI World ex-U.S Index from July 2012 through July 2016 and prior to July 2012 it was the MSCI EAFE Index. The benchmark returns are linked.
- 20 The Global Real Estate Fund invests in units of BlackRock's Developed Real Estate Index Fund F. Performance represents BlackRock's returns for the master Fund F with deductions taken for investment management fees negotiated by VRS and fund administrative expenses. The inception date shown reflects the VRS Defined Contribution Plans investment strategy inception date. The Fund transitioned from a U.S. domestic REIT fund to a global real estate fund during July 2012. Performance returns are linked to the previous investment manager. Returns prior to July 2012 represent performance by State Street Global Advisors.
- 21 Effective July 2012, the performance benchmark is the FTSE EPRA/NAREIT Developed Index. Prior to July 2012, the performance benchmark was the Dow Jones U.S. Select REIT Index. The benchmark returns are linked.
- 22 The inception date shown reflects the date the VRS Investment Portfolio (VRSIP) was unitized.
- 23 The VRS Custom Benchmark is a blend of the asset class benchmarks at policy weights.
- 24 Includes Pending Account VRSIP amount of \$0.
- 25 Includes Preliminary Investment Portfolio Account - PIP amount of \$1,050,031.
- 26 Includes \$4,204,572 held in the administrative Special Accounts.
- 27 May not equal 100% due to rounding.
- 28 The data reflects the percentage of participants who selected a particular investment option as of June 30, 2021. There were 463,230 participant accounts as of June 30, 2021 across all unbundled DC plans.

All fund performance returns shown reflect all fund management fees and expenses, but do not reflect the Plan administrative fee charged by MissionSquare Retirement which would further reduce the returns shown.

All calculations assume reinvestment of dividends and capital gains. All returns are calculated in U.S. dollars. Performance returns are provided by BlackRock, Galliard Capital Management, JPMorgan, Bank of New York Mellon, and MissionSquare Retirement. Benchmark returns are provided by BlackRock, Russell/Mellon Analytical Services, Galliard, and MissionSquare Retirement. Although data is gathered from sources believed to be reliable, we cannot guarantee completeness or accuracy.

Plan Administrative Fee: An annual record keeping and communication services fee of \$30.50 is deducted from participant accounts on a monthly basis (approximately \$2.54 per month). Only one annual fee of \$30.50 is deducted from participant accounts for those participants participating in more than one Commonwealth of Virginia defined contribution plan.

Bundled TIAA ORPHE



Bundled ORP for Higher Education - TIAA RC Contract¹

Data for period ending June 30, 2021

Fund	Type	Fund Expense Ratio	Returns			3 Year Statistics				5 Year Statistics			
			1 Year	3 Years*	5 Years*	Standard Deviation (%)	Sharpe Ratio	Tracking Error	Information Ratio	Standard Deviation (%)	Sharpe Ratio	Tracking Error	Information Ratio
BlackRock Equity Index Fund J	Passive	0.01	%	%	%	%	%	%	%	%	%	%	%
S&P 500 Index			40.84	18.73	17.69	18.53	0.94	0.03	n/a	14.99	1.10	0.03	n/a
Excess Return			40.79	18.67	17.65	18.52	0.94			14.99	1.10		
<i>MSTAR Ave: Large Blend</i>			0.05	0.06	0.04								
BlackRock Russell 2500 Index Fund M	Passive	0.04											
Russell 2500 Index			57.79	15.24	16.39	24.51	0.57	0.08	n/a	19.79	0.77	0.07	n/a
Excess Return			57.79	15.24	16.35	24.50	0.57			19.78	0.77		
<i>MSTAR Ave: Mid-Cap Blend</i>			0.00	0.00	0.04								
BlackRock MSCI ACWI ex-U.S. IMI Index Fund M	Passive	0.11											
MSCI ACWI ex-U.S. IMI Index			37.31	9.64	11.43	17.97	0.46	0.95	n/a	14.86	0.69	0.93	n/a
Excess Return			37.18	9.42	11.20	18.00	0.45			14.87	0.68		
<i>MSTAR Ave: Foreign Large Blend</i>			0.13	0.22	0.23								
BlackRock MSCI ACWI IMI Index Non-Lendable Fund M	Passive	0.05											
MSCI ACWI IMI Index			41.17	14.57	14.93	18.43	0.72	0.45	n/a	14.85	0.93	0.44	n/a
Excess Return			40.94	14.24	14.55	18.47	0.70			14.88	0.90		
<i>MSTAR Ave: World Stock</i>			0.23	0.33	0.38								
TIAA Real Estate Account	Active	0.87											
Custom Composite Benchmark			6.72	4.30	4.37	2.59	1.14	2.02	-0.10	2.00	1.60	1.59	-0.28
Excess Return			8.65	4.49	4.82	3.13	1.01			2.46	1.57		
			-1.93	-0.19	-0.45								

*Annualized.

¹ Refer to the unbundled DC plans for information regarding BlackRock's LifePath Index Funds O, Short-Term Investment Fund W, U.S. Debt Index Fund M and U.S. TIPs Fund M. Although the unbundled DC plans use white label fund names and TIAA does not these funds are the same exact funds.

Fund with TIAA plan services expense offset.

Underperformance.

Data provided by TIAA, BlackRock, MissionSquare, VRS and Zephyr StyleADVISOR.

Bundled ORP for Higher Education - TIAA RC Contract Fund Annual Operating Expenses^{1,2}
Information as of June 30, 2021

Investment Option	Investment Manager	Type	Investment Management Costs	Record-Keeping & Plan Administration Costs	[12(b)-1] Distribution Costs	Mortality & Expense Risk Costs	Other Costs	Total Annual Expense Ratio	Expense Ratio YOY Change
TIAA Traditional Annuity	TIAA	Fixed Annuity	n/a	0.150000%	n/a	n/a	0.300000%	0.45%	-0.04%
TIAA Real Estate Account	TIAA	Active	0.250000%	0.190000%	0.100000%	0.005000%	0.320000%	0.87%	0.09%
BlackRock Equity Index Fund J	BlackRock	Passive	0.010000%	n/a	n/a	n/a	0.001400%	0.01%	0.00%
BlackRock Russell 2500 Index Fund M	BlackRock	Passive	0.030000%	n/a	n/a	n/a	0.006000%	0.04%	0.00%
BlackRock MSCI ACWI ex-U.S. IMI Index Fund M	BlackRock	Passive	0.090000%	n/a	n/a	n/a	0.019300%	0.11%	0.00%
BlackRock MSCI ACWI IMI Index Non-Lendable Fund M	BlackRock	Passive	0.040000%	n/a	n/a	n/a	0.009700%	0.05%	0.00%

¹ There are no short-term trading redemption costs associated with any of the investment options.

² Refer to the unbundled DC plans for information regarding BlackRock's LifePath Index Funds O, Short-Term Investment Fund W, U.S. Debt Index Fund M and U.S. TIPs Fund M. The unbundled DC plans use white label fund names for the aforementioned funds. However, TIAA does not have the capability to use white label fund names.

Funds with plan services expense offsets within the TIAA RC contract.

Percentage of Embedded Record-Keeping and Plan Administration Costs

Investment Option	Type	Record-Keeping & Plan Administration Costs	Total Annual Expense Ratio	% of Record-Keeping & Plan Administration Costs
TIAA Traditional Annuity	Fixed Annuity	0.150000%	0.45%	33%
TIAA Real Estate Account	Active	0.190000%	0.87%	22%

Defined Contribution Plans Advisory Committee Report
TIAA RC Contract Investment Performance

Below are the totals for the period ending June 30, 2021. Returns greater than one year are annualized.

Investment Options	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs / Since Inception ¹	Fund Expense Ratio ²	Inception Date	Market Value	% of Market Value ¹⁹	% of Participants Selecting an Option ²⁰
	%	%	%	%	%	%	%	%		\$	%	%
Target Date Portfolios^{3,4}												
BlackRock LifePath Index Retirement Fund O	0.98	4.16	4.53	15.80	9.42	7.82	6.32	0.08	8/1/05	29,637,469	8.9	9.8
Custom Benchmark	0.96	4.14	4.52	15.77	9.36	7.77	6.27					
BlackRock LifePath Index 2025 Fund O	1.02	4.73	6.00	20.20	10.32	9.46	7.52	0.08	7/5/06	21,322,361	6.4	7.0
Custom Benchmark	1.00	4.70	6.00	20.17	10.25	9.38	7.46					
BlackRock LifePath Index 2030 Fund O	1.07	5.39	7.69	25.05	11.42	10.68	8.25	0.08	8/1/05	29,973,623	9.0	8.8
Custom Benchmark	1.04	5.37	7.69	25.01	11.34	10.57	8.16					
BlackRock LifePath Index 2035 Fund O	1.12	6.02	9.34	29.86	12.49	11.85	8.94	0.08	7/5/06	23,049,346	6.9	9.0
Custom Benchmark	1.08	6.00	9.32	29.81	12.39	11.72	8.82					
BlackRock LifePath Index 2040 Fund O	1.16	6.58	10.83	34.35	13.42	12.88	9.52	0.08	8/1/05	25,505,620	7.7	9.6
Custom Benchmark	1.11	6.57	10.80	34.26	13.30	12.74	9.40					
BlackRock LifePath Index 2045 Fund O	1.19	7.05	12.05	37.97	14.18	13.63	9.98	0.08	7/5/06	22,185,118	6.7	10.2
Custom Benchmark	1.14	7.03	12.00	37.85	14.04	13.47	9.84					
BlackRock LifePath Index 2050 Fund O	1.21	7.30	12.71	39.86	14.59	13.97	10.23	0.08	9/30/07	12,538,705	3.8	7.8
Custom Benchmark	1.15	7.27	12.63	39.73	14.44	13.81	10.10					
BlackRock LifePath Index 2055 Fund O	1.21	7.34	12.82	40.14	14.67	14.01	10.40	0.08	5/19/10	5,386,192	1.6	5.2
Custom Benchmark	1.16	7.32	12.76	40.07	14.53	13.86	10.25					
BlackRock LifePath Index 2060 Fund O	1.21	7.34	12.80	40.11	14.66	14.00	10.61	0.08	11/17/14	1,107,630	0.3	2.1
Custom Benchmark	1.16	7.31	12.75	40.07	14.53	13.86	10.46					
BlackRock LifePath Index 2065 Fund O	1.21	7.34	12.77	40.02	n/a	n/a	21.01	0.08	9/23/19	853,885	0.3	0.6
Custom Benchmark	1.16	7.31	12.75	40.06	n/a	n/a	21.08					
Individual Options												
BlackRock Short-Term Investment Fund W ⁵	0.01	0.04	0.08	0.18	1.44	1.36	0.79	0.08	7/1/03	6,170,835	1.9	8.1
FTSE 3 Month Treasury Bill Index	0.00	0.01	0.03	0.08	1.31	1.14	0.60					
Yield as of 06/30/21: 0.15% ⁶												
BlackRock U.S. Debt Index Fund M ⁷	0.71	1.84	-1.62	-0.30	5.39	3.07	3.46	0.03	6/6/96	9,118,919	2.7	19.4
Bloomberg Barclays U.S. Aggregate Bond Index	0.70	1.83	-1.60	-0.33	5.34	3.03	3.39					
BlackRock U.S. TIPS Fund M ⁸	0.60	3.26	1.75	6.61	6.63	4.31	3.50	0.03	7/30/02	5,079,960	1.5	13.1
Bloomberg Barclays U.S. TIPS Index	0.61	3.25	1.73	6.51	6.53	4.17	3.40					
BlackRock Equity Index Fund J ⁹	2.33	8.56	15.27	40.84	18.73	17.69	14.88	0.01	3/5/97	34,982,684	10.5	25.4
S&P 500 Index	2.33	8.55	15.25	40.79	18.67	17.65	14.84					
BlackRock Russell 2500 Index Fund M ¹⁰	1.17	5.42	16.95	57.79	15.24	16.39	12.96	0.04	9/30/08	9,345,673	2.8	4.3
Russell 2500 Index	1.18	5.44	16.97	57.79	15.24	16.35	12.86					
BlackRock MSCI ACWI ex-U.S. IMI Index Fund M ¹¹	-0.50	5.67	9.66	37.31	9.64	11.43	5.85	0.11	2/28/11	18,070,956	5.4	19.4
MSCI ACWI ex-U.S. IMI Index	-0.64	5.60	9.58	37.18	9.42	11.20	5.65					
BlackRock MSCI ACWI IMI Index Non-Lendable Fund M ¹²	1.19	7.13	12.75	41.17	14.57	14.93	11.17	0.05	4/12/13	44,537,786	13.4	34.3
MSCI ACWI IMI Index	1.21	7.18	12.68	40.94	14.24	14.55	10.79					
TIAA Real Estate Account ¹³	1.69	3.84	6.16	6.72	4.30	4.37	6.99	0.87	10/2/95	8,724,387	2.6	27.8
Custom Composite Benchmark ¹⁴	1.08	3.74	6.14	8.65	4.49	4.82	7.09					
TIAA Traditional Annuity RC ^{15,16,17,18}	0.28	0.86	1.79	3.81	3.97	4.04	4.21	0.45	8/1/05	20,940,382	6.3	29.4
Self-Directed Brokerage Account												
TIAA - Self-Directed Account	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4,840,831	1.5	0.7
Total										\$333,372,362		

Footnotes >

- 1 If the fund was not in existence for 10 years, fund and corresponding benchmark returns shown represent performance from the since inception date.
- 2 Fund investment advisers may voluntarily agree to waive expenses. Expense waivers may be terminated at any time.
- 3 The BlackRock LifePath Index Funds O invest in the master LifePath Index Funds F. The inception dates shown reflect the inception date of the master LifePath Funds F. The inception dates for most LifePath Funds O were 12/9/11. The 2055 Fund's O inception date was 12/12/11, the 2060 Fund's O inception date was 1/2/15 and the 2065 Fund's O inception date was 9/23/19. Returns prior to Funds' O inception dates are those of Funds F with deductions taken for Funds O investment management fees.
- 4 Benchmarks are calculated using blended returns of third-party indices that proportionately reflect the respective weightings of the Funds' asset classes. Weightings are adjusted quarterly to reflect the Funds' asset allocation shifts over time. Indices currently used to calculate the custom benchmarks are: Russell 1000 Index, Russell 2000 Index, MSCI ACWI Ex-U.S. IMI Index, Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. TIPS Index, FTSE EPRA/NAREIT Developed Index and the Bloomberg Commodity Index Total Return.
- 5 An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the Fund seeks to preserve the value of your investment it is possible to lose money by investing in the Fund.
- 6 The current yield more closely reflects the earnings of the Fund than the total net return information.
- 7 The BlackRock U.S. Debt Fund M invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund M was 7/20/12. Returns prior to Fund M's inception date are those of Fund F with deductions taken for Fund M's investment management fees.
- 8 The BlackRock U.S. Treasury Inflation-Protected Securities Fund M invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund M was 7/20/12. Returns prior to Fund M's inception date are those of Fund F with deductions taken for Fund M' investment management fees.
- 9 The BlackRock Equity Index Fund J invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund J was 3/20/17. Returns prior to Fund J's inception date are those of Fund F with deductions taken for Fund J's investment management fees.
- 10 The BlackRock Russell 2500 Fund M invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund M was 1/30/13. Returns prior to Fund M's inception date are those of Fund F with deductions taken for Fund M's investment management fees.
- 11 The BlackRock MSCI ACWI ex-U.S. IMI Index Fund M invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund M was 12/31/12. Returns prior to Fund M's inception date are those of Fund F with deductions taken for Fund M's investment management fees.
- 12 The BlackRock MSCI ACWI IMI Index Fund M invests in the master Fund F. Inception dates for the master Fund F and Fund M are both 4/12/13.
- 13 Transfers out of the TIAA Real Estate Account (REA) are limited to one per quarter. Currently, these transfers do not require a minimum transaction amount; however, in the future TIAA reserves the right, in its sole discretion, to impose minimum transaction levels, which levels will generally be at least \$1,000 (except for systematic transfers, which must be at least \$100) or your entire accumulation, if less. Participants may not make a lump-sum transfer into the REA if their aggregated balances across all contracts is greater than \$150,000. Systematic transfers and recurring contributions are not subject to this limitation.
- 14 Effective January 2014, the Custom Composite Index is 70% NCREIF Open End Diversified Core Equity (ODCE) Net Index, 20% Bloomberg Barclays 3-Month Treasury Bill Index, and 10% Dow Jones U.S. Select REIT Index. Prior periods include other representative indices. TIAA's investment management team does not manage its real estate portfolio to a specific published index benchmark. The Custom Composite Index represents a reasonable proxy of how TIAA allocates assets among real property, short-term investments, and REITs over time. The Virginia Retirement System anticipates that Fund returns may vary greatly from those of the Custom Composite Index. Benchmark returns are not available for months that do not end on a calendar quarter due to the fact that NCREIF ODCE Index returns are only published each calendar quarter.
- 15 Upon separation from service or retirement participants can convert their TIAA Traditional accumulation dollars amount to a lifetime income option or withdraw funds through a fixed period annuity ranging from five to 30 years or a Transfer Payout Annuity, which enables participants to move funds out of the TIAA Traditional Annuity in 7 annual installments for the Retirement Choice (RC) contract. Each installment includes a portion of principal and interest, based on the rate in effect when transfer or withdrawal funds are made. However, there are two exceptions to the payout installment. First, if the TIAA Traditional account balance is less than \$5,000, participants can transfer the total amount at any time following termination of employment, but only once during the life of the contract. Second, TIAA Traditional can be withdrawn or transferred to another company up to the full balance within 120 days following termination of employment, subject to 2.5% surrender charge. After the 120-day period, participants can withdraw funds only through a fixed period annuity ranging from five to 30 years or the Transfer Payout Annuity.
- 16 The TIAA Traditional Annuity RC contract has minimum guaranteed rate during the accumulation phase of 1% to 3% . The current minimum rate for the RC contract is 1%. Further, the TIAA Traditional Annuity RC contract applies to premiums deposited during the applicable calendar year and is guaranteed for 10 years, at which point the minimum rate for these premiums will be reset.
- 17 TIAA's annual credited rate on new money for the RC contract for the month of June was 3.00%.
- 18 The TIAA Traditional Annuity is not an investment for purposes of federal securities laws; it is a guaranteed insurance contract. Therefore, unlike a variable annuity or mutual fund, the TIAA Traditional Annuity does not include an identifiable expense ratio. The 45 basis points (0.45%) approximates the expense provision in the formula for determining TIAA Traditional Annuity returns inclusive of administrative and investment expenses. This expense provision is not guaranteed, it is subject to change.
- 19 May not equal 100% due to rounding
- 20 The data reflects the percentage of participants who selected a particular investment option as of June 30, 2021. There were 5,125 (RC contract) participants as of June 30, 2021.

Performance returns shown reflect all fund management fees and other investment related expenses, but do not reflect the TIAA annual administrative fee of \$66 (deducted at \$16.50 per quarter) which would further reduce the returns shown. Performance returns do not reflect redemption fees and/or surrender charges, if applicable.

All calculations assume reinvestment of dividends and capital gains. All returns are calculated in U.S dollars. Fund and benchmark returns are provided by TIAA and BlackRock. Although data is gathered from sources to be reliable, the Virginia Retirement System cannot guarantee completeness or accuracy.

VRS Defined Contribution Plans

2nd Quarter 2021
(April - June)

Administrative Summary
September 2, 2021

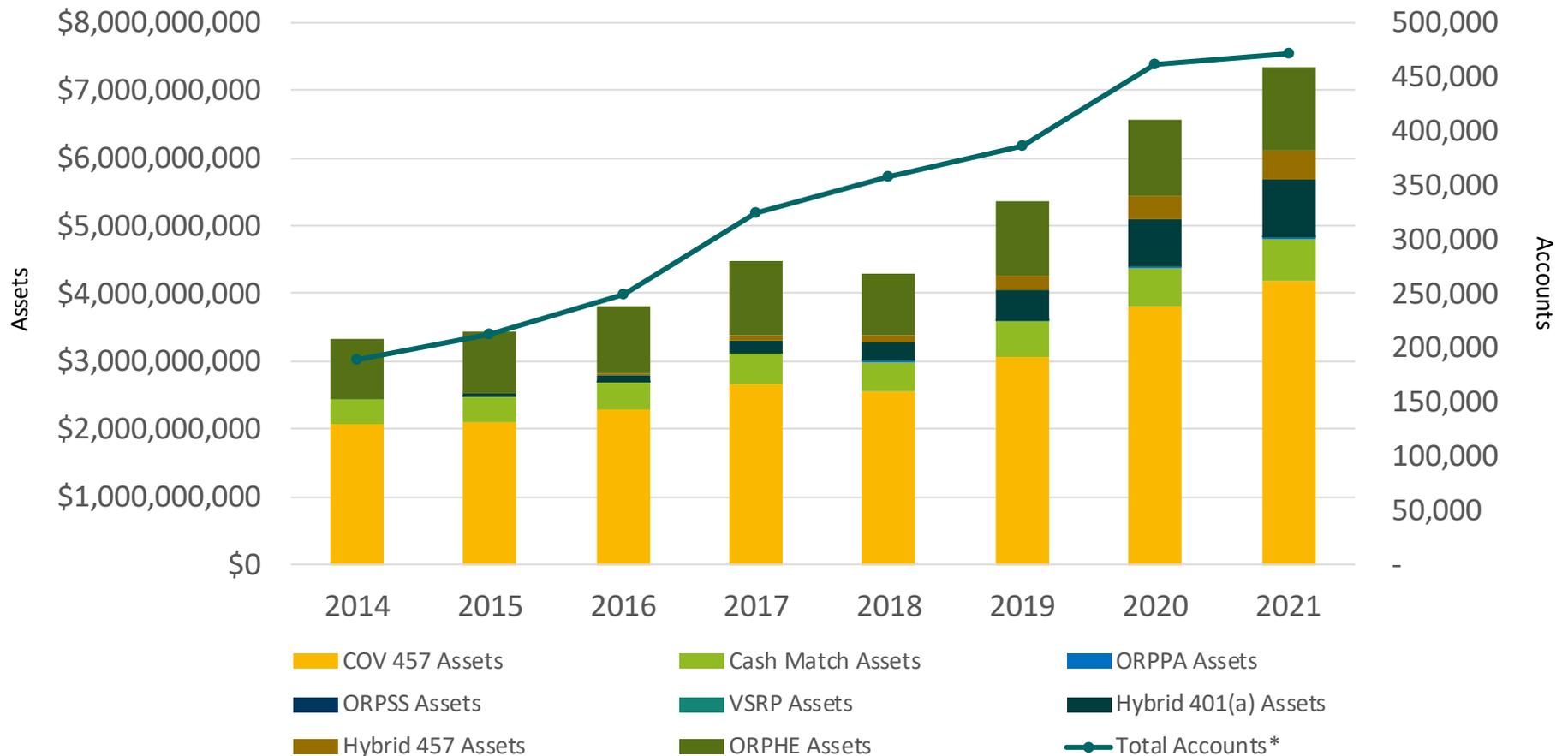


Topic	Slide Number(s)
Total Assets & Accounts	3
Unbundled Plans Overview & Updates	4-5
COV 457 & Cash Match Plans	6
Hybrid Retirement Plan	7-10
Focus: Asset Retention	11-18
ORPHE	19-21
Moving Forward	22-25

Total Assets and Accounts Over Time



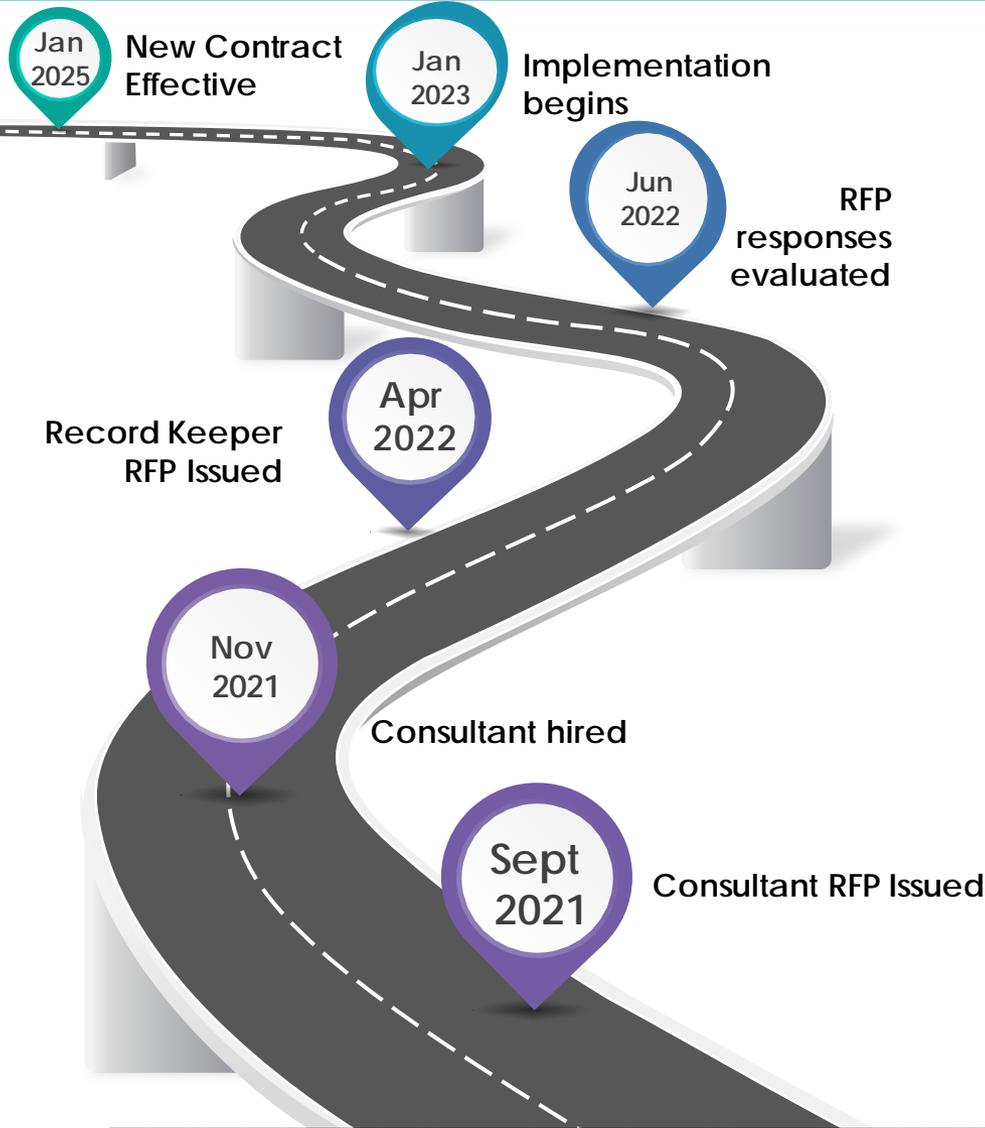
Totals as of 6/30/2021	Assets	Accounts	Assets ↑ 7% Accounts ↑ 1% since March 31, 2021
	\$7,335,487,090	471,440	



Note: Data reflects totals as of calendar year end and includes ORPHE selected providers and MissionSquare participant, beneficiary, forfeiture & reserve accounts. 2021 Assets Page # 08-03-21
 3
 2021 Defined Contribution Plans Advisory Committee (DCPAC) Meeting 9/2/2021

*Does not indicate unique participants.

Unbundled Record Keeper Contract



Projected Timeline

- **Current record keeper contract expires December 31, 2024**
- 18 to 24-month implementation period needed to onboard a new record keeper, if necessary
- Consultant will be hired to assist
 - Development of RFP
 - Evaluation of responses
 - Implementation



2021 NAGDCA Leadership Award Winner in Two Categories:

- COVID-19 Virtual Pandemic Response
 - Highlighted key strategic initiatives created by VRS and MissionSquare for participants and employers.
- Technology and Interactive Multimedia for VRS Interactive Virtual Tools

Virtual Award Presentation will take place September 16

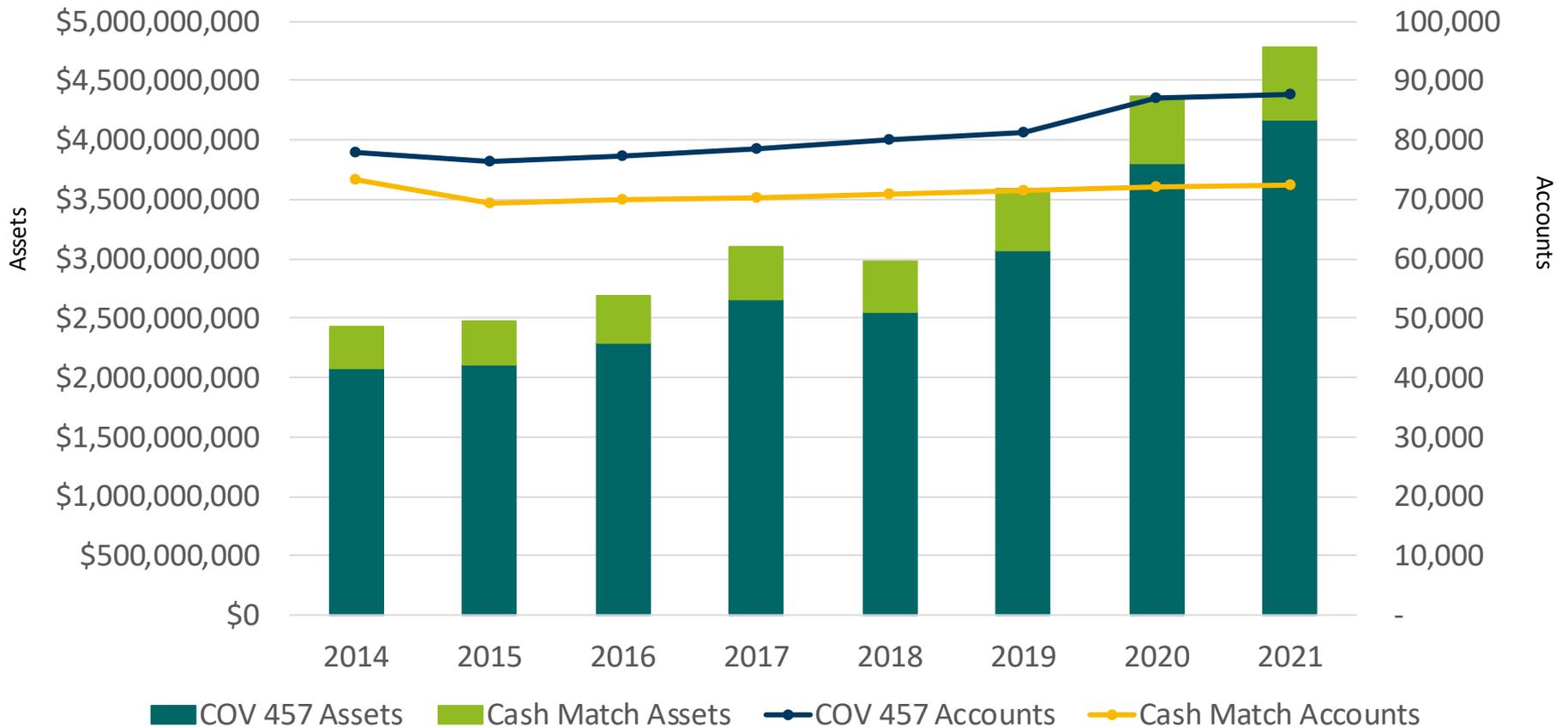


COV 457/Cash Match Plan Assets and Accounts



Totals as of 6/30/2021	Assets	Accounts
COV 457	\$4,171,301,564	87,570
Cash Match	\$615,244,384	72,512

Assets ↑ 6% since March 31, 2021



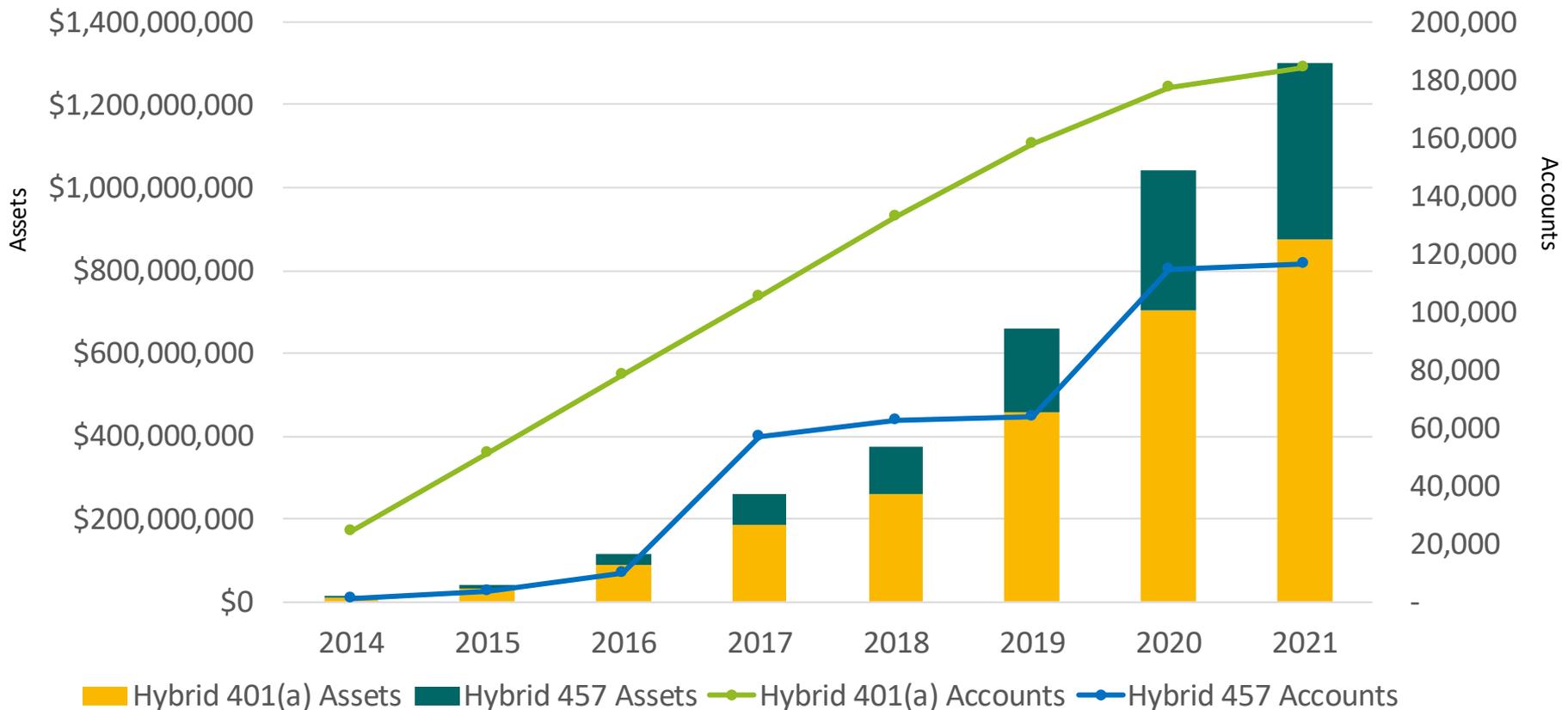
Note: Data reflects fiscal year end of defined contributions plans advisory committee (DCPAC) meeting 9/2/2021 through June 30, 2021.

Hybrid Retirement Plan Assets and Accounts (DC only)



Totals as of 6/30/2021	Assets	Accounts
Hybrid 401(a)	\$873,848,447	184,071
Hybrid 457	\$426,805,685	116,336

Assets ↑ 13%
Accounts ↑ 1%
since March 31, 2021



Note: Data reflects totals as of calendar year end and includes Mission Square participant, beneficiary & forfeiture accounts. 2021 data is through June 30, 2021.

Hybrid Retirement Plan Participation Highlights



Overall participation in
Hybrid Voluntary
Contributions – 73%

**Active Election
Participation – 33%**

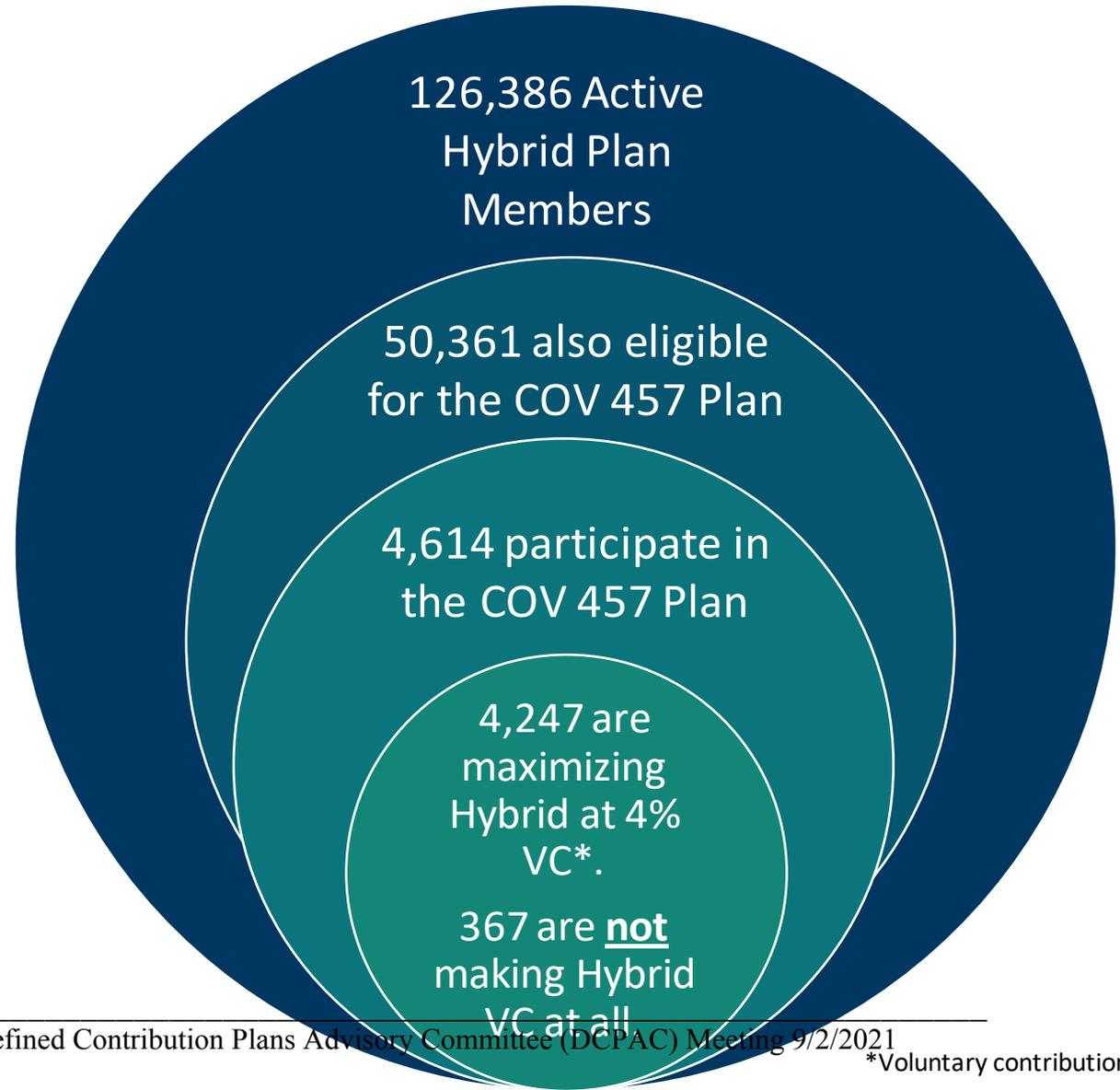
Of members
making voluntary
contributions

**38% are maximizing at 4%
56% are at 1% or less**

Hybrid/COV 457 Plan Crossover

Quarterly analysis to identify trends for hybrid plan members also eligible for the COV 457 Plan

- Evaluate opportunities to improve/enhance communications
- Outreach to members potentially not maximizing opportunities



Hybrid/COV 457 Plan Crossover

Members who **contribute to both and maximize contributions** prior to the end of the year may lose out on the employer match when contributions stop.

- 540 members identified for outreach via phone and email
- Review contributions to both 457 plans to ensure contributions continue throughout the year

Members who **contribute to the COV 457 prior to maximizing Hybrid contributions** may lose out on employer contributions.

- 415 members identified for outreach via phone and email
- Review contributions and provide education regarding benefits of contributing to the Hybrid plan first

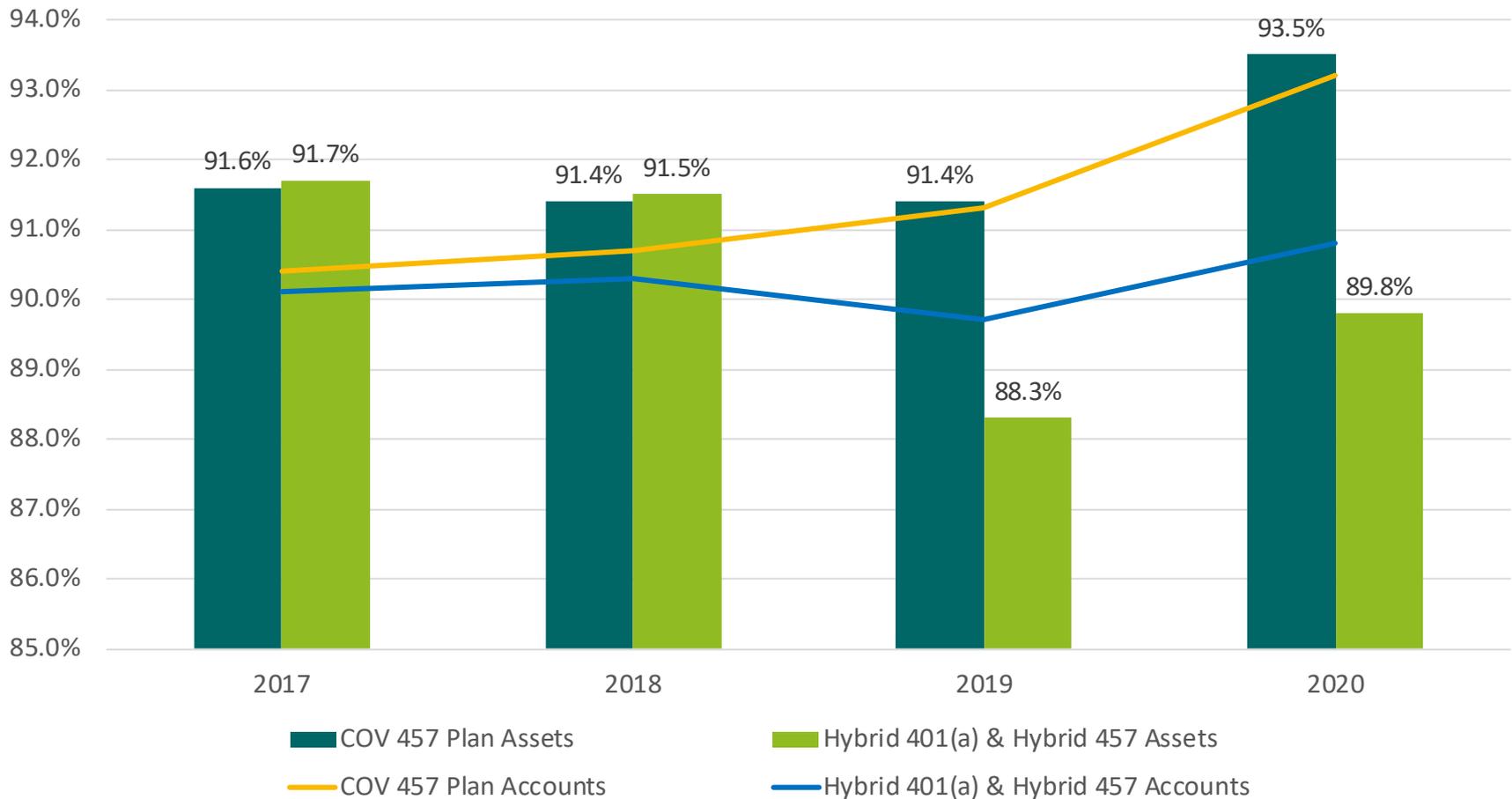


Asset Retention Metrics (unbundled plans only)

Data calculated at the end of each calendar year



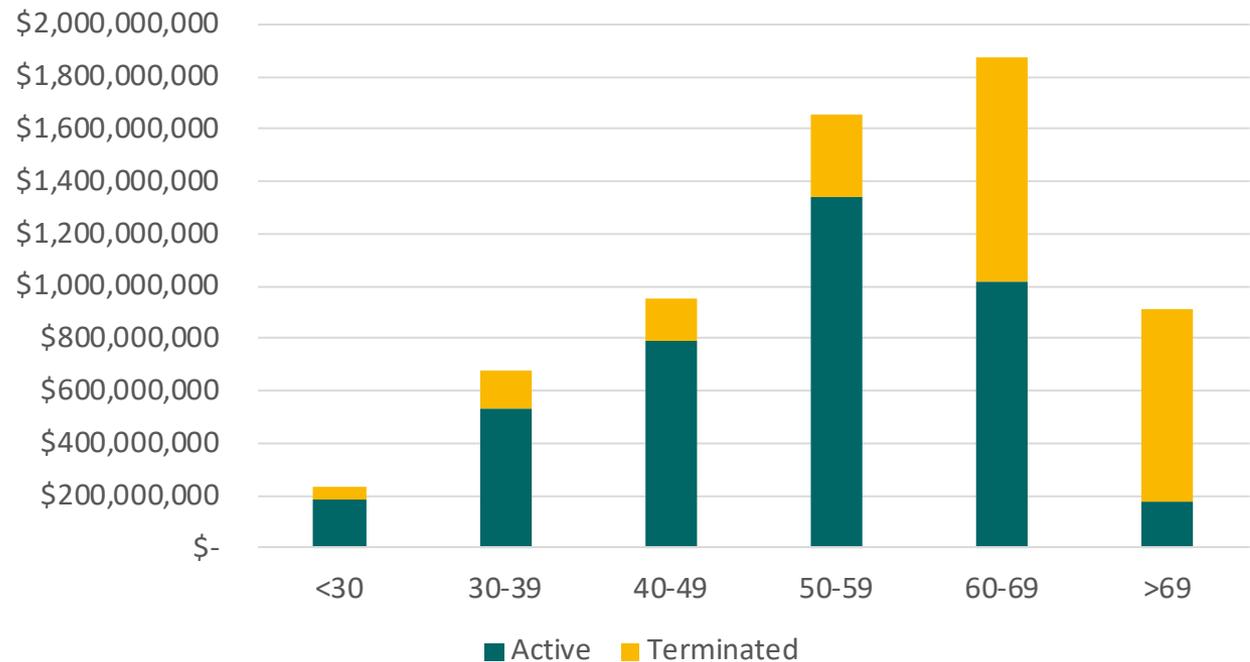
Retention Results



Assets by Employment Status

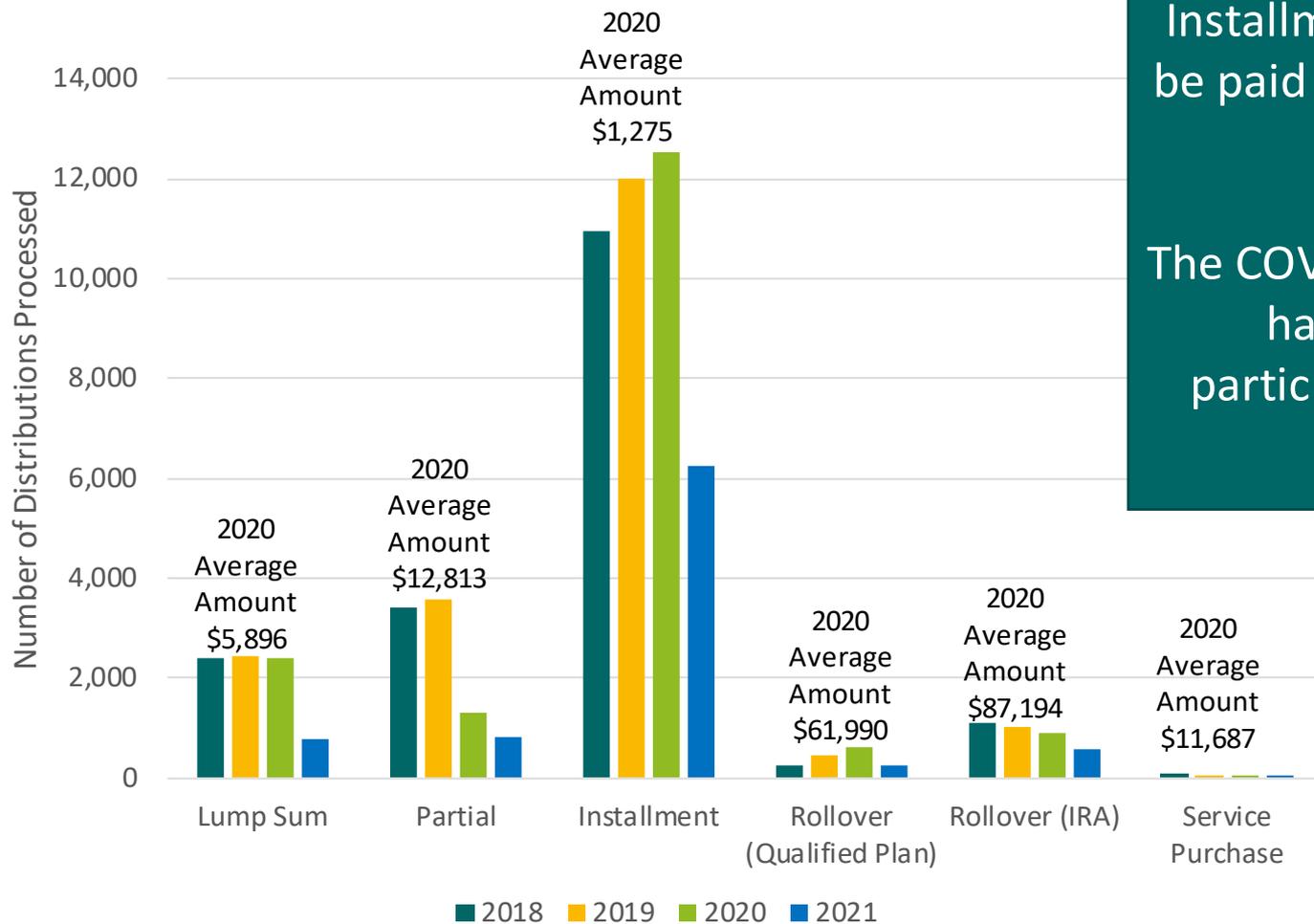
Participants who terminate employment are most likely to withdraw assets from the plan.

Assets Across All Unbundled Plans
By Age and Employment Status



	Assets
Active Participants	64%
Terminated Participants	36%

Asset Retention Distribution Types – COV 457 Plan

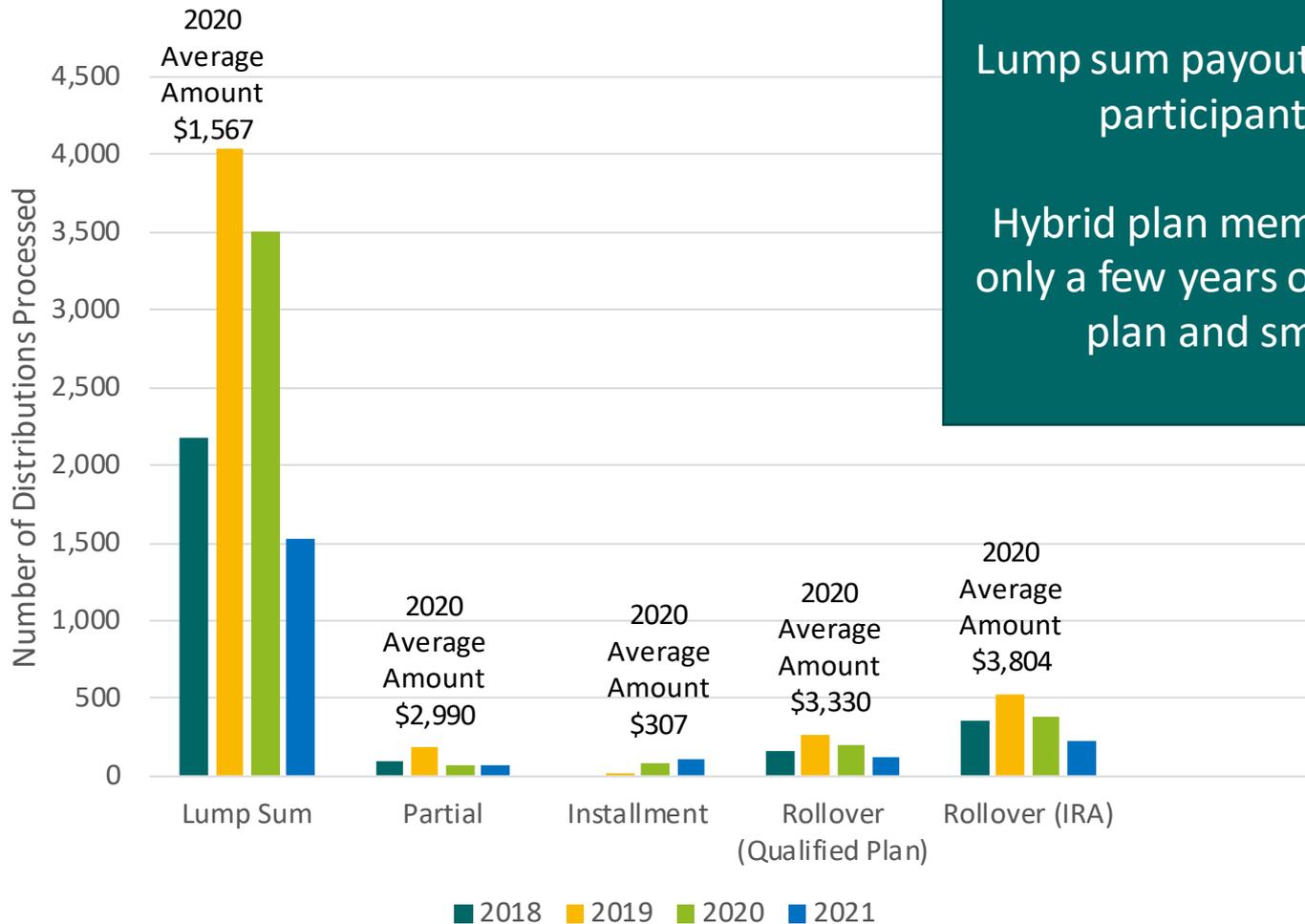


Installment payments can be paid monthly, quarterly, or annually.

The COV 457 Plan generally has longer-term participants with larger balances.

Asset Retention

Distribution Types – Hybrid 401(a) Plan



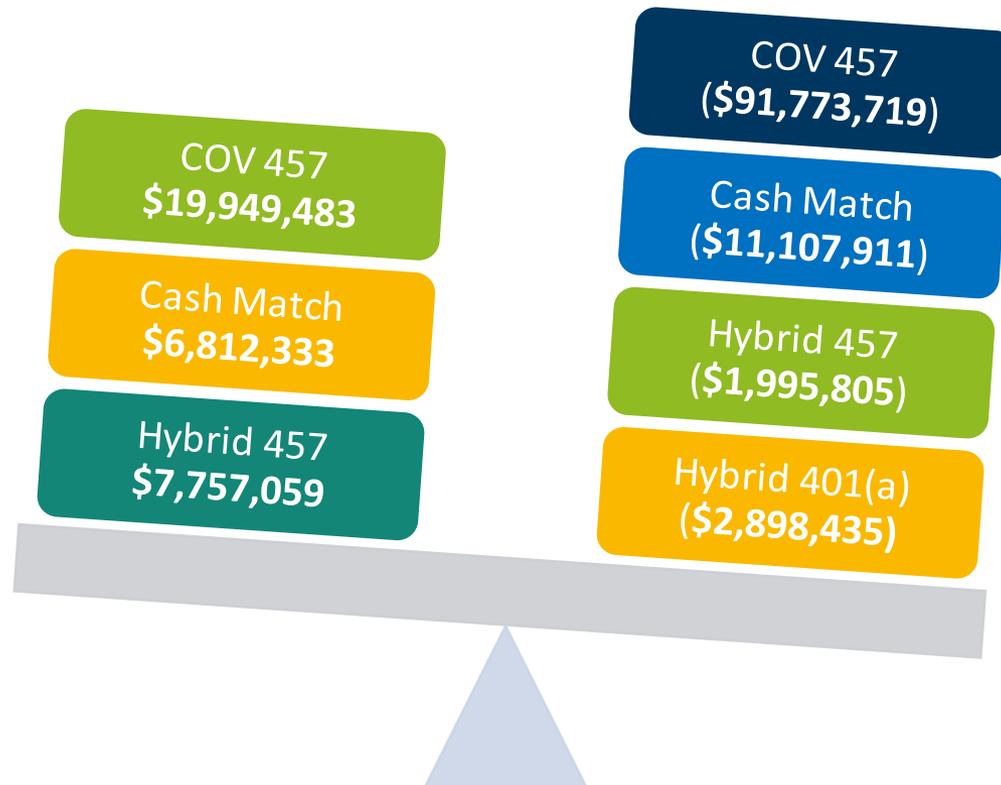
Lump sum payouts are a payout of the participant's full balance.

Hybrid plan members generally have only a few years of participation in the plan and smaller balances.

Asset Retention – Incoming and Outgoing Rollovers

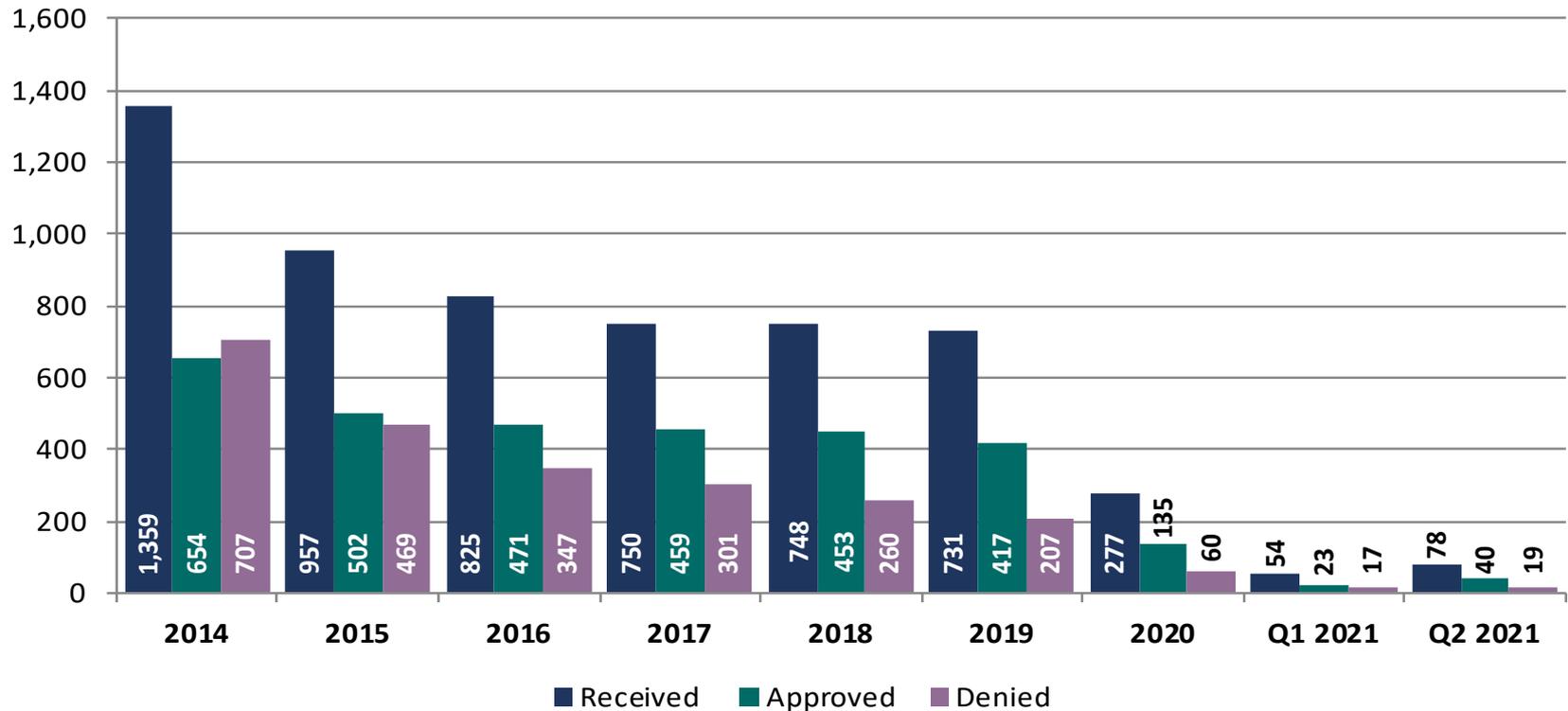
2020 Incoming Rollovers
Total
\$34,518,874
Down 3% from 2019

Outgoing Rollovers
Total
(\$107,775,870)
Down 10% from 2019



Since 2015, 70% of
COV 457 outgoing
rollovers have gone to
an Individual
Retirement Account.

Unforeseeable Emergency Withdrawals



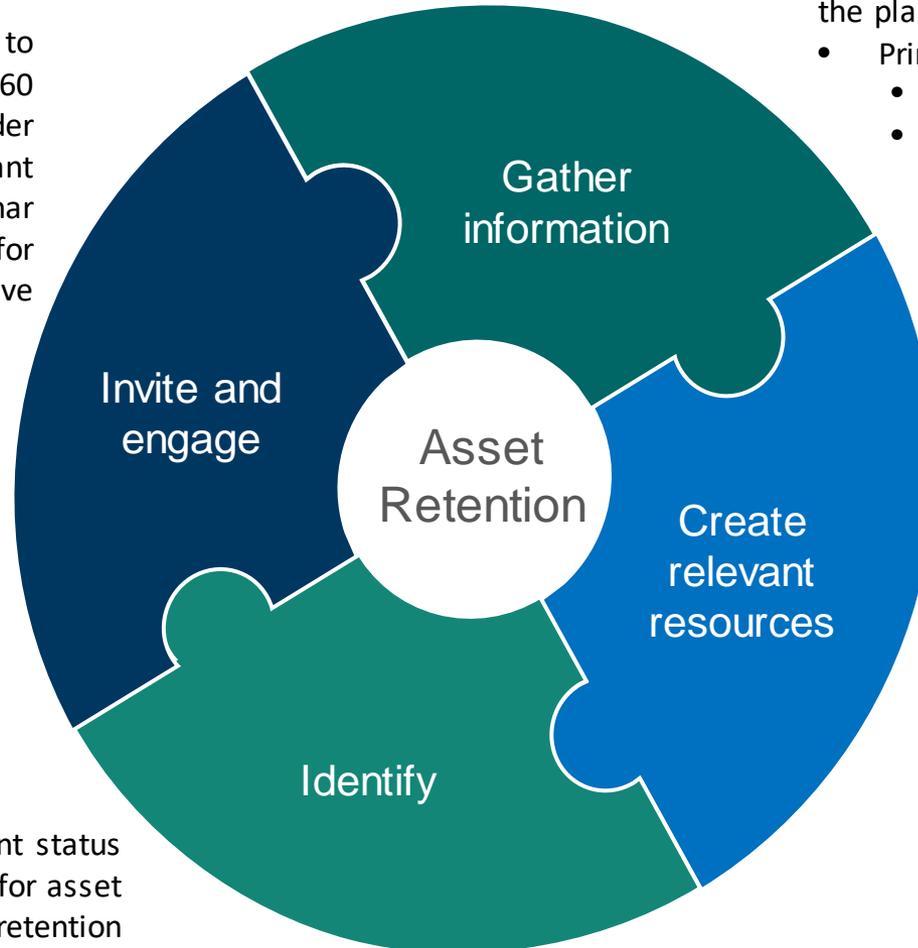
68% decrease in UEWs approved and paid from 2019 to 2020 primarily due to the availability of coronavirus-related distributions.

- Eviction/foreclosure category had the largest decrease at 76% due to a moratorium on evictions related to the pandemic.

Asset Retention Efforts

Targeted communications to separated individuals age 60 and older

- Invitation to relevant webinar
- Contact information for local field representative



Outbound calls to participants that have rolled amounts greater than \$100,000 out of the plan

- Primary themes:
 - Consolidating assets
 - Working with an advisor

Resources specifically designed for participants eligible for distribution

- Calculators
- Brochures/guides
- Webinars

Monitor participant status and define metrics for asset retention

Administrative Summary

ORPHE

ORPHE Totals*			
	3/31/2021	6/30/2021	% Change
Assets	\$1,158,931,857	\$1,222,066,549	5%
Participants	10,506	10,566	1%
Average Balance	\$110,311	\$115,660	5%



DCP	
	6/30/2021
Assets	\$153,349,015
Participants	2,356
Average Balance	\$65,089
38% of new hires YTD have elected DCP as their provider.	

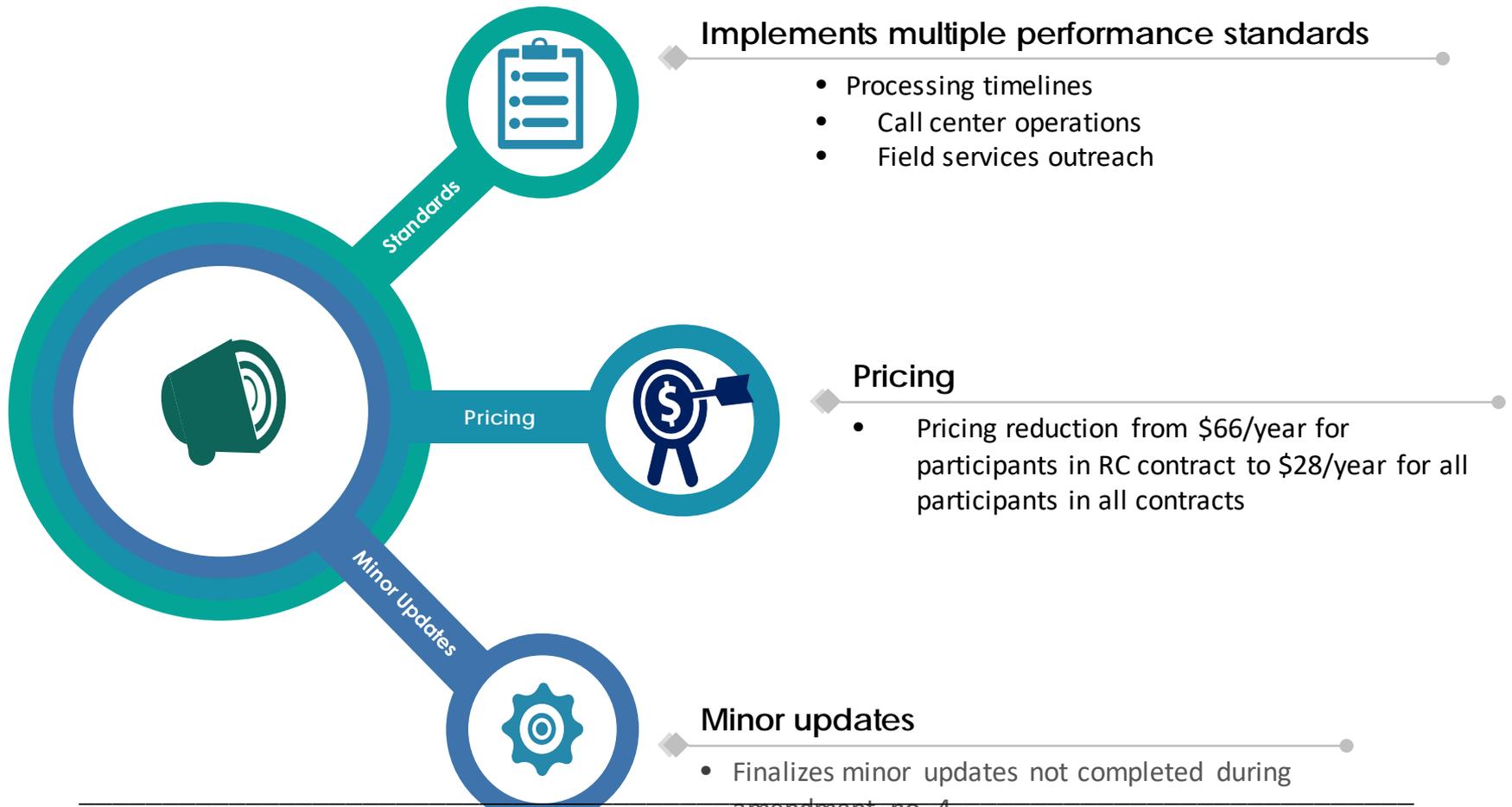
TIAA**	
	6/30/2021
Assets	\$1,068,717,533
Participants	8,210
Average Balance	\$130,173
62% of new hires YTD have elected TIAA as their provider.	

*Excludes deslected providers. Fidelity became a deslected provider effective 1/1/2020.

**Includes assets in GRA/RA and RC contracts.

TIAA Contract Amendment No. 5

Effective October 1, 2021



Pricing Update - Contributing Factors

- Total plan assets are higher
- Average account balances have increased
- More plan administration efficiencies/automated processes
- TIAA technological platform enhancements
- Competitive pressures

Current Structure

RC Contracts - \$66/year

- Participants receive a credit to their accounts based on TIAA's Plan Services Expense Offsets*

GRA/RA Contracts –

- Participant pays embedded fees
- No credit

New Structure

All Contracts - \$28/year

- Participants receive a credit to their accounts based on TIAA's Plan Services Expense Offsets*

*Note: Fees credited back to participants include the plan services expense offset for the TIAA annuities in all contracts. It does not include all administration/recordkeeping fees that may be embedded within the expense ratio (e.g., 12b(1) distribution fees, mortality and risk expenses).

The BlackRock funds included in the RC contract do not include any embedded administration/recordkeeping, 12b(1) distribution, or mortality and expense fees.

Retire the existing Quarterly Service Review provided by MissionSquare

- Current version is large and consists almost entirely of charts and graphs
- Included in the Appendix each quarter

Replace with three high-level dashboards that focus on primary plan metrics

- Allows more focus on most relevant metrics
- More visual and easier to identify trends

Unique Participants

- All plans
- 5-year lookback
- Format = Line chart

Account Access

- Logins during the prior 4 years and the current YTD
- Format = Bar chart

Account Access

- Registration since inception (Will need to start over with SS&C transition)
- Format = Bar chart

Local Team Activity

- # of meetings and attendance for prior year and current YTD:
 - Group Meetings
 - Webinars
 - One-on-One Meetings
- Format = 2 charts

www.varetire.org

- Top 5 or 10 pages (qty will depend on available space)
- Format = list

Participant Services

- # of calls into PS
- ASA
- Top 5 call trends
- Format = Text

VRS COV 457 & Cash Match Plans

Data as of June 30, 2021

Design note: Please use VRS branding and layout in a non-symmetrical manner. Boxes were used strictly for discussion purposes.

Top 10 Holdings

- Count Target date portfolios as one fund
- Combine assets for COV and CM in one list
- Format = list

of Investments Held by Participants

- Keep categories simpler:
 - 1 fund
 - 2-3 funds
 - 4-6 funds
 - 7-9 funds
 - 10+ funds
- Format = Pie chart

At risk participants

- Active counts & assets
- Terminated counts & assets
- Format = text box

Auto Enrollment

- Participants auto-enrolled during the quarter
- Show 3 categories:
 - Auto-enrolled/Active Control
 - Opted-Out
 - 403(b)
- Format = Pie chart

Deferral Type

- COV 457 only
- Categories:
 - Pre-tax
 - Roth
 - Pre-tax & Roth
- Format = Pie chart
- Callout with average deferral amount

Contributions/Distributions

- In: Contributions, rollins, plan-to-plan transfers
 - Data above axis
 - 3 shades of one color
- Out: Distributions, rollouts, SCP
 - Data below axis
 - 3 shades of one color
- Format = Bar chart

Participation Rates

- State
- Non-state

VRS Hybrid Plans

Data as of June 30, 2021

Design note: Please use VRS branding and layout in a non-symmetrical manner. Boxes were used strictly for discussion purposes.

Top 10 Holdings

- Count Target date portfolios as one fund
- Combine assets for COV and CM in one list
- Format = list

of Investments Held by Participants

- Keep categories simpler:
 - 1 fund (Note TDP)
 - 2-3 funds
 - 4-6 funds
 - 7-9 funds
 - 10+ funds
- Format = Pie chart

At risk participants

- Active counts & assets
- Terminated counts & assets
- Format = text box

Average Deferral Percent

- Hybrid 457 only
- Breakdown of percentages
- Format = text box
- 3-year rolling

VC Participation Rates

- Active election
- Overall participation
- 3-year rolling

Contributions/Distributions

- In: Contributions, roll-ins, plan-to-plan transfers
 - Data above axis
 - 3 shades of one color
- Out: Distributions, rollouts, SCP
 - Data below axis
 - 3 shades of one color
- Format = Bar chart



Virginia
Retirement
System

Thank You!



VRS Defined Contribution Plans Investment Belief Statements

Approved by the Board of Trustees: November 12, 2015

1. Introduction

The VRS Board of Trustees developed a set of twelve Defined Contribution (DC) Plans Investment Beliefs intended to help guide the strategic management of the VRS DC Plans investment program. These DC Investment Beliefs represent a high-level framework for making decisions that often require balancing multiple, often competing, factors and issues. In addition, the DC Investment Beliefs provide context for VRS actions and reflect VRS values, with a focus on VRS maintaining its long-term commitment to provide benefits to its participants.

2. VRS DC Investment Belief Statements

With the assistance of an outside expert, the Board developed the following twelve DC Investment Belief Statements to guide the Board in future decisions and provide an anchor to the Board's stated goals and objectives.

- 1) The DC Plans should continue to seek investment program best practices by establishing, monitoring, and reporting on key quantitative and qualitative measures of the DC investment program.
- 2) Given the increasing role of the DC Plans in VRS' primary retirement plan offerings, appropriate governance of the DC Plans is critical.
 - a) The VRS Board of Trustees has overall fiduciary authority over the DC investment program. To assist the Board in fulfilling its duty the Board has appointed a Defined Contribution Plans Advisory Committee to provide the Board with objective DC plan design and investment advice.
 - b) Governing documents such as the Charter for DC Plans Advisory Committee, DC Investment Policy Statements, Master Trusts and Plan Documents delineate various roles and responsibilities among the Board, the Committee, VRS Investment Staff and other interested parties.
- 3) Controlling and managing costs is critical to a successful DC plan investment program.

- a) Investment options should provide competitive net-of-cost risk-adjusted returns;
 - b) The DC Plans' costs should be transparent to the individual participant;
 - c) Given VRS' large-scale in the institutional marketplace, it is beneficial for the individual participant to access VRS' expertise and capabilities;
 - d) Unbundling of DC administration and investment activities should lead to improved cost management.
- 4) The VRS should seek to inform DC plan participants about key retirement planning risks.
- a) Shortfall risk – the probability or potential that an individual may not meet his/her long-term retirement savings goals;
 - b) Longevity risk – the potential that an individual may outlive his/her retirement assets;
 - c) Drawdown risk – the impact that short-term declines in portfolio values can have on long-term success.
- 5) To the best extent possible, the Board should continue to explore and implement capabilities, controls, and procedures that are transferrable from VRS' DB activities to VRS' DC Plans, particularly with respect to investments.
- 6) The VRS DC Plans are responsible for offering a reasonable range of diversified portfolios to serve as the Plans' default investment option as well as to participants that do not have the time, desire, or expertise to manage a diversified portfolio.
- 7) The VRS DC Plans investment offerings must be wide-ranging to accommodate participants' varying investment knowledge and/or interest in managing their investments and address the difference between participants who are early on or in the midst of their careers and those who are nearing or in retirement.
- a) Individuals must recognize their specific programs require a long-term, multi-decade planning/investment horizon;
 - b) Investment horizons are unique to each individual participant and may extend beyond the accumulation phase into the retirement (decumulation) phase; and

- c) Administrative and investment aspects of the overall program need to be unbundled/disaggregated to allow for maximum design flexibility.
- 8) A minimum level of participant investment education is necessary for a successful program.

Education should cover certain key topics:

- a) Key retirement planning risks (see Belief Statement 4);
 - b) Accumulation phase vs. decumulation phase;
 - c) How to analyze the costs associated with various investment options;
 - d) Consideration of non-plan (outside) assets.
- 9) To provide investment flexibility to individual participants, a self-directed brokerage window can be an effective feature of the VRS DC Plans.
- 10) Well-structured alternative investments can enhance an individual participant's portfolio risk/reward profile. VRS DC Plans should examine methods for providing qualifying alternative investment options into its menu of pre-mixed diversified investment options, where feasible.
- 11) Managing the decumulation of retirement assets is critical. The VRS DC Plans will continue to explore viable solutions in this area.
- 12) Investment education can be a valuable resource to individual participants. In this context, VRS DC plan decision-makers should explore making available various investment advice and financial planning solutions/products.

Virginia Retirement System



DC Plans Advisory Committee Annual Investment Review

September 2, 2021

**Virginia Retirement System
DC Plans Advisory Committee
Investment Department – Annual Review 2021**

Overview

The Defined Contribution Plans Advisory Committee (DCPAC) is an advisory committee with the purpose of reviewing matters relating to or affecting the plan administration, plan design, and investments of the various defined contribution (DC) plans established pursuant to the Code of Virginia and to make recommendations to the Board regarding those matters. The DCPAC's recommendations are not binding on the Board and the DCPAC has no authority over staff or administrative and investment decisions.

The Committee Charter outlines several responsibilities to be performed by the DCPAC. Investment responsibilities include:

- Reviewing national trends and identifying best practices.
- Assisting staff with identifying potential asset classes and investment strategies and recommending changes to the Board as needed.
- Performing an annual comprehensive review of the investment program for each plan with an emphasis on longer time frames, such as 3 and 5 years but shorter-term trends are also considered if they are significant. The DCPAC may provide recommendations to the Board regarding any investment options that should be considered for addition or deletion as well as informing the Board of any significant performance issues as appropriate.
- Periodically, reviewing the Investment Policy Statements for the VRS DC plans, the VRS Defined Contribution Plans Investment Belief Statements and recommending any changes to the Board.

The purpose of this annual review is to provide the DCPAC with investment information needed to perform its annual comprehensive review of the investment program for each plan. Please refer to subsequent sections of this package for performance information that covers the periods ending June 30, 2021.

As of June 30, 2021 DC plan assets for those investments overseen by investment staff totaled \$6.6 billion (unbundled plans: ~\$6.3 billion; bundled TIAA ORPHE ~\$333.4 million). Each program offered the following number of investment options*:

- Unbundled DC Plans: Eleven* investment options and a self-directed brokerage option.
- ORPHE TIAA: Ten* investment options and a self-directed brokerage option.

*Target date portfolio series are counted as one investment option. If each target date portfolio is counted separately there are a total of 20 core investment options within the unbundled DC plans and 19 core investment options within the bundled TIAA ORPHE.

Unbundled DC Plan Structure

An unbundled DC plan structure provides investment staff with maximum flexibility to add or delete investment options as appropriate in an efficient manner. This fully open architecture approach enables investment staff to contract directly with investment managers. The unbundling of investment contracts from plan recordkeeping / administration contracts is a best practice within the DC industry and is in line with VRS Defined Contribution Plans Investment Belief Statements.

Most DC plans administered by VRS operate in a fully unbundled plan structure. The exception is the Optional Retirement Plan for Higher Education (ORPHE) where one of the two plan program providers operate under a bundled plan structure.

No changes were made to unbundled DC plans investment platform this past fiscal year. Detailed information about the unbundled DC plans investments is included in subsequent sections of this package.

Bundled DC Plan Structure

A bundled DC plan structure does not provide investment staff with maximum flexibility to add or delete investment options as appropriate in an efficient manner and is not the preferable structure. Constraints within a bundled plan construct may limit the scope of available investment options and may limit access to more attractive options within asset classes.

TIAA, one of the providers for the ORPHE, is structured in a bundled manner where investment option offerings are included as part of the provider's recordkeeping / administration contract. It should be noted TIAA has become more flexible in working with plan sponsors such as VRS to increase its investment fund opportunity set.

No changes were made to the bundled TIAA investment platform this past fiscal year. Detailed information about the bundled TIAA investment offerings is included in subsequent sections of this package.

Investment Policy Statements

Currently, staff does not have any recommended changes to the two defined contribution investment policy statements (unbundled structure and bundled structure).

VRS Defined Contribution Plans Investment Belief Statements

Staff and the DCPAC performed a comprehensive review of the investment belief statements and recommends revisions to the original statements dated November 12, 2015. A Request for Board Action will be presented to the Board at its September 21, 2021 meeting.

Other

During this past annual reporting period staff discussed various DC trends and best practices and provided the Committee with CEM's annual Defined Contribution Plans Survey results.

Unbundled DC Plans Structure

Unbundled DC Plans

Data for period ending June 30, 2021

Fund	Type	Fund Expense Ratio	Returns			3 Year Statistics				5 Year Statistics			
			1 Year	3 Years*	5 Years*	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio
		%	%	%	%	%	%	%	%	%	%	%	%
Money Market Fund	Capital Preservation	0.08	0.18	1.44	1.36	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
FTSE 3 Month Treasury Bill Index			0.08	1.31	1.14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Excess Return			0.10	0.13	0.22								
Stable Value Fund¹	Capital Preservation (Book Value)	0.24	1.89	2.23	2.09	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Custom Benchmark			0.45	1.54	1.66	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Excess Return			1.44	0.69	0.43								
<i>eVestment Alliance Stable Value Fixed Income Universe²</i>			1.89	2.28	2.14								
Bond Fund	Passive	0.03	-0.30	5.39	3.07	3.50	1.17	0.04	n/a	3.27	0.59	0.03	n/a
Bloomberg Barclays U.S. Aggregate Bond Index			-0.33	5.34	3.03	3.49	1.16			3.25	0.58		
Excess Return			0.03	0.05	0.04								
<i>MSTAR Ave: Intermediate Term Bond</i>			0.77	5.26	3.02								
Inflation-Protected Bond Fund	Passive	0.03	6.61	6.63	4.31	3.98	1.34	0.07	n/a	3.56	0.89	0.06	n/a
Bloomberg Barclays U.S. TIPS Index			6.51	6.53	4.17	3.94	1.33			3.54	0.86		
Excess Return			0.10	0.10	0.14								
<i>MSTAR Ave: Inflation-Protected Bond</i>			7.04	5.93	3.88								
High-Yield Bond Fund	Active	0.40	17.45	7.77	7.50	9.13	0.71	1.42	0.27	7.26	0.88	1.19	0.43
ICE BofA U.S. HY BB-B Constrained Index			13.44	7.39	6.99	8.84	0.69			7.04	0.83		
Excess Return			4.01	0.38	0.51								
<i>MSTAR Ave: High-Yield Bond</i>			14.69	6.16	6.21								
Stock Fund	Passive	0.01	40.84	18.73	17.69	18.53	0.94	0.03	n/a	14.99	1.10	0.03	n/a
S&P 500 Index			40.79	18.67	17.65	18.52	0.94			14.99	1.10		
Excess Return			0.05	0.06	0.04								
<i>MSTAR Ave: Large Blend</i>			40.47	16.77	16.15								
Small/Mid-Cap Stock Fund	Passive	0.02	57.81	15.26	16.40	24.51	0.57	0.09	n/a	19.79	0.77	0.08	n/a
Russell 2500 Index			57.79	15.24	16.35	24.50	0.57			19.78	0.77		
Excess Return			0.02	0.02	0.05								
<i>MSTAR Ave: Mid-Cap Blend</i>			50.44	13.15	13.75								
International Stock Fund	Passive	0.06	37.37	9.69	11.44	17.97	0.47	0.95	n/a	14.85	0.69	0.94	n/a
MSCI ACWI ex-U.S. IMI Index (linked to MSCI World ex-U.S. Index July 2012 - July 2016 and prior to July 2012 the MSCI EAFE Index)			37.18	9.42	11.17					14.86	0.68		
Excess Return			0.19	0.27	0.27	18.00	0.45						
<i>MSTAR Ave: Foreign Large Blend</i>			33.76	8.50	10.08								
Global Real Estate Fund	Passive	0.08	34.51	7.32	5.87	19.55	0.31	0.32	n/a	16.15	0.29	0.41	n/a
FTSE EPRA/NAREIT Developed Index			33.55	6.39	4.98	19.69	0.26			16.26	0.24		
Excess Return			0.96	0.93	0.89								
<i>MSTAR Ave: Global Real Estate</i>			32.33	7.75	6.57								

*Annualized.

¹ Stable value funds typically track the general movements of interest rates with a lag. It is expected that when interest rates are falling stable value yields do not fall as quickly and when interest rates are rising stable value yields do not rise as quickly.

² eVestment Alliance universe returns are gross of investment management fees and net of wrap fees. The Stable Value Fund returns are net of all fees.

Data provided by BlackRock, Galliard, MissionSquare and Zephyr StyleADVISOR.

Unbundled DC Plans

Data for period ending June 30, 2021

Fund	Type	Fund Expense Ratio	Returns			3 Year Statistics				5 Year Statistics			
			1 Year	3 Years*	5 Years*	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio
Retirement Portfolio	Passive	0.08	%	%	%	%	%	%	%	%	%	%	%
Custom Benchmark			15.77	9.36	7.77	7.81	1.03	0.14	n/a	6.33	1.05	0.13	n/a
Excess Return			0.03	0.06	0.05								
Target Date 2025 Portfolio	Passive	0.08	20.20	10.32	9.46	10.17	0.88	0.19	n/a	8.26	1.01	0.18	n/a
Custom Benchmark			20.17	10.25	9.38	10.18	0.88			8.26	1.00		
Excess Return			0.03	0.07	0.08								
Target Date 2030 Portfolio	Passive	0.08	25.05	11.42	10.68	12.19	0.83	0.24	n/a	9.86	0.97	0.23	n/a
Custom Benchmark			25.01	11.34	10.57	12.20	0.82			9.87	0.96		
Excess Return			0.04	0.08	0.11								
Target Date 2035 Portfolio	Passive	0.08	29.86	12.49	11.85	14.11	0.79	0.29	n/a	11.39	0.94	0.27	n/a
Custom Benchmark			29.81	12.39	11.72	14.14	0.78			11.40	0.93		
Excess Return			0.05	0.10	0.13								
Target Date 2040 Portfolio	Passive	0.08	34.35	13.42	12.88	15.89	0.76	0.33	n/a	12.81	0.92	0.31	n/a
Custom Benchmark			34.26	13.30	12.74	15.92	0.75			12.82	0.91		
Excess Return			0.09	0.12	0.14								
Target Date 2045 Portfolio	Passive	0.08	37.97	14.18	13.63	17.20	0.75	0.37	n/a	13.84	0.90	0.34	n/a
Custom Benchmark			37.85	14.04	13.47	17.24	0.74			13.86	0.89		
Excess Return			0.12	0.14	0.16								
Target Date 2050 Portfolio	Passive	0.08	39.86	14.59	13.97	17.82	0.75	0.38	n/a	14.32	0.90	0.35	n/a
Custom Benchmark			39.73	14.44	13.81	17.85	0.74			14.34	0.88		
Excess Return			0.13	0.15	0.16								
Target Date 2055 Portfolio	Passive	0.08	40.14	14.67	14.01	17.88	0.75	0.39	n/a	14.37	0.90	0.35	n/a
Custom Benchmark			40.07	14.53	13.86	17.94	0.74			14.41	0.88		
Excess Return			0.07	0.14	0.15								
Target Date 2060 Portfolio	Passive	0.08	40.11	14.66	14.00	17.89	0.75	0.39	n/a	14.37	0.90	0.36	n/a
Custom Benchmark			40.07	14.53	13.86	17.94	0.74			14.41	0.88		
Excess Return			0.04	0.13	0.14								
Target Date 2065 Portfolio	Passive	0.08	40.02	N/A	N/A	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Custom Benchmark			40.06	N/A	N/A	n/a	n/a			n/a	n/a		
Excess Return			-0.04	N/A	N/A								

*Annualized.

Data provided by BlackRock, Galliard, MissionSquare and Zephyr StyleADVISOR.

Unbundled DC Plans - Fund Annual Operating Expenses
Information as of June 30, 2021

Investment Option ¹	Investment Manager	Type	Investment Management Costs	Wrap & Acquired Fund ² Costs	Fund Embedded Costs ²	State Street Cost to Strike Net NAV	Total Annual Expense Ratio	Expense Ratio YOY Change
Money Market Fund	BlackRock	Capital Preservation	0.080000%	n/a	0.000500%	n/a	0.08%	0.00%
Stable Value Fund	Galliard	Capital Preservation (Book Value)	0.066000%	0.176000%	n/a	n/a	0.24%	-0.01%
Bond Fund	BlackRock	Passive	0.030000%	n/a	0.003500%	n/a	0.03%	0.00%
Inflation-Protected Bond Fund	BlackRock	Passive	0.020000%	n/a	0.007200%	n/a	0.03%	0.00%
High-Yield Bond Fund	JPMorgan	Active	0.380000%	n/a	0.010000%	0.005001%	0.40%	0.00%
Stock Fund	BlackRock	Passive	0.007500%	n/a	0.001200%	0.004686%	0.01%	0.00%
Small/Mid-Cap Stock Fund	BlackRock	Passive	0.015000%	n/a	0.004000%	0.004380%	0.02%	0.00%
International Stock Fund	BlackRock	Passive	0.040000%	n/a	0.017800%	0.004507%	0.06%	0.00%
Global Real Estate Fund	BlackRock	Passive	0.070000%	n/a	0.009500%	0.004284%	0.08%	-0.01%
Retirement Portfolio	BlackRock	Passive	0.070000%	n/a	0.005200%	n/a	0.08%	0.00%
Target Date 2025 Portfolio	BlackRock	Passive	0.070000%	n/a	0.006200%	n/a	0.08%	0.00%
Target Date 2030 Portfolio	BlackRock	Passive	0.070000%	n/a	0.006900%	n/a	0.08%	0.00%
Target Date 2035 Portfolio	BlackRock	Passive	0.070000%	n/a	0.007700%	n/a	0.08%	0.00%
Target Date 2040 Portfolio	BlackRock	Passive	0.070000%	n/a	0.008400%	n/a	0.08%	0.00%
Target Date 2045 Portfolio	BlackRock	Passive	0.070000%	n/a	0.009100%	n/a	0.08%	0.00%
Target Date 2050 Portfolio	BlackRock	Passive	0.070000%	n/a	0.009400%	n/a	0.08%	0.00%
Target Date 2055 Portfolio	BlackRock	Passive	0.070000%	n/a	0.009400%	n/a	0.08%	0.00%
Target Date 2060 Portfolio	BlackRock	Passive	0.070000%	n/a	0.009600%	n/a	0.08%	0.00%
Target Date 2065 Portfolio	BlackRock	Passive	0.070000%	n/a	0.009600%	n/a	0.08%	0.00%
VRSIP	VRS	Active	n/a	n/a	n/a	n/a	0.60%	0.01%

¹ There are no short-term trading redemption costs associated with any of the investment options.

² Includes custody, audit and other specific investment option related administrative costs.

**Unbundled DC Plans
Annual Calendar Year End Return Data**

Fund	2020	2019	2018	2017	2016
	%	%	%	%	%
Money Market Fund	0.66	2.40	2.14	1.20	0.49
FTSE 3 Month Treasury Bill Index ¹	0.58	2.30	1.89	0.87	0.35
Stable Value Fund	2.20	2.51	2.18	1.83	1.70
Custom Benchmark	0.66	2.21	2.83	1.74	1.37
eVestment Alliance Stable Value Fixed Income Universe ²	2.14	2.50	2.14	1.85	1.83
Bond Fund	7.61	8.74	0.04	3.63	2.70
Bloomberg Barclays U.S. Aggregate Bond Index	7.51	8.72	0.01	3.54	2.65
MSTAR Ave: Intermediate Term Bond	7.52	8.06	-0.50	3.71	3.23
Inflation-Protected Bond Fund	11.19	8.48	-1.15	3.20	4.80
Bloomberg Barclays U.S. TIPS Index	10.99	8.43	-1.26	3.01	4.68
MSTAR Ave: Inflation-Protected Bond	10.01	7.92	-1.64	2.72	4.59
High-Yield Bond Fund	4.75	14.77	-1.29	7.11	14.55
ICE BofA U.S. HY BB-B Constrained Index	6.28	15.10	-2.04	6.98	14.72
MSTAR Ave: High-Yield Bond	4.91	12.62	-2.59	6.47	13.30
Stock Fund	18.47	31.54	-4.35	21.85	11.97
S&P 500 Index	18.40	31.49	-4.38	21.83	11.96
MSTAR Ave: Large Blend	15.83	28.78	-6.27	20.44	10.37
Small/Mid-Cap Stock Fund	20.02	27.80	-9.96	16.83	17.87
Russell 2500 Index	19.99	27.77	-10.00	16.81	17.59
MSTAR Ave: Mid-Cap Blend	12.39	26.21	-11.15	15.93	14.14
International Stock Fund	11.46	21.94	-14.50	28.21	3.01
MSCI ACWI ex-U.S. IMI Index ³	11.12	21.63	-14.76	27.81	2.11
MSTAR Ave: Foreign Large Blend	9.30	21.59	-14.59	25.12	0.79
Global Real Estate Fund	-8.42	22.91	-5.02	11.85	5.30
FTSE EPRA/NAREIT Developed Index	-9.04	21.91	-5.63	10.36	4.06
MSTAR Ave: Global Real Estate	-5.43	23.45	-7.11	15.12	1.97
VRSIP	10.32	15.31	-1.31	14.35	7.65
VRS Custom Benchmark	10.24	15.43	-1.12	13.86	7.81
Retirement Portfolio	11.97	15.65	-3.48	10.18	6.10
Custom Benchmark	11.80	15.61	-3.48	10.09	6.00
Target Date 2025 Portfolio	12.19	18.60	-4.87	13.91	7.29
Custom Benchmark	12.03	18.54	-4.90	13.75	7.10
Target Date 2030 Portfolio	12.88	20.78	-5.70	15.83	7.88
Custom Benchmark	12.71	20.70	-5.76	15.63	7.62
Target Date 2035 Portfolio	13.57	22.85	-6.50	17.70	8.42
Custom Benchmark	13.42	22.74	-6.58	17.46	8.10
Target Date 2040 Portfolio	14.14	24.73	-7.24	19.38	8.87
Custom Benchmark	13.98	24.60	-7.33	19.10	8.51
Target Date 2045 Portfolio	14.83	26.04	-7.84	20.46	9.18
Custom Benchmark	14.64	25.93	-7.98	20.14	8.75
Target Date 2050 Portfolio	15.20	26.62	-8.12	20.84	9.25
Custom Benchmark	15.07	26.49	-8.26	20.53	8.83
Target Date 2055 Portfolio	15.32	26.67	-8.14	20.82	9.22
Custom Benchmark	15.18	26.56	-8.29	20.53	8.83
Target Date 2060 Portfolio	15.31	26.66	-8.15	20.77	9.24
Custom Benchmark	15.18	26.56	-8.29	20.53	8.83
Target Date 2065 Portfolio	15.14	N/A	N/A	N/A	N/A
Custom Benchmark	15.18	N/A	N/A	N/A	N/A

¹ Prior to December 2020 it was the Bloomberg Barclays U.S. 3-Month Treasury Bill Index.

² eVestment Alliance universe returns are gross of investment management fees and net of wrap fees. The Stable Value Fund returns are net of all fees.

³ Prior to August 2016 it was the MSCI World ex-U.S. Index from July 2012 - July 2016.

Data provided by BlackRock, Galliard, BofNY Mellon, MissionSquare, eVestment, and Morningstar.

Defined Contribution Plans Advisory Committee Report
Unbundled Plans Investment Performance

Below are the totals for the period ending June 30, 2021. Returns greater than one year are annualized.

Investment Options	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs / Since Inception ¹	Fund Expense Ratio ²	Inception Date	Market Value	% of Market Value ²⁷	% of Participants Selecting an Option ²⁸
Do-It-For-Me: Target Date Portfolios^{3,4}	%	%	%	%	%	%	%	%		\$	%	%
Retirement Portfolio	0.98	4.16	4.53	15.80	9.42	7.82	6.32	0.08	8/1/05	437,429,436	7.0	5.7
Custom Benchmark	0.96	4.14	4.52	15.77	9.36	7.77	6.27					
Target Date 2025 Portfolio	1.02	4.73	6.00	20.20	10.32	9.46	7.52	0.08	7/5/06	339,487,336	5.4	6.4
Custom Benchmark	1.00	4.70	6.00	20.17	10.25	9.38	7.46					
Target Date 2030 Portfolio	1.07	5.39	7.69	25.05	11.42	10.68	8.25	0.08	8/1/05	326,388,428	5.2	8.0
Custom Benchmark	1.04	5.37	7.69	25.01	11.34	10.57	8.16					
Target Date 2035 Portfolio	1.12	6.02	9.34	29.86	12.49	11.85	8.94	0.08	7/5/06	330,664,775 ²⁴	5.3	9.2
Custom Benchmark	1.08	6.00	9.32	29.81	12.39	11.72	8.82					
Target Date 2040 Portfolio	1.16	6.58	10.83	34.35	13.42	12.88	9.52	0.08	8/1/05	283,042,371	4.5	9.2
Custom Benchmark	1.11	6.57	10.80	34.26	13.30	12.74	9.40					
Target Date 2045 Portfolio	1.19	7.05	12.05	37.97	14.18	13.63	9.98	0.08	7/5/06	268,746,971	4.3	10.4
Custom Benchmark	1.14	7.03	12.00	37.85	14.04	13.47	9.84					
Target Date 2050 Portfolio	1.21	7.30	12.71	39.86	14.59	13.97	10.23	0.08	9/30/07	265,900,700	4.2	12.0
Custom Benchmark	1.15	7.27	12.63	39.73	14.44	13.81	10.10					
Target Date 2055 Portfolio	1.21	7.34	12.82	40.14	14.67	14.01	10.40	0.08	5/19/10	315,250,980	5.0	16.2
Custom Benchmark	1.16	7.32	12.76	40.07	14.53	13.86	10.25					
Target Date 2060 Portfolio	1.21	7.34	12.80	40.11	14.66	14.00	10.61	0.08	11/17/14	136,786,705	2.2	11.9
Custom Benchmark	1.16	7.31	12.75	40.07	14.53	13.86	10.46					
Target Date 2065 Portfolio	1.21	7.34	12.77	40.02	n/a	n/a	21.01	0.08	9/23/19	6,704,824	0.1	1.5
Custom Benchmark	1.16	7.31	12.75	40.06	n/a	n/a	21.08					
Help-Me-Do-It: Individual Options												
Money Market Fund ^{5,6}	0.01	0.04	0.08	0.18	1.44	1.36	0.72	0.08	11/1/99	92,914,908	1.5	2.0
FTSE 3 Month Treasury Bill Index	0.00	0.01	0.03	0.08	1.31	1.14	0.60					
Yield as of 06/30/21: 0.15% ⁷												
Stable Value Fund ^{8,9}	0.13	0.40	0.83	1.89	2.23	2.09	1.98	0.24	2/1/95	631,966,531	10.1	7.7
Custom Benchmark ¹⁰	0.05	0.13	0.24	0.45	1.54	1.66	1.44					
Yield as of 06/30/21: 1.55% ¹¹												
Bond Fund ¹²	0.71	1.84	-1.62	-0.30	5.39	3.07	3.45	0.03	11/1/99	178,239,006	2.8	3.7
Bloomberg Barclays U.S. Aggregate Bond Index	0.70	1.83	-1.60	-0.33	5.34	3.03	3.39					
Inflation-Protected Bond Fund ¹³	0.60	3.26	1.75	6.61	6.63	4.31	3.50	0.03	7/30/02	54,574,447	0.9	1.5
Bloomberg Barclays U.S. TIPS Index	0.61	3.25	1.73	6.51	6.53	4.17	3.40					
High-Yield Bond Fund ¹⁴	1.58	3.45	6.12	17.45	7.77	7.50	6.84	0.40	5/31/04	51,466,274	0.8	1.8
ICE BofA U.S. High-Yield BB-B Constrained Index	1.27	2.57	2.88	13.44	7.39	6.99	6.43					
Stock Fund ¹⁵	2.33	8.56	15.27	40.84	18.73	17.69	14.88	0.01	11/1/99	1,565,720,012	25.0	10.7
S&P 500 Index	2.33	8.55	15.25	40.79	18.67	17.65	14.84					
Small/Mid-Cap Stock Fund ¹⁶	1.17	5.43	16.96	57.81	15.26	16.40	12.90	0.02	11/1/99	488,286,015	7.8	6.1
Russell 2500 Index ¹⁷	1.18	5.44	16.97	57.79	15.24	16.35	12.81					
International Stock Fund ¹⁸	-0.50	5.68	9.69	37.37	9.69	11.44	6.44	0.06	11/1/99	233,358,779	3.7	5.0
MSCI ACWI ex-U.S. IMI Index ¹⁹	-0.64	5.60	9.58	37.18	9.42	11.17	6.12					
Global Real Estate Fund ²⁰	0.83	9.39	16.06	34.51	7.32	5.87	8.23	0.08	10/1/02	109,784,855	1.8	3.2
FTSE EPRA/NAREIT Developed Index ²¹	0.78	9.17	15.50	33.55	6.39	4.98	7.54					
VRSIP ²²	0.89	6.40	7.95	23.46	10.41	10.23	8.47	0.60	7/1/08	49,753,307 ²⁵	0.8	0.5
VRS Custom Benchmark ²³	1.21	4.99	7.41	23.33	10.04	10.12	8.06					

VRSIP and benchmark returns are reported with a one month lag. [Return information shown is as of May 31, 2021.] [Market value as of May 31, 2021 was \$47,415,784.]

Do-It-Myself: Self-Directed Brokerage Account												
TD Ameritrade	n/a	100,302,897	1.6	0.2								
Total										\$6,266,769,557²⁶		

- 1 If the fund was not in existence for 10 years, fund and corresponding benchmark returns shown represent performance from the since inception date.
- 2 Fund investment advisers may voluntarily agree to waive expenses. Expense waivers may be terminated at any time.
- 3 The Target Date Portfolios invest in units of BlackRock's LifePath Index Funds O. The LifePath Index Funds O invest in the master LifePath Index Funds F. The inception dates shown reflect the inception dates of the master LifePath Funds F. The inception dates for most LifePath Funds O were 12/9/11. The 2055 Fund's O inception date was 12/12/11, the 2060 Fund's O inception date was 1/2/15, and the 2065 Fund's O inception date was 9/23/2019. Returns prior to Funds' O inception dates are those of the Funds F with deductions taken for Funds O investment management fees.
- 4 Benchmarks are calculated using blended returns of third-party indices that proportionately reflect the respective weightings of the Portfolios' asset classes. Weightings are adjusted quarterly to reflect the Portfolios' asset allocation shifts over time. Indices currently used to calculate the custom benchmarks are: Russell 1000 Index, Russell 2000 Index, MSCI ACWI Ex-U.S. IMI Index, Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. TIPS Index, FTSE EPRA/NAREIT Developed Index and the Bloomberg Commodity Index Total Return.
- 5 The Money Market Fund invests in units of BlackRock's Short-Term Investment Fund W. The inception date shown reflects the VRS Defined Contribution Plan's investment strategy inception date. Returns of the Fund from July 2012 through July 2016 represent performance of other BlackRock funds. Returns prior to July 2012 represent performance by the previous investment manager, State Street Global Advisors. All performance returns are linked.
- 6 An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the Fund seeks to preserve the value of your investment it is possible to lose money by investing in the Fund.
- 7 The current yield more closely reflects the earnings of the Fund than the total net return information.
- 8 The inception date shown reflects the VRS Defined Contribution Plans investment strategy inception date.
- 9 Direct transfers from the Stable Value Fund to the Money Market Fund (considered a "competing fund") are not permitted. Before transferring to the Money Market Fund, participants must first transfer to a "non-competing" fund for 90 days. Optional Retirement Plan for Higher Education (ORPHE) participants who want to make a direct exchange to another ORPHE provider, must first exchange to a "non-competing" fund on the MissionSquare Retirement investment platform for 90 days.
- 10 Effective August 2016, the benchmark represents a hypothetical return generated by the monthly yields of actively traded U.S. Treasuries based on [50% 2- year maturity + 50% 3- year maturity] plus an annualized spread of 0.25% and is representative of the Fund's expected return profile, given how the Fund is managed and book value accounting treatment. Prior to August 2016 the custom benchmark was based on the monthly yield of actively traded U.S Treasuries with a 3-year maturity plus an annualized spread of 0.50%. The benchmark returns are linked.
- 11 The current yield more closely reflects the earnings of the Fund than the total net return information. There is no guarantee that the Fund will earn the current yield in the future.
- 12 The Bond Fund invests in units of BlackRock's U.S. Debt Index Fund M. The U.S. Debt Index Fund M invests in the master Fund F. The inception date shown reflects the VRS Defined Contribution Plans strategy inception date. Performance returns are linked to the previous investment manager. Returns prior to July 2012 represent performance by State Street Global Advisors.
- 13 The Inflation-Protected Bond Fund invests in units of BlackRock's U.S. Treasury-Inflation Protected Securities Fund M. The U.S. Treasury Inflation-Protected Securities Fund M invests in the master Fund F. The inception date shown reflects the inception date of the master Fund F. The inception date of BlackRock's U.S. Treasury Inflation-Protected Securities Fund M was July 20, 2012. Returns prior to Fund M's inception date are those of Fund F with deductions taken for Fund M's investment management fees.
- 14 The High-Yield Bond Fund invests in units of JPMorgan's Corporate High-Yield Fund-Investment Class. The inception date shown reflects the date the current investment team at JPMorgan commenced management responsibility of the Fund. Performance reflects the investment manager's returns for the aforementioned Fund with deductions taken for investment management fees negotiated by VRS and fund administrative expenses.
- 15 The Stock Fund invests in units of BlackRock's Equity Index Fund F. Performance represents BlackRock's returns for the master Fund F with deductions taken for management fees negotiated by VRS and fund administrative expenses. The inception date shown reflects the VRS Defined Contribution Plans investment strategy inception date. Performance returns are linked to the previous investment manager. Returns prior to July 2012 represent performance by State Street Global Advisors.
- 16 The Small/Mid-Cap Stock Fund invests in units of BlackRock's Russell 2500 Index Fund F. Performance represents BlackRock's returns for the master Fund F with deductions taken for investment management fees negotiated by VRS and fund administrative expenses. The inception date shown reflects the VRS Defined Contribution Plans strategy inception date. Performance returns are linked to the previous investment manager. Returns prior to July 2012 represent performance by State Street Global Advisors.
- 17 Effective July 2012, the performance benchmark is the Russell 2500 Index. Prior to July 2012, the performance benchmark was the Russell Small Cap Completeness Index. The benchmark returns are linked.
- 18 The International Stock Fund invests in units of BlackRock's MSCI ACWI ex-U.S. IMI Index Fund F. Performance represents BlackRock's returns for the master Fund F with deductions taken for investment management fees negotiated by VRS and fund administrative expenses. The inception date shown reflects the VRS Defined Contribution Plan's investment strategy inception date. Returns from July 2012 through July 2016 represent performance of another BlackRock Fund. Returns prior to July 2012 represent performance by the previous manager, State Street Global Advisors. All performance returns are linked.
- 19 Effective August 2016, the performance benchmark is the MSCI ACWI ex.-U.S. IMI Index. It was the MSCI World ex-U.S Index from July 2012 through July 2016 and prior to July 2012 it was the MSCI EAFE Index. The benchmark returns are linked.
- 20 The Global Real Estate Fund invests in units of BlackRock's Developed Real Estate Index Fund F. Performance represents BlackRock's returns for the master Fund F with deductions taken for investment management fees negotiated by VRS and fund administrative expenses. The inception date shown reflects the VRS Defined Contribution Plans investment strategy inception date. The Fund transitioned from a U.S. domestic REIT fund to a global real estate fund during July 2012. Performance returns are linked to the previous investment manager. Returns prior to July 2012 represent performance by State Street Global Advisors.
- 21 Effective July 2012, the performance benchmark is the FTSE EPRA/NAREIT Developed Index. Prior to July 2012, the performance benchmark was the Dow Jones U.S. Select REIT Index. The benchmark returns are linked.
- 22 The inception date shown reflects the date the VRS Investment Portfolio (VRSIP) was unitized.
- 23 The VRS Custom Benchmark is a blend of the asset class benchmarks at policy weights.
- 24 Includes Pending Account VRSIP amount of \$0.
- 25 Includes Preliminary Investment Portfolio Account - PIP amount of \$1,050,031.
- 26 Includes \$4,204,572 held in the administrative Special Accounts.
- 27 May not equal 100% due to rounding.
- 28 The data reflects the percentage of participants who selected a particular investment option as of June 30, 2021. There were 463,230 participant accounts as of June 30, 2021 across all unbundled DC plans.

All fund performance returns shown reflect all fund management fees and expenses, but do not reflect the Plan administrative fee charged by MissionSquare Retirement which would further reduce the returns shown.

All calculations assume reinvestment of dividends and capital gains. All returns are calculated in U.S. dollars. Performance returns are provided by BlackRock, Galliard Capital Management, JPMorgan, Bank of New York Mellon, and MissionSquare Retirement. Benchmark returns are provided by BlackRock, Russell/Mellon Analytical Services, Galliard, and MissionSquare Retirement. Although data is gathered from sources believed to be reliable, we cannot guarantee completeness or accuracy.

Plan Administrative Fee: An annual record keeping and communication services fee of \$30.50 is deducted from participant accounts on a monthly basis (approximately \$2.54 per month). Only one annual fee of \$30.50 is deducted from participant accounts for those participants participating in more than one Commonwealth of Virginia defined contribution plan.

TIAA ORPHE

Bundled ORP for Higher Education - TIAA RC Contract¹

Data for period ending June 30, 2021

Fund	Type	Fund Expense Ratio	Returns			3 Year Statistics				5 Year Statistics			
			1 Year	3 Years*	5 Years*	Standard Deviation (%)	Sharpe Ratio	Tracking Error	Information Ratio	Standard Deviation (%)	Sharpe Ratio	Tracking Error	Information Ratio
BlackRock Equity Index Fund J	Passive	0.01	%	%	%	%	%	%	%	%	%	%	%
S&P 500 Index			40.84	18.73	17.69	18.53	0.94	0.03	n/a	14.99	1.10	0.03	n/a
Excess Return			40.79	18.67	17.65	18.52	0.94			14.99	1.10		
<i>MSTAR Ave: Large Blend</i>			0.05	0.06	0.04								
BlackRock Russell 2500 Index Fund M	Passive	0.04											
Russell 2500 Index			57.79	15.24	16.39	24.51	0.57	0.08	n/a	19.79	0.77	0.07	n/a
Excess Return			57.79	15.24	16.35	24.50	0.57			19.78	0.77		
<i>MSTAR Ave: Mid-Cap Blend</i>			0.00	0.00	0.04								
BlackRock MSCI ACWI ex-U.S. IMI Index Fund M	Passive	0.11											
MSCI ACWI ex-U.S. IMI Index			37.31	9.64	11.43	17.97	0.46	0.95	n/a	14.86	0.69	0.93	n/a
Excess Return			37.18	9.42	11.20	18.00	0.45			14.87	0.68		
<i>MSTAR Ave: Foreign Large Blend</i>			0.13	0.22	0.23								
BlackRock MSCI ACWI IMI Index Non-Lendable Fund M	Passive	0.05											
MSCI ACWI IMI Index			41.17	14.57	14.93	18.43	0.72	0.45	n/a	14.85	0.93	0.44	n/a
Excess Return			40.94	14.24	14.55	18.47	0.70			14.88	0.90		
<i>MSTAR Ave: World Stock</i>			0.23	0.33	0.38								
TIAA Real Estate Account	Active	0.87											
Custom Composite Benchmark			6.72	4.30	4.37	2.59	1.14	2.02	-0.10	2.00	1.60	1.59	-0.28
Excess Return			8.65	4.49	4.82	3.13	1.01			2.46	1.57		
			-1.93	-0.19	-0.45								

*Annualized.

1 Refer to the unbundled DC plans for information regarding BlackRock's LifePath Index Funds O, Short-Term Investment Fund W, U.S. Debt Index Fund M and U.S. TIPs Fund M. Although the unbundled DC plans use white label fund names and TIAA does not these funds are the same exact funds.

Fund with TIAA plan services expense offset.

Underperformance.

Data provided by TIAA, BlackRock, MissionSquare, VRS and Zephyr StyleADVISOR.

Bundled ORP for Higher Education - TIAA RC Contract Fund Annual Operating Expenses^{1,2}
Information as of June 30, 2021

Investment Option	Investment Manager	Type	Investment Management Costs	Record-Keeping & Plan Administration Costs	[12(b)-1] Distribution Costs	Mortality & Expense Risk Costs	Other Costs	Total Annual Expense Ratio	Expense Ratio YOY Change
TIAA Traditional Annuity	TIAA	Fixed Annuity	n/a	0.150000%	n/a	n/a	0.300000%	0.45%	-0.04%
TIAA Real Estate Account	TIAA	Active	0.250000%	0.190000%	0.100000%	0.005000%	0.320000%	0.87%	0.09%
BlackRock Equity Index Fund J	BlackRock	Passive	0.010000%	n/a	n/a	n/a	0.001400%	0.01%	0.00%
BlackRock Russell 2500 Index Fund M	BlackRock	Passive	0.030000%	n/a	n/a	n/a	0.006000%	0.04%	0.00%
BlackRock MSCI ACWI ex-U.S. IMI Index Fund M	BlackRock	Passive	0.090000%	n/a	n/a	n/a	0.019300%	0.11%	0.00%
BlackRock MSCI ACWI IMI Index Non-Lendable Fund M	BlackRock	Passive	0.040000%	n/a	n/a	n/a	0.009700%	0.05%	0.00%

¹ There are no short-term trading redemption costs associated with any of the investment options.

² Refer to the unbundled DC plans for information regarding BlackRock's LifePath Index Funds O, Short-Term Investment Fund W, U.S. Debt Index Fund M and U.S. TIPs Fund M. The unbundled DC plans use white label fund names for the aforementioned funds. However, TIAA does not have the capability to use white label fund names.

Funds with plan services expense offsets within the TIAA RC contract.

Percentage of Embedded Record-Keeping and Plan Administration Costs

Investment Option	Type	Record-Keeping & Plan Administration Costs	Total Annual Expense Ratio	% of Record-Keeping & Plan Administration Costs
TIAA Traditional Annuity	Fixed Annuity	0.150000%	0.45%	33%
TIAA Real Estate Account	Active	0.190000%	0.87%	22%

Bundled ORP for Higher Education - TIAA RC Contract ¹
Annual Calendar Year End Return Data

Fund	2020	2019	2018	2017
	%	%	%	%
TIAA Traditional Annuity RC	4.00	4.01	4.12	4.06
TIAA Real Estate Account	-0.84	5.51	4.79	4.37
Custom Composite Index	-0.39	5.76	5.16	5.21
BlackRock Equity Index Fund J	18.47	n/a	n/a	n/a
S&P 500 Index	18.40	n/a	n/a	n/a
MSTAR Ave: Large Blend	15.83	n/a	n/a	n/a
BlackRock Russell 2500 Index Fund M	20.01	n/a	n/a	n/a
Russell 2500 Index	19.99	n/a	n/a	n/a
MSTAR Ave: Mid-Cap Blend	12.39	n/a	n/a	n/a
BlackRock MSCI ACWI ex-U.S. IMI Index Fund M	11.39	n/a	n/a	n/a
MSCI ACWI ex-U.S. IMI Index	11.12	n/a	n/a	n/a
MSTAR Ave: Foreign Large Blend	9.30	n/a	n/a	n/a
BlackRock MSCI ACWI IMI Index Non-Lendable Fund M	16.50	n/a	n/a	n/a
MSCI ACWI IMI Index	16.25	n/a	n/a	n/a
MSTAR Ave: World Stock	12.96	n/a	n/a	n/a

Data provided by TIAA

¹ Refer to the unbundled DC plans for information regarding BlackRock's LifePath Index Funds O, Short-Term Investment Fund W, U.S. Debt Index Fund M and U.S. TIPS Fund M. Although the unbundled DC plans use white label names and TIAA does not, these are the exact same funds

Defined Contribution Plans Advisory Committee Report

TIAA RC Contract Investment Performance

Below are the totals for the period ending June 30, 2021. Returns greater than one year are annualized.

Investment Options	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs / Since Inception ¹	Fund Expense Ratio ²	Inception Date	Market Value	% of Market Value ¹⁹	% of Participants Selecting an Option ²⁰
	%	%	%	%	%	%	%	%		\$	%	%
Target Date Portfolios^{3,4}												
BlackRock LifePath Index Retirement Fund O	0.98	4.16	4.53	15.80	9.42	7.82	6.32	0.08	8/1/05	29,637,469	8.9	9.8
Custom Benchmark	0.96	4.14	4.52	15.77	9.36	7.77	6.27					
BlackRock LifePath Index 2025 Fund O	1.02	4.73	6.00	20.20	10.32	9.46	7.52	0.08	7/5/06	21,322,361	6.4	7.0
Custom Benchmark	1.00	4.70	6.00	20.17	10.25	9.38	7.46					
BlackRock LifePath Index 2030 Fund O	1.07	5.39	7.69	25.05	11.42	10.68	8.25	0.08	8/1/05	29,973,623	9.0	8.8
Custom Benchmark	1.04	5.37	7.69	25.01	11.34	10.57	8.16					
BlackRock LifePath Index 2035 Fund O	1.12	6.02	9.34	29.86	12.49	11.85	8.94	0.08	7/5/06	23,049,346	6.9	9.0
Custom Benchmark	1.08	6.00	9.32	29.81	12.39	11.72	8.82					
BlackRock LifePath Index 2040 Fund O	1.16	6.58	10.83	34.35	13.42	12.88	9.52	0.08	8/1/05	25,505,620	7.7	9.6
Custom Benchmark	1.11	6.57	10.80	34.26	13.30	12.74	9.40					
BlackRock LifePath Index 2045 Fund O	1.19	7.05	12.05	37.97	14.18	13.63	9.98	0.08	7/5/06	22,185,118	6.7	10.2
Custom Benchmark	1.14	7.03	12.00	37.85	14.04	13.47	9.84					
BlackRock LifePath Index 2050 Fund O	1.21	7.30	12.71	39.86	14.59	13.97	10.23	0.08	9/30/07	12,538,705	3.8	7.8
Custom Benchmark	1.15	7.27	12.63	39.73	14.44	13.81	10.10					
BlackRock LifePath Index 2055 Fund O	1.21	7.34	12.82	40.14	14.67	14.01	10.40	0.08	5/19/10	5,386,192	1.6	5.2
Custom Benchmark	1.16	7.32	12.76	40.07	14.53	13.86	10.25					
BlackRock LifePath Index 2060 Fund O	1.21	7.34	12.80	40.11	14.66	14.00	10.61	0.08	11/17/14	1,107,630	0.3	2.1
Custom Benchmark	1.16	7.31	12.75	40.07	14.53	13.86	10.46					
BlackRock LifePath Index 2065 Fund O	1.21	7.34	12.77	40.02	n/a	n/a	21.01	0.08	9/23/19	853,885	0.3	0.6
Custom Benchmark	1.16	7.31	12.75	40.06	n/a	n/a	21.08					
Individual Options												
BlackRock Short-Term Investment Fund W ⁵	0.01	0.04	0.08	0.18	1.44	1.36	0.79	0.08	7/1/03	6,170,835	1.9	8.1
FTSE 3 Month Treasury Bill Index	0.00	0.01	0.03	0.08	1.31	1.14	0.60					
Yield as of 06/30/21: 0.15% ⁶												
BlackRock U.S. Debt Index Fund M ⁷	0.71	1.84	-1.62	-0.30	5.39	3.07	3.46	0.03	6/6/96	9,118,919	2.7	19.4
Bloomberg Barclays U.S. Aggregate Bond Index	0.70	1.83	-1.60	-0.33	5.34	3.03	3.39					
BlackRock U.S. TIPS Fund M ⁸	0.60	3.26	1.75	6.61	6.63	4.31	3.50	0.03	7/30/02	5,079,960	1.5	13.1
Bloomberg Barclays U.S. TIPS Index	0.61	3.25	1.73	6.51	6.53	4.17	3.40					
BlackRock Equity Index Fund J ⁹	2.33	8.56	15.27	40.84	18.73	17.69	14.88	0.01	3/5/97	34,982,684	10.5	25.4
S&P 500 Index	2.33	8.55	15.25	40.79	18.67	17.65	14.84					
BlackRock Russell 2500 Index Fund M ¹⁰	1.17	5.42	16.95	57.79	15.24	16.39	12.96	0.04	9/30/08	9,345,673	2.8	4.3
Russell 2500 Index	1.18	5.44	16.97	57.79	15.24	16.35	12.86					
BlackRock MSCI ACWI ex-U.S. IMI Index Fund M ¹¹	-0.50	5.67	9.66	37.31	9.64	11.43	5.85	0.11	2/28/11	18,070,956	5.4	19.4
MSCI ACWI ex-U.S. IMI Index	-0.64	5.60	9.58	37.18	9.42	11.20	5.65					
BlackRock MSCI ACWI IMI Index Non-Lendable Fund M ¹²	1.19	7.13	12.75	41.17	14.57	14.93	11.17	0.05	4/12/13	44,537,786	13.4	34.3
MSCI ACWI IMI Index	1.21	7.18	12.68	40.94	14.24	14.55	10.79					
TIAA Real Estate Account ¹³	1.69	3.84	6.16	6.72	4.30	4.37	6.99	0.87	10/2/95	8,724,387	2.6	27.8
Custom Composite Benchmark ¹⁴	1.08	3.74	6.14	8.65	4.49	4.82	7.09					
TIAA Traditional Annuity RC ^{15,16,17,18}	0.28	0.86	1.79	3.81	3.97	4.04	4.21	0.45	8/1/05	20,940,382	6.3	29.4
Self-Directed Brokerage Account												
TIAA - Self-Directed Account	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4,840,831	1.5	0.7
Total										\$333,372,362		

Footnotes >

- 1 If the fund was not in existence for 10 years, fund and corresponding benchmark returns shown represent performance from the since inception date.
- 2 Fund investment advisers may voluntarily agree to waive expenses. Expense waivers may be terminated at any time.
- 3 The BlackRock LifePath Index Funds O invest in the master LifePath Index Funds F. The inception dates shown reflect the inception date of the master LifePath Funds F. The inception dates for most LifePath Funds O were 12/9/11. The 2055 Fund's O inception date was 12/12/11, the 2060 Fund's O inception date was 1/2/15 and the 2065 Fund's O inception date was 9/23/19. Returns prior to Funds' O inception dates are those of Funds F with deductions taken for Funds O investment management fees.
- 4 Benchmarks are calculated using blended returns of third-party indices that proportionately reflect the respective weightings of the Funds' asset classes. Weightings are adjusted quarterly to reflect the Funds' asset allocation shifts over time. Indices currently used to calculate the custom benchmarks are: Russell 1000 Index, Russell 2000 Index, MSCI ACWI Ex-U.S. IMI Index, Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. TIPS Index, FTSE EPRA/NAREIT Developed Index and the Bloomberg Commodity Index Total Return.
- 5 An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the Fund seeks to preserve the value of your investment it is possible to lose money by investing in the Fund.
- 6 The current yield more closely reflects the earnings of the Fund than the total net return information.
- 7 The BlackRock U.S. Debt Fund M invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund M was 7/20/12. Returns prior to Fund M's inception date are those of Fund F with deductions taken for Fund M's investment management fees.
- 8 The BlackRock U.S. Treasury Inflation-Protected Securities Fund M invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund M was 7/20/12. Returns prior to Fund M's inception date are those of Fund F with deductions taken for Fund M' investment management fees.
- 9 The BlackRock Equity Index Fund J invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund J was 3/20/17. Returns prior to Fund J's inception date are those of Fund F with deductions taken for Fund J's investment management fees.
- 10 The BlackRock Russell 2500 Fund M invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund M was 1/30/13. Returns prior to Fund M's inception date are those of Fund F with deductions taken for Fund M's investment management fees.
- 11 The BlackRock MSCI ACWI ex-U.S. IMI Index Fund M invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund M was 12/31/12. Returns prior to Fund M's inception date are those of Fund F with deductions taken for Fund M's investment management fees.
- 12 The BlackRock MSCI ACWI IMI Index Fund M invests in the master Fund F. Inception dates for the master Fund F and Fund M are both 4/12/13.
- 13 Transfers out of the TIAA Real Estate Account (REA) are limited to one per quarter. Currently, these transfers do not require a minimum transaction amount; however, in the future TIAA reserves the right, in its sole discretion, to impose minimum transaction levels, which levels will generally be at least \$1,000 (except for systematic transfers, which must be at least \$100) or your entire accumulation, if less. Participants may not make a lump-sum transfer into the REA if their aggregated balances across all contracts is greater than \$150,000. Systematic transfers and recurring contributions are not subject to this limitation.
- 14 Effective January 2014, the Custom Composite Index is 70% NCREIF Open End Diversified Core Equity (ODCE) Net Index, 20% Bloomberg Barclays 3-Month Treasury Bill Index, and 10% Dow Jones U.S. Select REIT Index. Prior periods include other representative indices. TIAA's investment management team does not manage its real estate portfolio to a specific published index benchmark. The Custom Composite Index represents a reasonable proxy of how TIAA allocates assets among real property, short-term investments, and REITs over time. The Virginia Retirement System anticipates that Fund returns may vary greatly from those of the Custom Composite Index. Benchmark returns are not available for months that do not end on a calendar quarter due to the fact that NCREIF ODCE Index returns are only published each calendar quarter.
- 15 Upon separation from service or retirement participants can convert their TIAA Traditional accumulation dollars amount to a lifetime income option or withdraw funds through a fixed period annuity ranging from five to 30 years or a Transfer Payout Annuity, which enables participants to move funds out of the TIAA Traditional Annuity in 7 annual installments for the Retirement Choice (RC) contract. Each installment includes a portion of principal and interest, based on the rate in effect when transfer or withdrawal funds are made. However, there are two exceptions to the payout installment. First, if the TIAA Traditional account balance is less than \$5,000, participants can transfer the total amount at any time following termination of employment, but only once during the life of the contract. Second, TIAA Traditional can be withdrawn or transferred to another company up to the full balance within 120 days following termination of employment, subject to 2.5% surrender charge. After the 120-day period, participants can withdraw funds only through a fixed period annuity ranging from five to 30 years or the Transfer Payout Annuity.
- 16 The TIAA Traditional Annuity RC contract has minimum guaranteed rate during the accumulation phase of 1% to 3% . The current minimum rate for the RC contract is 1%. Further, the TIAA Traditional Annuity RC contract applies to premiums deposited during the applicable calendar year and is guaranteed for 10 years, at which point the minimum rate for these premiums will be reset.
- 17 TIAA's annual credited rate on new money for the RC contract for the month of June was 3.00%.
- 18 The TIAA Traditional Annuity is not an investment for purposes of federal securities laws; it is a guaranteed insurance contract. Therefore, unlike a variable annuity or mutual fund, the TIAA Traditional Annuity does not include an identifiable expense ratio. The 45 basis points (0.45%) approximates the expense provision in the formula for determining TIAA Traditional Annuity returns inclusive of administrative and investment expenses. This expense provision is not guaranteed, it is subject to change.
- 19 May not equal 100% due to rounding
- 20 The data reflects the percentage of participants who selected a particular investment option as of June 30, 2021. There were 5,125 (RC contract) participants as of June 30, 2021.

Performance returns shown reflect all fund management fees and other investment related expenses, but do not reflect the TIAA annual administrative fee of \$66 (deducted at \$16.50 per quarter) which would further reduce the returns shown. Performance returns do not reflect redemption fees and/or surrender charges, if applicable.

All calculations assume reinvestment of dividends and capital gains. All returns are calculated in U.S dollars. Fund and benchmark returns are provided by TIAA and BlackRock. Although data is gathered from sources to be reliable, the Virginia Retirement System cannot guarantee completeness or accuracy.

Unbundled DC Plan Structure Investment Policy Statement

VRS Investment Policy Statement For An Unbundled Defined Contribution Plan Structure

Approved by the Board of Trustees: Effective January 2, 2020*

The Virginia Retirement System (VRS) sponsors several primary and supplemental defined contribution (DC) plans. Most plans operate fully under an unbundled (open architecture) approach whereby the investment function is contracted separately from the recordkeeping, enrollment and marketing functions. The purposes of the plans are set forth in the Plan Documents and Master Trusts, which are accessible on the VRS website at www.varetire.org.

This Investment Policy Statement has been adopted by the VRS Board of Trustees (Board) to provide guidelines for the investment offerings under an unbundled plan construct. Plans using an unbundled structure approach include the Deferred Compensation Plan of the Commonwealth of Virginia, the Virginia Cash Match Plan, the Optional Retirement Plan of the Commonwealth of Virginia for Political Appointees, the Optional Retirement Plan of the Commonwealth of Virginia for Public School Superintendents, the Virginia Supplemental Retirement Plan, the defined contribution component of the Hybrid Retirement Plan and the Optional Retirement Plan of the Commonwealth of Virginia for Employees of Institutions of Higher Education.

1. Investment Objectives

In a defined contribution investment program, each participant has his or her own risk tolerance, time horizon and investment objectives. Participants are responsible for their own investment decisions. To help meet these varying needs, the VRS unbundled DC plans seek to provide participants with an array of investment choices across a range of asset classes, risk levels, and investment strategies so they can construct and/or invest in portfolios that address their individual needs, and do so using investment vehicles and structures that provide competitive risk-adjusted returns at a reasonable cost.

The Board recognizes that DC plan participants have varying levels of investment knowledge and/or interest in actively managing their investments. The following organizational framework has been designed to categorize the types of investment options available to VRS unbundled DC plan participants:

- **Do-It-For-Me Investors:** These investors may have limited investment knowledge, confidence, or interest in managing their investments. For whatever reason, they prefer a pre-packaged, diversified investment option that has been designed to reasonably fit most people of their ages and retirement planning horizons. To meet this need, a series of Target Date Portfolios is made available whose investment policy, glide paths, and investment strategies are expected to

* Originally adopted February 16, 2012. Amended November 14, 2013, February 9, 2017 and January 2, 2020.

meet the general needs of the average DC plan participant, based on a periodic analysis of the demographic characteristics of participants and the long-term investment opportunity set.

- Help-Me-Do-It Investors: These investors have some knowledge of investments and want to be more involved in structuring their portfolios, but they would like the ability to pick from a menu of fund options that have been screened by VRS and for which investment fees and expenses have been negotiated to institutional price levels through VRS bargaining power. To meet this need, a menu of Core Investment Options is made available, each targeted to a different asset class or strategy. The core fund lineup will generally consist of funds representing the constituent asset classes included in the target date portfolios, but there may be funds included in the core lineup that are not included in the target date portfolios, and vice versa.
- Do-It-Myself Investors: Some investors are very knowledgeable and/or desire to take a very active approach to their investments, and therefore may desire investment alternatives in addition to those offered as part of the Target Date Portfolios or Core Investment Options. To meet this need, a self-directed brokerage account (SDBA) is made available to self-designated knowledgeable investors who are willing to accept all risks, costs, and operational rules and procedures related to participating in a SDBA.

2. Decision Making

The Board is responsible for the following:

- Selection of the default investment option. (Appendix 1)
- Within Target Date Portfolios, ensuring a robust process is used to establish the glide path's asset allocation and to determine which asset classes and strategies to include. (Appendix 1)
- Within the Core Investment Options, included asset classes. (Appendix 2)
- Whether to offer a Self-Directed Brokerage Account (SDBA). (Appendix 3)
- Whether individual investment advice will be provided and the terms on which it will be available to participants.

Beyond these guidelines, the Board delegates to the Chief Investment Officer (CIO) all other decisions related to VRS unbundled defined contribution investments. Changes that are contemplated are expected to be done with due consideration of administrative needs as to the operations, outreach, and communications, etc. The CIO or a designee will report regularly to the Defined Contribution Plans Advisory Committee (DCPAC) and Board on the status and investment results of the DC investment program. Included in such reporting will be performance benchmarks selected by the CIO to appropriately measure or compare the risk and investment objectives of the various investment options.

In carrying out its fiduciary duty to oversee DC investments, the Board will consider advice and recommendations provided by the DCPAC. The specific duties and responsibilities of the DCPAC are described in the DCPAC Charter.

Additionally, the Board developed a set of twelve Defined Contribution Plans Investment Belief Statements intended to help guide the strategic management of the VRS DC investment program.

3. Plan Level Policies

The CIO has full authority to hire and terminate investment managers and negotiate or renegotiate fees. The CIO shall develop policies and procedures for hiring, monitoring, and terminating investment managers and other investment related service providers. The CIO shall also develop procedures for appropriate mapping of plan assets and/or funds as situations arise. Mapping means the transfer of assets from a discontinued investment option or terminated investment manager to another investment option or investment manager under the DC plans. The CIO works with the Director to coordinate implementation relating to changes to the unbundled DC plans investment program and may consult with the DCPAC as needed.

The CIO is responsible for ensuring that adequate due diligence is being performed in the evaluation of potential and existing investments, and that all investment activity will be in compliance with applicable regulatory requirements.

4. Trading Restrictions and Redemption Fees

The Board and the investment managers may impose restrictions and/or fees that discourage investment trading that could have an adverse impact on the management of a fund, other plan participants, or clients of the fund's management.

5. Best Execution

Generally, all investment transactions executed on behalf of the plans should be made on the basis of best execution. VRS defines best execution as the process and price that results in the best overall performance impact, as judged by the portfolio manager, taking into account current market conditions. VRS will generally discourage the use of soft dollar arrangements, and where such arrangements are utilized, staff will review this usage for reasonableness.

6. Use of Consultants / Service Providers

The CIO has the authority to hire consultants, research providers, and other service providers providing that such expenditures are in alignment with the Board approved operating budget.

7. Code of Ethics

The investment staff will conduct its affairs in a manner that reflects the highest standards of ethical conduct. The staff is expected to comply with the CFA Institute of Code of Ethics and Standards of Professional Conduct, a copy of which is attached. Updated versions of the attached CFA document are accessible on the CFA Institute website at www.cfainstitute.org.

Target Date Portfolios
Effective November 14, 2013
Appendix 1

A series of target date portfolios with investment policy glide paths and investment strategies that are expected to meet the general needs of the average DC plan participant in different age cohorts is offered through the plans. A glide path represents the changes made to the asset allocation mix over time as the target date approaches. There is a higher equity allocation in the longer dated portfolios because of the long-term investment time horizon. Over time, the equity allocation decreases as the investment time horizon decreases.

The Board expects target date portfolios to be broadly diversified. These portfolios may include exposure to various sub-segments of the broad asset classes as well as to alternative asset classes as determined by the target date provider using reasonable optimization techniques to measure the risk/reward trade off. Asset classes used within target date portfolios may include: large cap domestic equity, small/mid cap domestic equity, international equity, emerging market equity and debt, domestic core fixed income, high-yield bonds, inflation-protected securities, international / global fixed income, commodities, real estate and cash. A target date portfolio is not required to include each of these asset classes and may include other asset classes.

The target date portfolios' glide paths shall be based on sound investment theory and investment methodology as well as reasonable capital market assumptions. Plan demographics shall be taken into consideration when developing a custom glide path or selecting an off the shelf provider. Based on work done by a consultant together with VRS staff, advice from the DCPAC, and general investment philosophy of VRS, the Board expects to employ a glide path that is more on the conservative side of the target date portfolios available at the time of the study. The percentage allocation to equities in a more conservative glide path is comparatively lower than that of an aggressive glide path at retirement.

The target date portfolios serve as the unbundled DC plans default investment option.

Asset Classes: Core Funds
Effective November 14, 2013
Appendix 2

Core investment options shall represent the broad asset classes available in the capital markets to the extent they are practical and, when prudent, certain sub-asset classes. The core fund lineup will generally consist of funds representing the constituent asset classes included in the target date portfolios, but there may be funds included in the core lineup that are not included in the target date portfolios, and vice versa. From time to time additional asset classes may be added or existing asset classes may be deleted in order to maintain an array of investment options that address participants' changing needs or changes in the investment industry.

The Board delegates to the CIO decisions as to 1) whether a fund investment option shall utilize a passive or active investment strategy or a combination of both; 2) whether a fund should exhibit a large, mid, or small capitalization structure or a combination thereof; 3) whether a fund should exhibit a growth, value, blended style, or targeted volatility orientation; 4) whether a fund should have a single investment manager or use multiple investment managers or firms; and 5) whether a fund invests in a single asset class or more than one asset class.

The following asset class categories are considered for possible inclusion in the plans:

Capital Preservation

- Money Market
- Stable Value

Fixed Income

- Investment grade (short-term, intermediate, long-term)
- Inflation-Protected
- High-Yield
- International / Global

Global Public Equity

- U.S. Equity
- Non-U.S. Developed Equity
- Emerging Equity

Real Estate (public & private)

Asset Allocation

- VRS unitized investment portfolio (VRSIP) – includes all asset classes utilized in the VRS investment portfolio.

Self-Directed Brokerage Account
Effective November 14, 2013
Appendix 3

A Self-Directed Brokerage Account (SDBA) is available for self-designated knowledgeable investors who acknowledge and understand the SDBA's operational rules and procedures as well as the risks and costs associated with the investments allowed in the SDBA. Subject to limitations imposed by the SDBA provider, allowable SDBA investments include mutual funds, exchange traded funds (ETFs) and individual securities. Participants must complete the SDBA enrollment materials prior to investing in the SDBA.

The SDBA is made available through the plans' third party administrator and is not contracted for separately. The third party administrator may change the SDBA provider from time to time.

CODE OF ETHICS AND STANDARDS OF PROFESSIONAL CONDUCT

PREAMBLE

The CFA Institute Code of Ethics and Standards of Professional Conduct are fundamental to the values of CFA Institute and essential to achieving its mission to lead the investment profession globally by promoting the highest standards of ethics, education, and professional excellence for the ultimate benefit of society. High ethical standards are critical to maintaining the public's trust in financial markets and in the investment profession. Since their creation in the 1960s, the Code and Standards have promoted the integrity of CFA Institute members and served as a model for measuring the ethics of investment professionals globally, regardless of job function, cultural differences, or local laws and regulations. All CFA Institute members (including holders of the Chartered Financial Analyst® [CFA®] designation) and CFA candidates must abide by the Code and Standards and are encouraged to notify their employer of this responsibility. Violations may result in disciplinary sanctions by CFA Institute. Sanctions can include revocation of membership, revocation of candidacy in the CFA Program, and revocation of the right to use the CFA designation.

THE CODE OF ETHICS

Members of CFA Institute (including CFA charterholders) and candidates for the CFA designation ("Members and Candidates") must:

- Act with integrity, competence, diligence, respect and in an ethical manner with the public, clients, prospective clients, employers, employees, colleagues in the investment profession, and other participants in the global capital markets.
- Place the integrity of the investment profession and the interests of clients above their own personal interests.
- Use reasonable care and exercise independent professional judgment when conducting investment analysis, making investment recommendations, taking investment actions, and engaging in other professional activities.
- Practice and encourage others to practice in a professional and ethical manner that will reflect credit on themselves and the profession.
- Promote the integrity and viability of the global capital markets for the ultimate benefit of society.
- Maintain and improve their professional competence and strive to maintain and improve the competence of other investment professionals.

STANDARDS OF PROFESSIONAL CONDUCT

I. PROFESSIONALISM

- A. Knowledge of the Law.** Members and Candidates must understand and comply with all applicable laws, rules, and regulations (including the CFA Institute Code of Ethics and Standards of Professional Conduct) of any government, regulatory organization, licensing agency, or professional association governing their professional activities. In the event of conflict, Members and Candidates must comply with the more strict law, rule, or regulation. Members and Candidates must not knowingly participate or assist in and must dissociate from any violation of such laws, rules, or regulations.
- B. Independence and Objectivity.** Members and Candidates must use reasonable care and judgment to achieve and maintain independence and objectivity in their professional activities. Members and Candidates must not offer, solicit, or accept any gift, benefit, compensation, or consideration that reasonably could be expected to compromise their own or another's independence and objectivity.

- C. Misrepresentation.** Members and Candidates must not knowingly make any misrepresentations relating to investment analysis, recommendations, actions, or other professional activities.
- D. Misconduct.** Members and Candidates must not engage in any professional conduct involving dishonesty, fraud, or deceit or commit any act that reflects adversely on their professional reputation, integrity, or competence.

II. INTEGRITY OF CAPITAL MARKETS

- A. Material Nonpublic Information.** Members and Candidates who possess material nonpublic information that could affect the value of an investment must not act or cause others to act on the information.
- B. Market Manipulation.** Members and Candidates must not engage in practices that distort prices or artificially inflate trading volume with the intent to mislead market participants.

III. DUTIES TO CLIENTS

- A. Loyalty, Prudence, and Care.** Members and Candidates have a duty of loyalty to their clients and must act with reasonable care and exercise prudent judgment. Members and Candidates must act for the benefit of their clients and place their clients' interests before their employer's or their own interests.
- B. Fair Dealing.** Members and Candidates must deal fairly and objectively with all clients when providing investment analysis, making investment recommendations, taking investment action, or engaging in other professional activities.
- C. Suitability.**
1. When Members and Candidates are in an advisory relationship with a client, they must:
 - a. Make a reasonable inquiry into a client's or prospective client's investment experience, risk and return objectives, and financial constraints prior to making any investment recommendation or taking investment action and must reassess and update this information regularly.
 - b. Determine that an investment is suitable to the client's financial situation and consistent with the client's written objectives, mandates, and constraints before making an investment recommendation or taking investment action.
 - c. Judge the suitability of investments in the context of the client's total portfolio.
 2. When Members and Candidates are responsible for managing a portfolio to a specific mandate, strategy, or style, they must make only investment recommendations or take only investment actions that are consistent with the stated objectives and constraints of the portfolio.
- D. Performance Presentation.** When communicating investment performance information, Members and Candidates must make reasonable efforts to ensure that it is fair, accurate, and complete.
- E. Preservation of Confidentiality.** Members and Candidates must keep information about current, former, and prospective clients confidential unless:
1. The information concerns illegal activities on the part of the client or prospective client,
 2. Disclosure is required by law, or
 3. The client or prospective client permits disclosure of the information.

IV. DUTIES TO EMPLOYERS

- A. Loyalty.** In matters related to their employment, Members and Candidates must act for the benefit of their employer and not deprive their employer of the advantage of their skills and abilities, divulge confidential information, or otherwise cause harm to their employer.
- B. Additional Compensation Arrangements.** Members and Candidates must not accept gifts, benefits, compensation, or consideration that competes with or might reasonably be expected to create a conflict of interest with their employer's interest unless they obtain written consent from all parties involved.
- C. Responsibilities of Supervisors.** Members and Candidates must make reasonable efforts to ensure that anyone subject to their supervision or authority complies with applicable laws, rules, regulations, and the Code and Standards.

V. INVESTMENT ANALYSIS, RECOMMENDATIONS, AND ACTIONS

- A. Diligence and Reasonable Basis.** Members and Candidates must:
1. Exercise diligence, independence, and thoroughness in analyzing investments, making investment recommendations, and taking investment actions.
 2. Have a reasonable and adequate basis, supported by appropriate research and investigation, for any investment analysis, recommendation, or action.
- B. Communication with Clients and Prospective Clients.** Members and Candidates must:
1. Disclose to clients and prospective clients the basic format and general principles of the investment processes they use to analyze investments, select securities, and construct portfolios and must promptly disclose any changes that might materially affect those processes.
 2. Disclose to clients and prospective clients significant limitations and risks associated with the investment process.
 3. Use reasonable judgment in identifying which factors are important to their investment analyses, recommendations, or actions and include those factors in communications with clients and prospective clients.
 4. Distinguish between fact and opinion in the presentation of investment analysis and recommendations.
- C. Record Retention.** Members and Candidates must develop and maintain appropriate records to support their investment analyses, recommendations, actions, and other investment-related communications with clients and prospective clients.

VI. CONFLICTS OF INTEREST

- A. Disclosure of Conflicts.** Members and Candidates must make full and fair disclosure of all matters that could reasonably be expected to impair their independence and objectivity or interfere with respective duties to their clients, prospective clients, and employer. Members and Candidates must ensure that such disclosures are prominent, are delivered in plain language, and communicate the relevant information effectively.
- B. Priority of Transactions.** Investment transactions for clients and employers must have priority over investment transactions in which a Member or Candidate is the beneficial owner.
- C. Referral Fees.** Members and Candidates must disclose to their employer, clients, and prospective clients, as appropriate, any compensation, consideration, or benefit received from or paid to others for the recommendation of products or services.

VII. RESPONSIBILITIES AS A CFA INSTITUTE MEMBER OR CFA CANDIDATE

- A. Conduct as Participants in CFA Institute Programs.** Members and Candidates must not engage in any conduct that compromises the reputation or integrity of CFA Institute or the CFA designation or the integrity, validity, or security of the CFA Institute programs.
- B. Reference to CFA Institute, the CFA Designation, and the CFA Program.** When referring to CFA Institute, CFA Institute membership, the CFA designation, or candidacy in the CFA Program, Members and Candidates must not misrepresent or exaggerate the meaning or implications of membership in CFA Institute, holding the CFA designation, or candidacy in the CFA program.

Bundled DC Plan Structure Investment Policy Statement

VRS Investment Policy Statement For A Bundled Defined Contribution Plan Structure

Approved by the Board of Trustees: Effective January 2, 2020*

This Investment Policy Statement has been adopted by the VRS Board of Trustees (Board) to provide guidelines for the investment offerings provided to participants of the Optional Retirement Plan of the Commonwealth of Virginia for Employees of Institutions of Higher Education (ORPHE) when a bundled plan construct is utilized. The purpose of the plan is set forth in the Plan Document and Master Trust, which are accessible on the VRS website at www.varetire.org. Bundled plans use the same company for investments, recordkeeping, enrollment and marketing services. A bundled plan provider's investment platform may include the provider's proprietary investment options as well as non-proprietary options.

1. Investment Objectives

In a defined contribution (DC) investment program, each participant has his or her own risk tolerance, time horizon and investment objectives. Participants are responsible for their own investment decisions. To help meet these varying needs, the VRS ORPHE seeks to provide participants with an array of investment choices across a range of asset classes, risk levels, and investment strategies so they can construct and/or invest in portfolios that address their individual needs, and do so using investment vehicles and structures that provide competitive risk-adjusted returns at a reasonable cost within a bundled plan construct.

The Board recognizes that DC plan participants have varying levels of investment knowledge and/or interest in actively managing their investments, and therefore may desire investment alternatives in addition to those offered as part of a core investment lineup. To meet this need, a self-directed brokerage account (SDBA) is made available to self-designated knowledgeable investors who are willing to accept all risks, costs, and operational rules and procedures related to participating in a SDBA.

2. Decision Making

The Board is responsible for the following:

- Selection of the plan default investment option. (Appendix 1)
- Within the fund lineup, included asset classes. (Appendix 2)
- Whether to offer a Self-Directed Brokerage Account (SDBA). (Appendix 3)

*Originally adopted February 16, 2012. Amended November 14, 2013, February 9, 2017 and January 2, 2020.

- Whether individual investment advice will be provided and the terms on which it will be available to participants.

Beyond these guidelines, the Board delegates to the Chief Investment Officer (CIO) all other investment decisions related to the ORPHE as it relates to the bundled plan structure. The CIO or a designee will report regularly to the Defined Contribution Plans Advisory Committee (DCPAC) and Board on the status and investment results of the investment program. Included in such reporting will be performance benchmarks selected by the CIO to appropriately measure or compare the risk and investment objectives of the various investment options.

In carrying out its fiduciary duty to oversee DC investments, the Board will consider advice and recommendations provided by the DCPAC. The specific duties and responsibilities of the DCPAC are described in the DCPAC Charter.

Additionally, the Board developed a set of twelve Defined Contribution Plans Investment Belief Statements intended to help guide the strategic management of the VRS DC investment program.

3. Plan Level Policies

The CIO shall work with the VRS Director and the DCPAC relative to hiring and terminating a bundled plan provider. The CIO has full authority to select or eliminate fund options within a bundled plan provider's investment program using reasonable processes and to negotiate or renegotiate investment fees. The CIO shall also develop procedures for appropriate mapping of bundled plan assets and/or funds as situations arise. Mapping means the transfer of assets from a discontinued investment option or terminated provider to another investment option or provider under the ORPHE. The CIO works with the Director to coordinate implementation relating to changes to the bundled plan investment program and may consult with the DCPAC as needed.

The CIO is responsible for ensuring that adequate due diligence is being performed in the evaluation of potential and existing investments, and that all investment activity will be in compliance with applicable regulatory requirements.

4. Trading Restrictions and Redemption Fees

The Board and the bundled plan provider(s) may impose restrictions and/or fees that discourage investment trading that could have an adverse impact on the management of a fund, other participants, or clients of the provider companies.

5. Best Execution

Taking into consideration the nature of a bundled DC plan structure, generally all investment transactions executed on behalf of the plan should be made on the basis of best execution. VRS defines best execution as the process and price that results in the best overall performance impact, as judged by the portfolio manager, taking into account current market conditions. VRS will generally discourage the use of soft dollar arrangements, and where such arrangements are utilized, staff will review this usage for reasonableness.

6. Use of Consultants / Service Providers

The CIO has the authority to hire consultants, research providers, and other service providers providing that such expenditures are in alignment with the Board approved operating budget.

7. Code of Ethics

The investment staff will conduct its affairs in a manner that reflects the highest standards of ethical conduct. The staff is expected to comply with the CFA Institute of Code of Ethics and Standards of Professional Conduct, a copy of which is attached. Updated versions of the attached CFA document are accessible on the CFA Institute website at www.cfainstitute.org.

**Default Investment Option
Effective January 2, 2020
Appendix 1**

TIAA-CREF Program: BlackRock LifePath Index Funds

Asset Classes: Investment Options
Effective November 14, 2013
Appendix 2

Investment options shall represent the broad asset classes available in the capital markets to the extent they are practical and, when prudent, certain sub-asset classes. From time to time additional asset classes may be added, or existing asset classes may be deleted in order to maintain an array of investment options that address participants' changing needs or changes in the investment industry.

The Board notes that due to the nature of the bundled plan structure investment decisions are limited to investment options that are, or can be made, available on a provider's investment platform. It is possible that bundled plan constraints may limit the scope of investment options available to participants, limit access to more attractive options within the asset classes and limit the extent to which negotiations can be made relative to investment management and investment related fees.

The Board delegates to the CIO decisions as to 1) whether a fund investment option shall utilize a passive or active investment strategy or a combination of both; 2) whether a fund should exhibit a large, mid, or small capitalization structure or a combination thereof; 3) whether a fund should exhibit a growth, value, blended style, or targeted volatility orientation; 4) whether a fund should have a single investment manager or use multiple investment managers or firms and; 5) whether a fund invests in a single asset class or more than one asset class.

The following asset class categories are considered for possible inclusion in the plan:

Capital Preservation

- Money Market
- Stable Value
- Fixed Annuity

Fixed Income

- Investment grade (short-term, intermediate, long-term)
- Inflation-Protected
- High-Yield
- International / Global

Global Public Equity

- U.S. Equity
- Non-U.S. Developed Equity
- Emerging Equity

Real Estate (public & private)

Asset Allocation

- Target Date
- Risk Based

The Board expects asset allocation funds to be diversified portfolios. These portfolios may include exposure to various sub-segments of the broad asset classes as well as to alternative asset classes as determined by the provider company using reasonable optimization techniques to measure the risk/reward trade off. Asset classes used within asset allocation funds may include: large cap domestic equity, small/mid cap domestic equity, international equity, emerging market equity and debt, domestic core fixed income, high-yield bonds, inflation-protected securities, international / global fixed income, commodities, real estate and cash. An asset allocation fund is not required to include each of these asset classes and may include other asset classes. Glide paths for target date portfolios shall be based on sound investment theory and investment methodology as well as reasonable capital market assumptions. A glide path represents the changes made to the asset allocation mix over time as the target date approaches. There is a higher equity allocation in the longer dated portfolios because of the long-term investment time horizon. Over time, the equity allocation decreases as the investment time horizon decreases.

Self-Directed Brokerage Account
Effective February 9, 2017
Appendix 3

A Self-Directed Brokerage Account (SDBA) is made available through the plan's bundled provider(s) and is not contracted for separately. A bundled plan provider may change its SDBA provider from time to time.

The SDBA is available for self-designated knowledgeable investors who acknowledge and understand the SDBA's operational rules and procedures as well as the risks and costs associated with the investments allowed in the SDBA. Subject to limitations imposed by the SDBA provider, allowable investments include mutual funds, exchange traded funds (ETFs) and individual securities. Participants must complete the SDBA enrollment materials prior to investing the SDBA.

CODE OF ETHICS AND STANDARDS OF PROFESSIONAL CONDUCT

PREAMBLE

The CFA Institute Code of Ethics and Standards of Professional Conduct are fundamental to the values of CFA Institute and essential to achieving its mission to lead the investment profession globally by promoting the highest standards of ethics, education, and professional excellence for the ultimate benefit of society. High ethical standards are critical to maintaining the public's trust in financial markets and in the investment profession. Since their creation in the 1960s, the Code and Standards have promoted the integrity of CFA Institute members and served as a model for measuring the ethics of investment professionals globally, regardless of job function, cultural differences, or local laws and regulations. All CFA Institute members (including holders of the Chartered Financial Analyst® [CFA®] designation) and CFA candidates must abide by the Code and Standards and are encouraged to notify their employer of this responsibility. Violations may result in disciplinary sanctions by CFA Institute. Sanctions can include revocation of membership, revocation of candidacy in the CFA Program, and revocation of the right to use the CFA designation.

THE CODE OF ETHICS

Members of CFA Institute (including CFA charterholders) and candidates for the CFA designation ("Members and Candidates") must:

- Act with integrity, competence, diligence, respect and in an ethical manner with the public, clients, prospective clients, employers, employees, colleagues in the investment profession, and other participants in the global capital markets.
- Place the integrity of the investment profession and the interests of clients above their own personal interests.
- Use reasonable care and exercise independent professional judgment when conducting investment analysis, making investment recommendations, taking investment actions, and engaging in other professional activities.
- Practice and encourage others to practice in a professional and ethical manner that will reflect credit on themselves and the profession.
- Promote the integrity and viability of the global capital markets for the ultimate benefit of society.
- Maintain and improve their professional competence and strive to maintain and improve the competence of other investment professionals.

STANDARDS OF PROFESSIONAL CONDUCT

I. PROFESSIONALISM

- A. Knowledge of the Law.** Members and Candidates must understand and comply with all applicable laws, rules, and regulations (including the CFA Institute Code of Ethics and Standards of Professional Conduct) of any government, regulatory organization, licensing agency, or professional association governing their professional activities. In the event of conflict, Members and Candidates must comply with the more strict law, rule, or regulation. Members and Candidates must not knowingly participate or assist in and must dissociate from any violation of such laws, rules, or regulations.
- B. Independence and Objectivity.** Members and Candidates must use reasonable care and judgment to achieve and maintain independence and objectivity in their professional activities. Members and Candidates must not offer, solicit, or accept any gift, benefit, compensation, or consideration that reasonably could be expected to compromise their own or another's independence and objectivity.

- C. Misrepresentation.** Members and Candidates must not knowingly make any misrepresentations relating to investment analysis, recommendations, actions, or other professional activities.
- D. Misconduct.** Members and Candidates must not engage in any professional conduct involving dishonesty, fraud, or deceit or commit any act that reflects adversely on their professional reputation, integrity, or competence.

II. INTEGRITY OF CAPITAL MARKETS

- A. Material Nonpublic Information.** Members and Candidates who possess material nonpublic information that could affect the value of an investment must not act or cause others to act on the information.
- B. Market Manipulation.** Members and Candidates must not engage in practices that distort prices or artificially inflate trading volume with the intent to mislead market participants.

III. DUTIES TO CLIENTS

- A. Loyalty, Prudence, and Care.** Members and Candidates have a duty of loyalty to their clients and must act with reasonable care and exercise prudent judgment. Members and Candidates must act for the benefit of their clients and place their clients' interests before their employer's or their own interests.
- B. Fair Dealing.** Members and Candidates must deal fairly and objectively with all clients when providing investment analysis, making investment recommendations, taking investment action, or engaging in other professional activities.
- C. Suitability.**
1. When Members and Candidates are in an advisory relationship with a client, they must:
 - a. Make a reasonable inquiry into a client's or prospective client's investment experience, risk and return objectives, and financial constraints prior to making any investment recommendation or taking investment action and must reassess and update this information regularly.
 - b. Determine that an investment is suitable to the client's financial situation and consistent with the client's written objectives, mandates, and constraints before making an investment recommendation or taking investment action.
 - c. Judge the suitability of investments in the context of the client's total portfolio.
 2. When Members and Candidates are responsible for managing a portfolio to a specific mandate, strategy, or style, they must make only investment recommendations or take only investment actions that are consistent with the stated objectives and constraints of the portfolio.
- D. Performance Presentation.** When communicating investment performance information, Members and Candidates must make reasonable efforts to ensure that it is fair, accurate, and complete.
- E. Preservation of Confidentiality.** Members and Candidates must keep information about current, former, and prospective clients confidential unless:
1. The information concerns illegal activities on the part of the client or prospective client,
 2. Disclosure is required by law, or
 3. The client or prospective client permits disclosure of the information.

IV. DUTIES TO EMPLOYERS

- A. Loyalty.** In matters related to their employment, Members and Candidates must act for the benefit of their employer and not deprive their employer of the advantage of their skills and abilities, divulge confidential information, or otherwise cause harm to their employer.
- B. Additional Compensation Arrangements.** Members and Candidates must not accept gifts, benefits, compensation, or consideration that competes with or might reasonably be expected to create a conflict of interest with their employer's interest unless they obtain written consent from all parties involved.
- C. Responsibilities of Supervisors.** Members and Candidates must make reasonable efforts to ensure that anyone subject to their supervision or authority complies with applicable laws, rules, regulations, and the Code and Standards.

V. INVESTMENT ANALYSIS, RECOMMENDATIONS, AND ACTIONS

- A. Diligence and Reasonable Basis.** Members and Candidates must:
1. Exercise diligence, independence, and thoroughness in analyzing investments, making investment recommendations, and taking investment actions.
 2. Have a reasonable and adequate basis, supported by appropriate research and investigation, for any investment analysis, recommendation, or action.
- B. Communication with Clients and Prospective Clients.** Members and Candidates must:
1. Disclose to clients and prospective clients the basic format and general principles of the investment processes they use to analyze investments, select securities, and construct portfolios and must promptly disclose any changes that might materially affect those processes.
 2. Disclose to clients and prospective clients significant limitations and risks associated with the investment process.
 3. Use reasonable judgment in identifying which factors are important to their investment analyses, recommendations, or actions and include those factors in communications with clients and prospective clients.
 4. Distinguish between fact and opinion in the presentation of investment analysis and recommendations.
- C. Record Retention.** Members and Candidates must develop and maintain appropriate records to support their investment analyses, recommendations, actions, and other investment-related communications with clients and prospective clients.

VI. CONFLICTS OF INTEREST

- A. Disclosure of Conflicts.** Members and Candidates must make full and fair disclosure of all matters that could reasonably be expected to impair their independence and objectivity or interfere with respective duties to their clients, prospective clients, and employer. Members and Candidates must ensure that such disclosures are prominent, are delivered in plain language, and communicate the relevant information effectively.
- B. Priority of Transactions.** Investment transactions for clients and employers must have priority over investment transactions in which a Member or Candidate is the beneficial owner.
- C. Referral Fees.** Members and Candidates must disclose to their employer, clients, and prospective clients, as appropriate, any compensation, consideration, or benefit received from or paid to others for the recommendation of products or services.

VII. RESPONSIBILITIES AS A CFA INSTITUTE MEMBER OR CFA CANDIDATE

- A. Conduct as Participants in CFA Institute Programs.** Members and Candidates must not engage in any conduct that compromises the reputation or integrity of CFA Institute or the CFA designation or the integrity, validity, or security of the CFA Institute programs.
- B. Reference to CFA Institute, the CFA Designation, and the CFA Program.** When referring to CFA Institute, CFA Institute membership, the CFA designation, or candidacy in the CFA Program, Members and Candidates must not misrepresent or exaggerate the meaning or implications of membership in CFA Institute, holding the CFA designation, or candidacy in the CFA program.

VRS Defined Contribution Plans

2nd Quarter 2021
(April - June)

Administrative Summary

Appendix Supplement

September 2, 2021



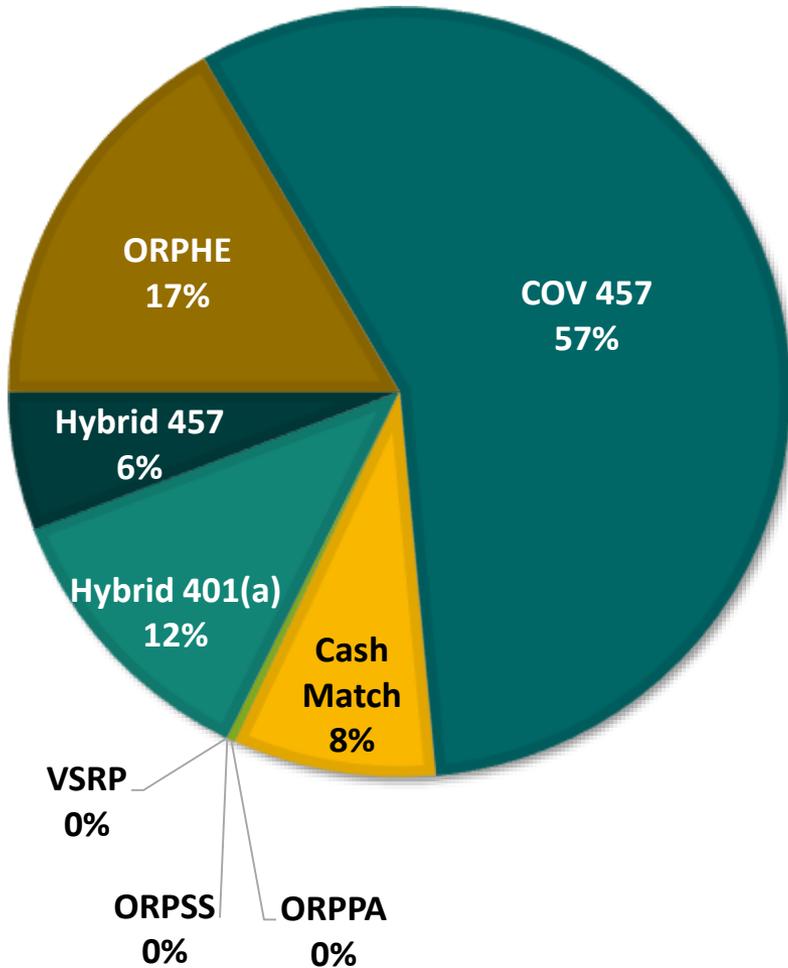
Agenda

Topic	Slide Number(s)
Unbundled Plans Overview	3-5
COV 457 & Cash Match Plans	6-7
Hybrid Retirement Plan	8-10

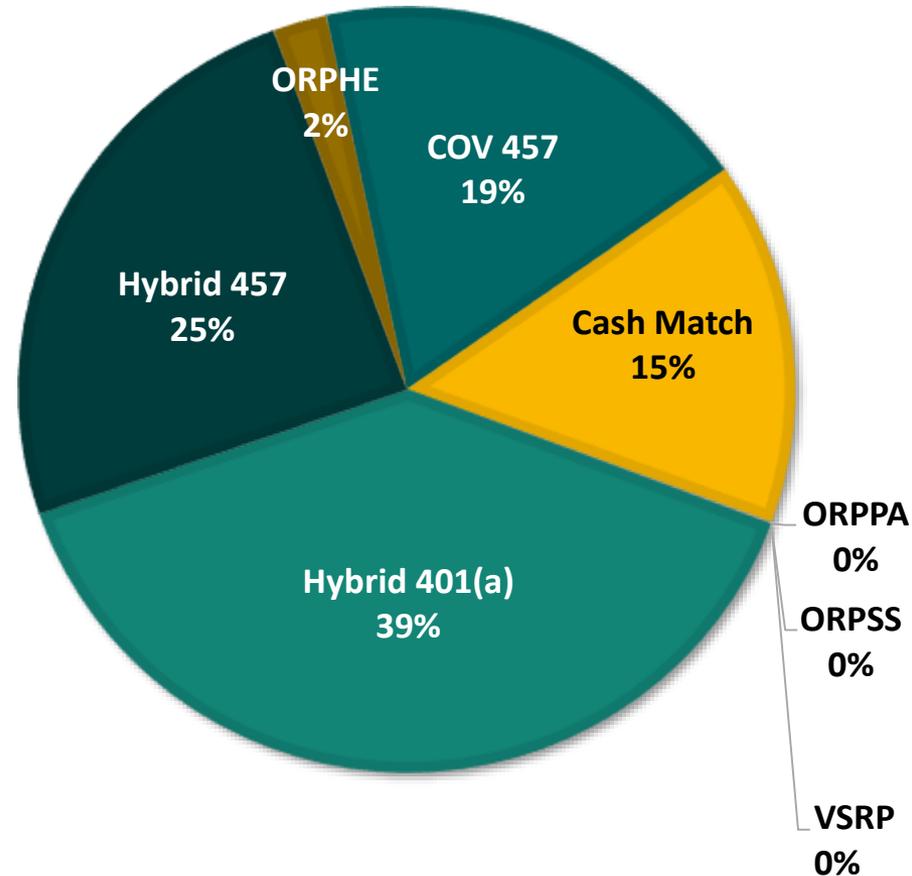
Total Assets and Accounts Under Management by Plan as of 6/30/2021



Assets Under Management



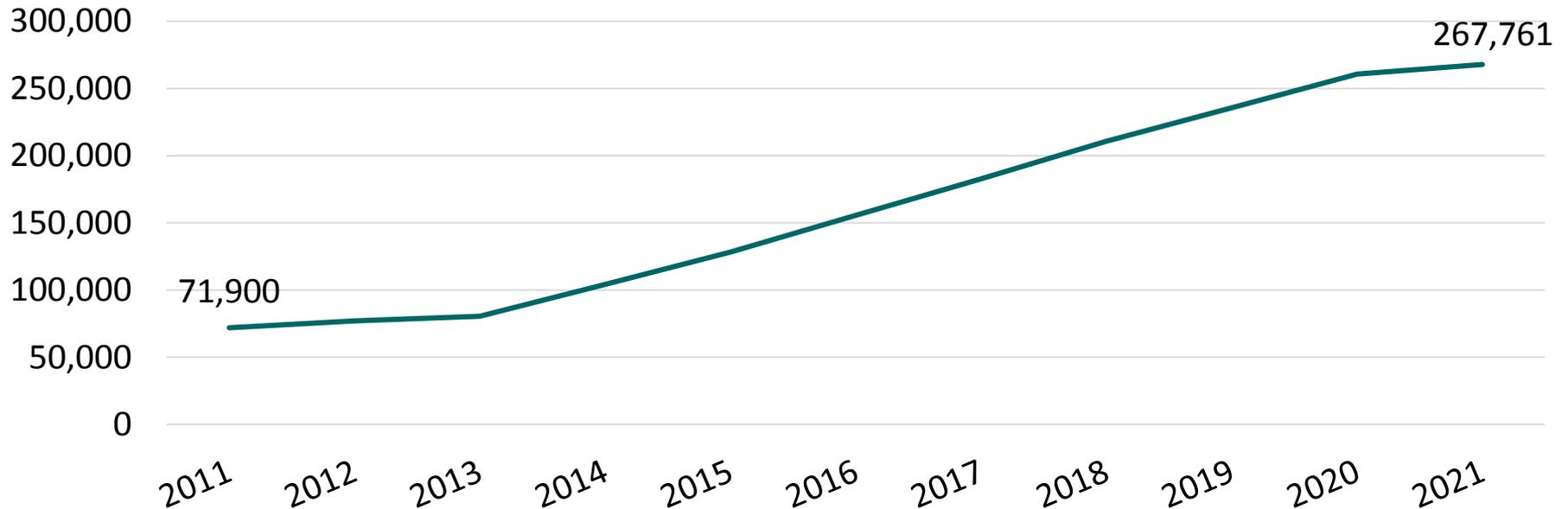
Accounts* Under Management



*Does not indicate unique participants.

Unbundled Plans - Unique Participants as of 6/30/2021

Significant growth continues in the unbundled plans, primarily due to new hires into the Hybrid Retirement Plan.



Plans Included:

- COV 457 Plan
- VA Cash Match Plan
- Hybrid 401(a) Cash Match Plan
- Hybrid 457 Deferred Compensation Plan
- ORP for Political Appointees
- ORP for School Superintendents
- VA Supplemental Retirement Plan
- ORP for Higher Education (DCP option ONLY)



Note: Data reflects totals as of calendar year end and includes Mission Square participant & beneficiary accounts. 2021 data is through June 30, 2021.

Unbundled Plans – Plan Adoptions

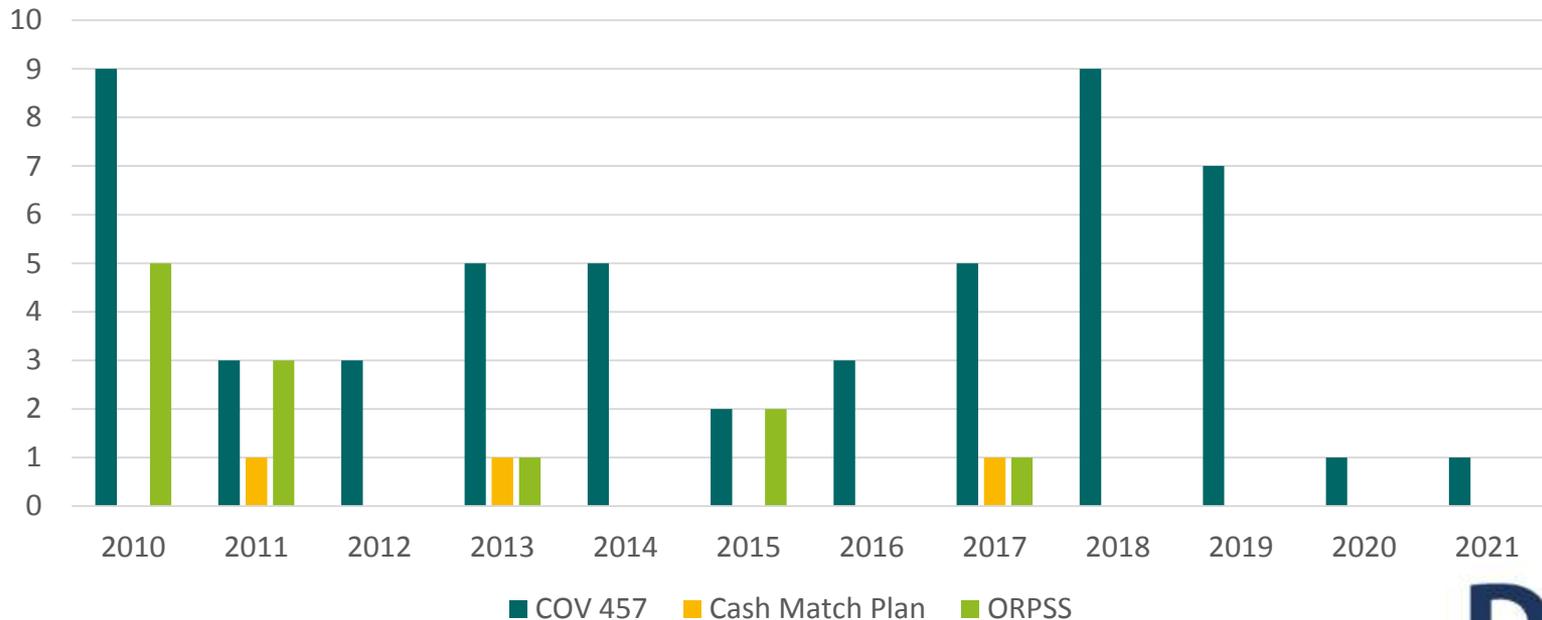
Adoption Agreements

- New River Valley Regional Commission (COV 457) - 07/01/2021

New VRS Employers

- Secretary of Labor – 07/01/2021
- Town of Farmville – 07/01/2021
- Virginia Passenger Rail Authority (Retroactive 07/01/2020)

Adoption Totals Over Time



COV 457/Cash Match Plan Cash Flow

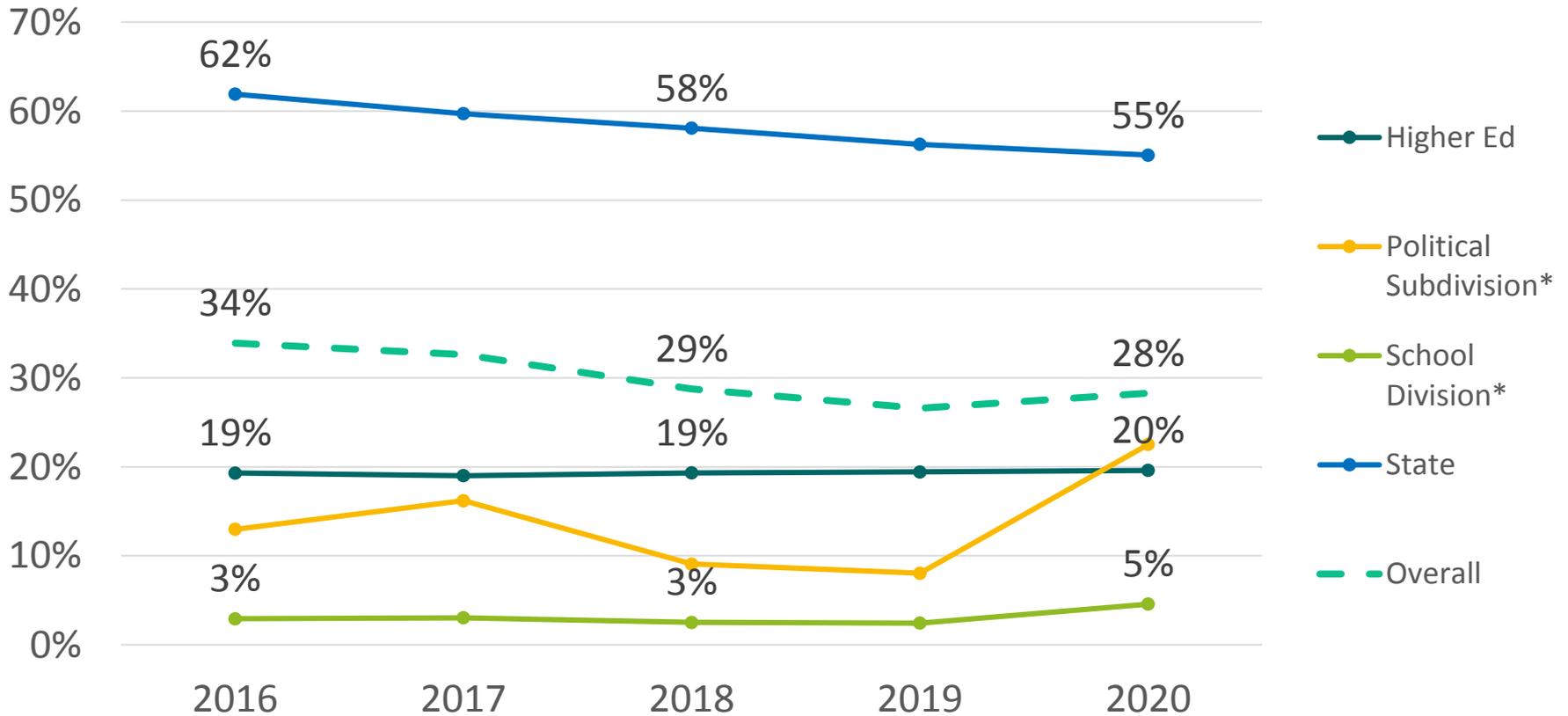


DCP

Virginia Retirement System

Note: Data reflects totals as of calendar year-end and includes MissionSquare participant & beneficiary accounts. 2021 data is through June 30, 2021.
 Master Page # 106 of 318 - Defined Contribution Plans Advisory Committee (DCPAC) Meeting 9/2/2021

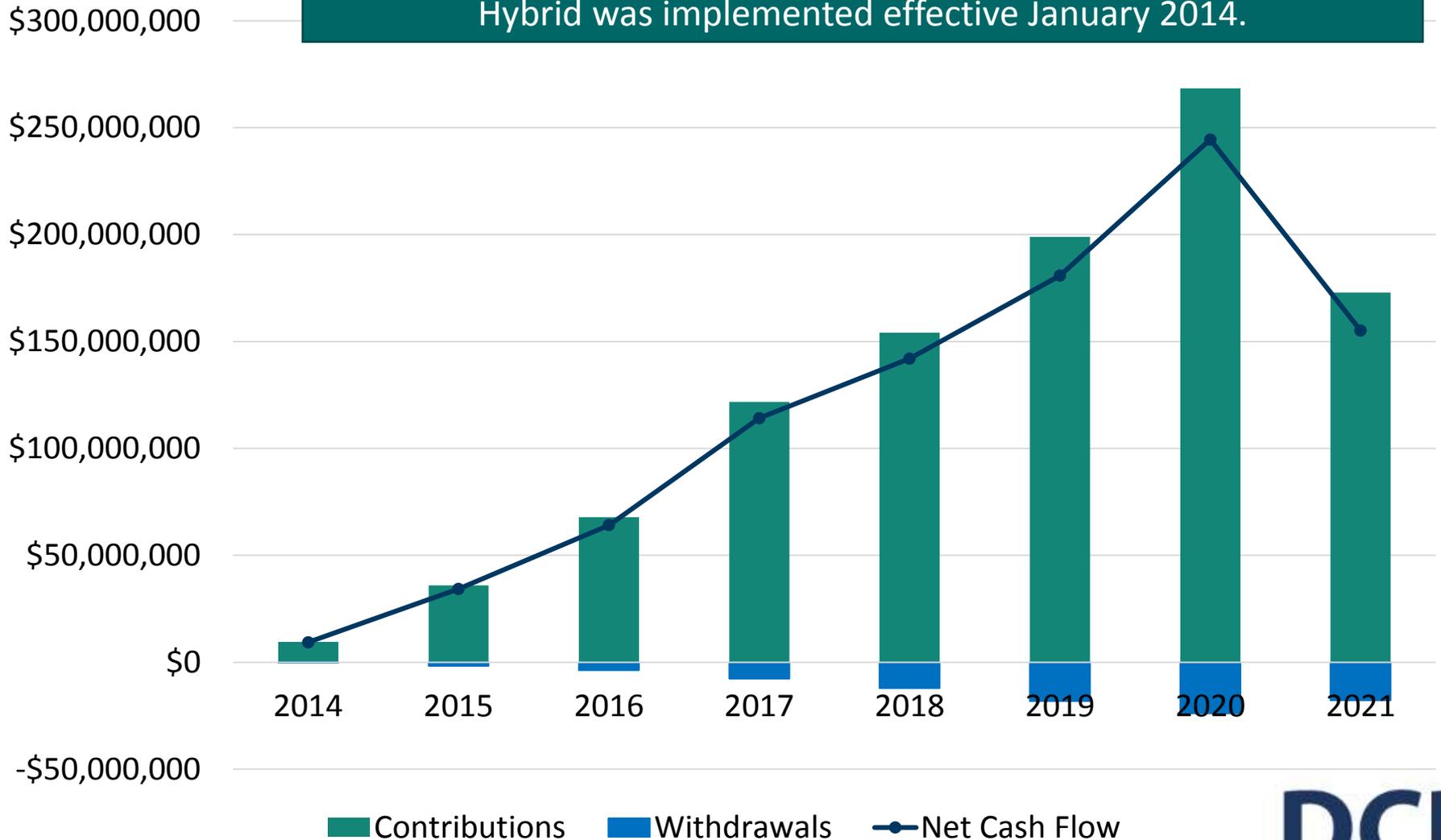
COV 457 Participation Rate Over Time



*The City of Virginia Beach and Virginia Beach City Schools adopted the plan in June 2018 and transitioned assets from their legacy plan in January 2020, increasing both the political subdivision and school division participation rates.

Hybrid Retirement Plan Cash Flow (DC only)

Hybrid was implemented effective January 2014.

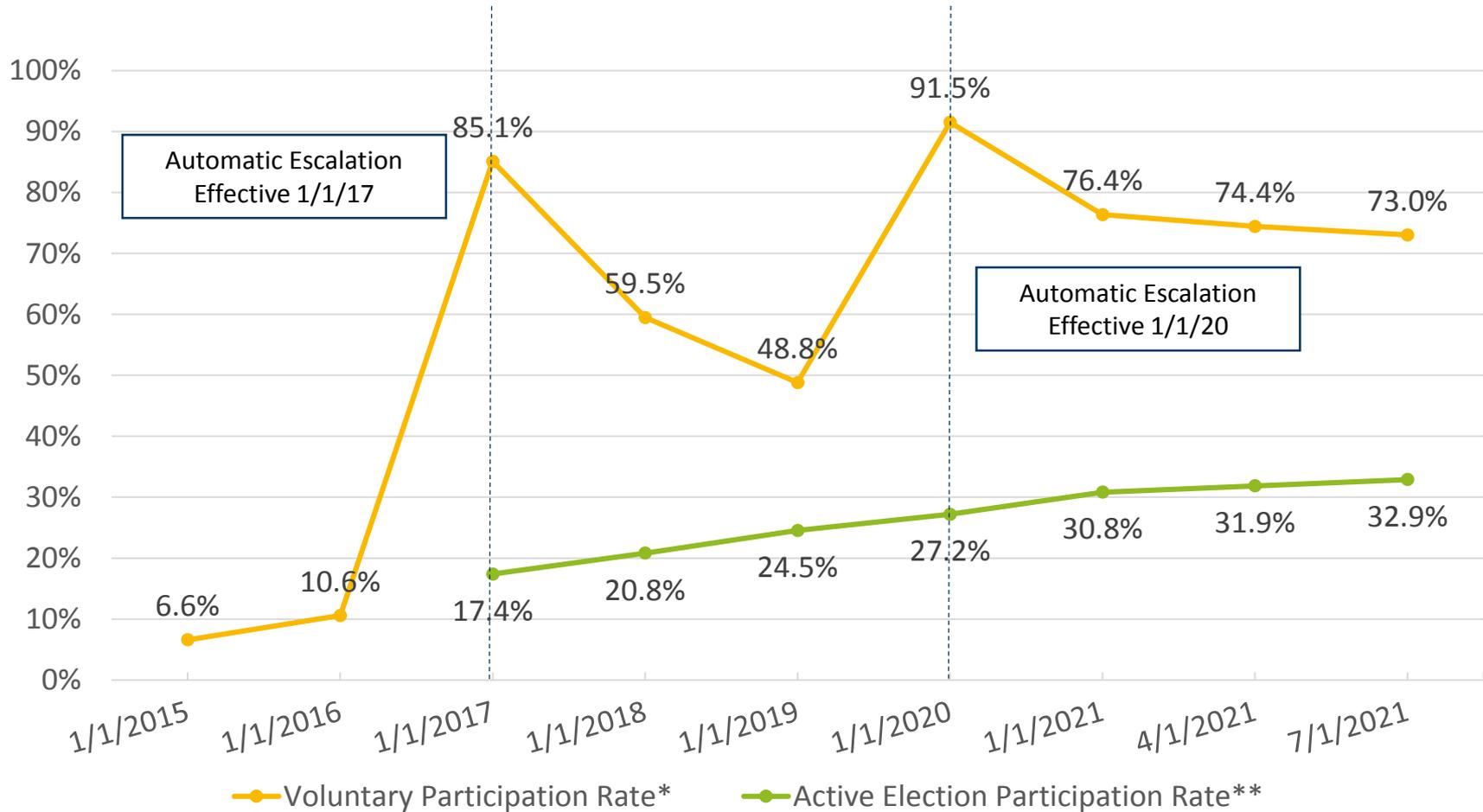


Note: Data reflects totals as of calendar year end and includes Mission Square participant & beneficiary accounts. 2021 data is through June 30, 2021.
 Master Page # 108 of 318 - Defined Contribution Plans Advisory Committee (DCPAC) Meeting 9/2/2021

Hybrid 457 Plan – Voluntary Participation Rate*



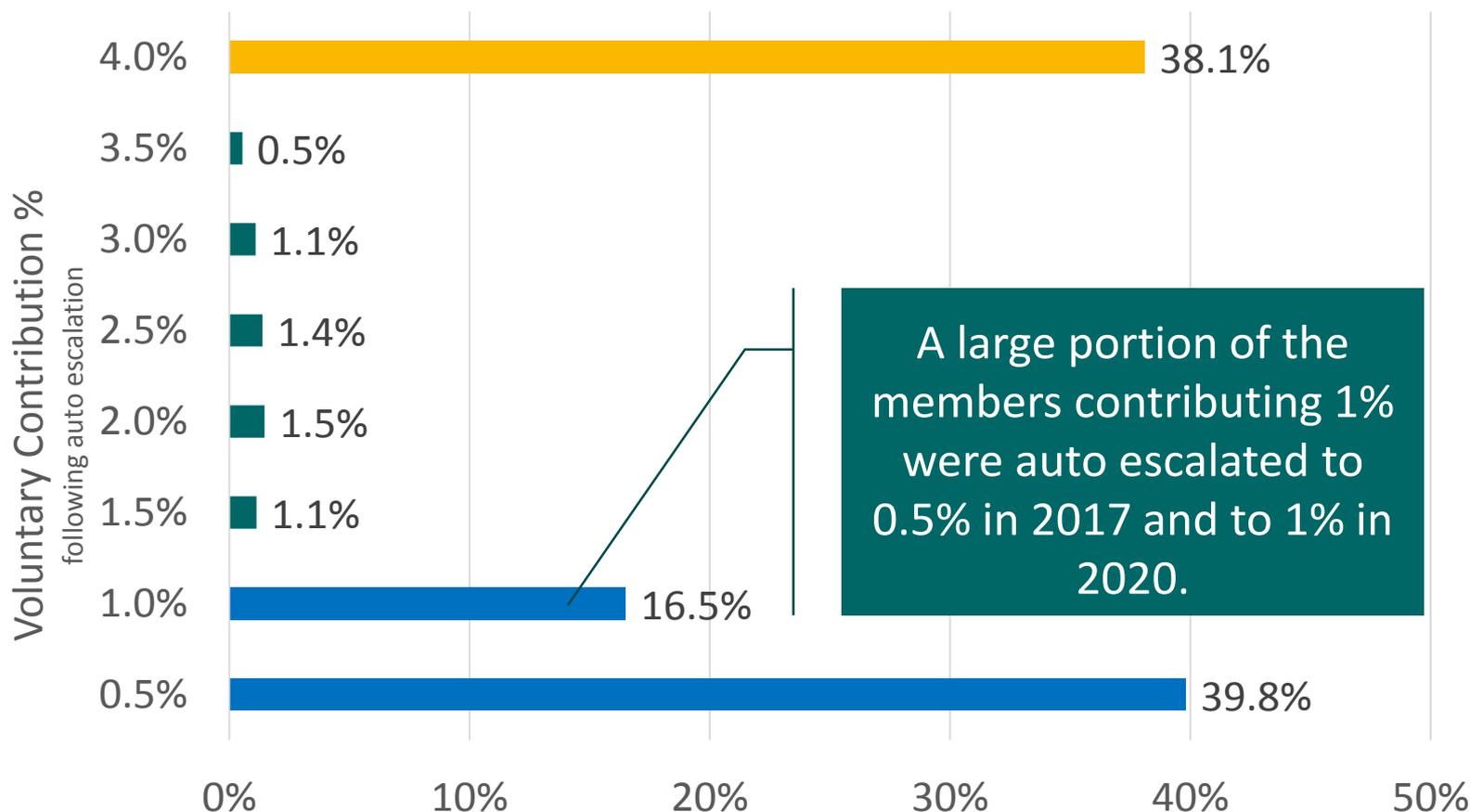
As of 7/1/2021, 73% of hybrid plan members (92,299 out of 126,386) have a voluntary contribution percentage with MissionSquare. 33% made an Active Election**.



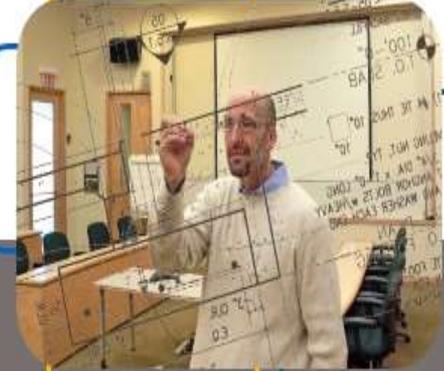
*Except the current quarter, all data is as of 1/1 and represents elections made during Q4 of the prior year. Elections effective 7/1/21 were made during Q2 2021.
 **Includes members who had a self-selected voluntary election on file prior to the automatic escalation that occurred on 12/16/2019.

Hybrid 457 Plan - Voluntary Contribution Elections

Active members with a voluntary contribution election on file as of June 15, 2021.



Thank You!



VRS Defined Contribution Plans Quarterly Review



As of 2nd Quarter 2021



DC Plan Assets and Accounts

Note: All data is as of 06/30/2020 unless otherwise stated.

Assets and Participants – Eight VRS Unbundled Defined Contribution Plans

Note: Includes Beneficiary Plans and Forfeiture Accounts

	June 30, 2019		June 30, 2020		2019 to 2020		June 30, 2021		2020 to 2021	
	Assets	Accounts	Assets	Accounts	(%) Change in Assets	(%) Change in Accounts	Assets	Accounts	(%) Change in Assets	(%) Change in Accounts
457 Deferred Compensation ¹	\$2,875,695,924	80,189	\$3,271,494,038	87,033	13.76%	8.53%	\$4,171,301,564	87,570	27.50%	0.62%
401(a) Cash Match	\$479,319,288	71,089	\$493,196,551	72,351	2.90%	1.78%	\$615,244,384	72,512	24.75%	0.22%
ORP Political Appointees	\$17,100,768	372	\$18,822,448	383	10.07%	2.96%	\$25,749,268	381	36.80%	-0.52%
ORP School Superintendents	\$224,100	2	\$226,194	2	0.93%	0.00%	\$273,857	2	21.07%	0.00%
Supplemental Retirement	\$143,039	2	\$144,130	2	0.76%	0.00%	\$197,336	2	36.92%	0.00%
ORP Higher Education ²	\$2,002,070	152	\$114,903,874	2,272	5639.25%	1394.74%	\$153,349,015	2,356	33.46%	3.70%
Hybrid 401 ³	\$362,907,040	139,878	\$514,439,428	164,834	41.76%	17.84%	\$873,848,447	184,071	69.86%	11.67%
Hybrid 457	\$157,611,982	60,592	\$239,688,933	116,758	52.08%	92.70%	\$426,805,685	116,336	78.07%	-0.36%
Total	\$3,895,004,212	352,276	4,652,915,597	443,635	19.46%	25.93%	\$6,266,769,557	463,230	34.68%	4.42%

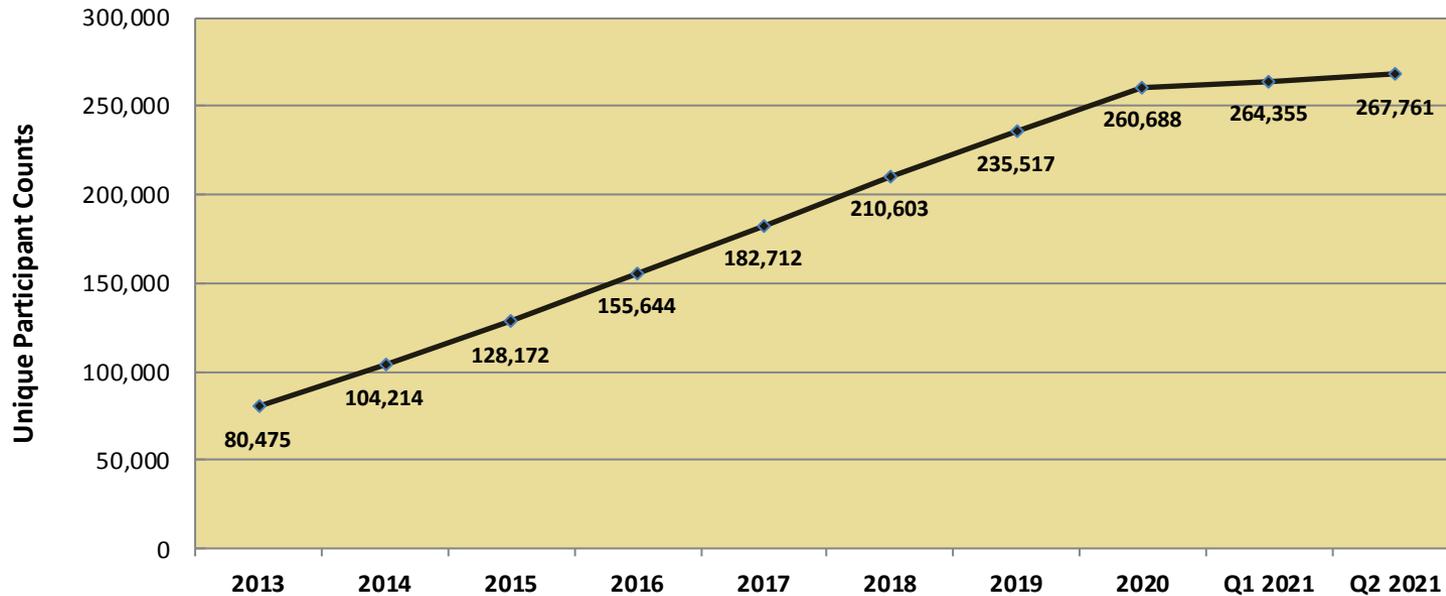
¹ Includes reserve account

² Includes Welcome Account from Plan Transition = \$65.58

³ Includes 792 forfeiture accounts with balances = \$3,857,771.60

Unique Participant Count – All Plans

Note: Forfeiture Accounts Excluded

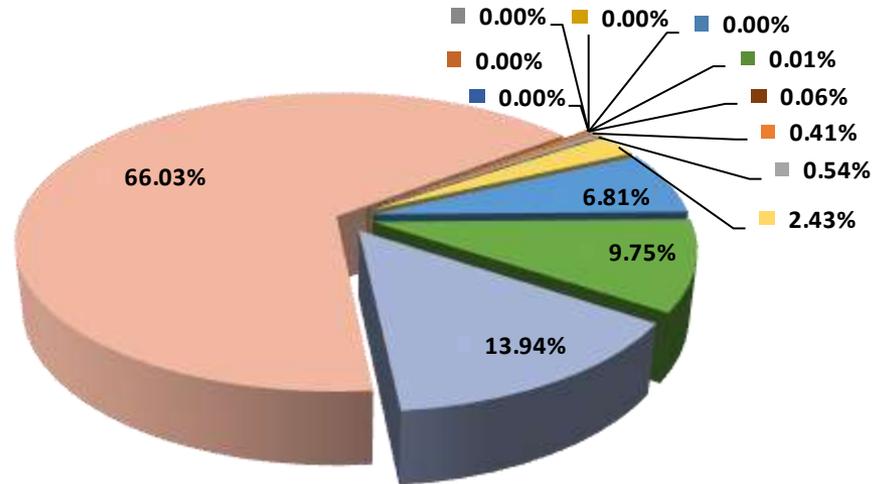


Period	Unique Participant Counts
2013	80,475
2014	104,214
2015	128,172
2016	155,644
2017	182,712
2018	210,603
2019	235,517
2020	260,688
Q1 2021	264,355
Q2 2021	267,761

Assets and Accounts – All Plans

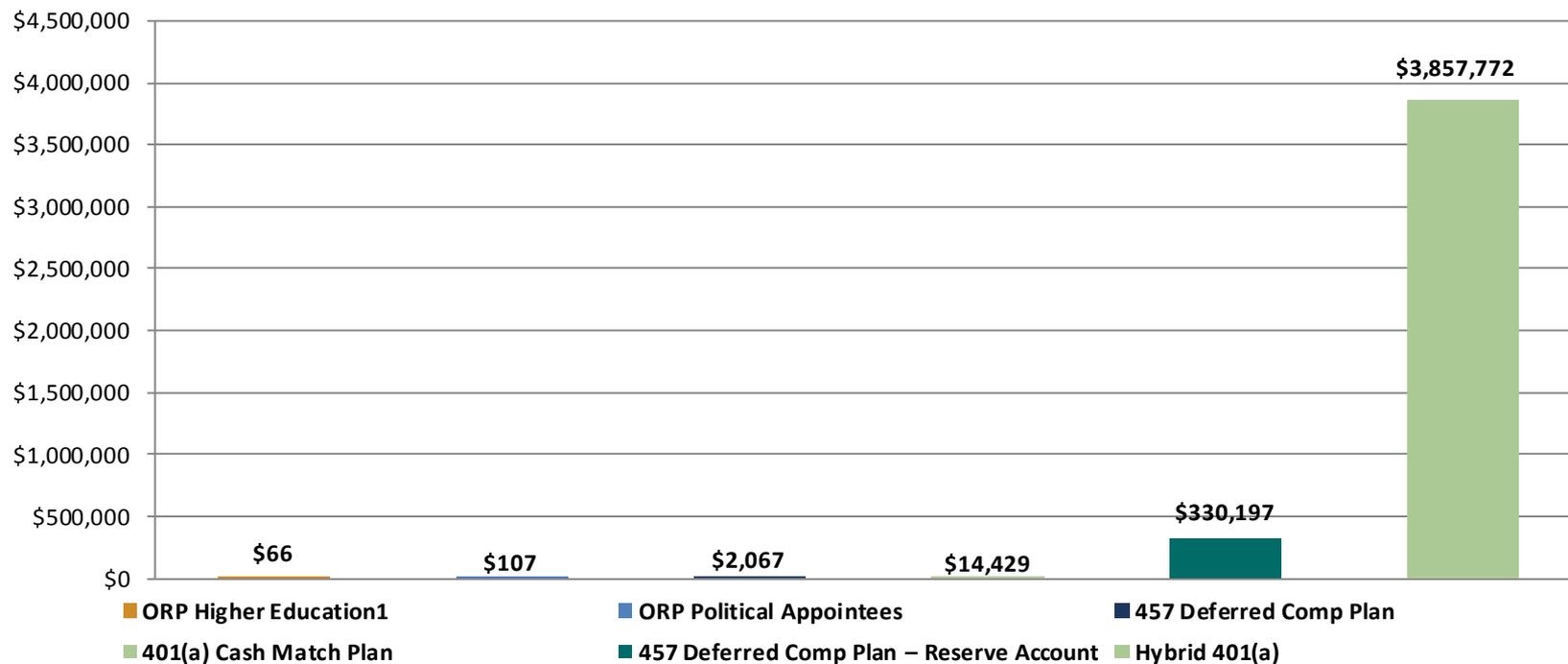
Note: Includes Forfeiture Accounts

- ORP Political Appointees Beneficiary Plan
- Hybrid 457 Beneficiary Plan
- Hybrid 401(a) Beneficiary Plan
- Supplemental Retirement
- ORP School Superintendents
- ORP Higher Education Beneficiary Plan
- 401(a) Cash Match Beneficiary Plan
- ORP Political Appointees
- 457 Deferred Compensation Beneficiary Plan
- ORP Higher Education
- Hybrid 457 Deferred Compensation Plan
- 401(a) Cash Match
- Hybrid 401(a)
- 457 Deferred Compensation*



Plan Name	Balances – 6/30/2021	% of Plan Assets	Number of Accounts
ORP Political Appointees Beneficiary Plan	\$20,339.10	0.00%	1
Hybrid 457 Beneficiary Plan	\$51,525.84	0.00%	10
Hybrid 401(a) Beneficiary Plan	\$113,363.36	0.00%	17
Supplemental Retirement	\$197,336.38	0.00%	2
ORP School Superintendents	\$273,857.28	0.00%	2
ORP Higher Education Beneficiary Plan	\$789,647.36	0.01%	11
401(a) Cash Match Beneficiary Plan	\$4,067,112.51	0.06%	233
ORP Political Appointees	\$25,728,929.04	0.41%	380
457 Deferred Compensation Beneficiary Plan	\$33,626,793.92	0.54%	375
ORP Higher Education	\$152,559,367.91	2.43%	2,345
Hybrid 457 Deferred Compensation Plan	\$426,754,159.50	6.81%	116,326
401(a) Cash Match	\$611,177,271.33	9.75%	72,279
Hybrid 401(a)	\$873,735,083.47	13.94%	184,054
457 Deferred Compensation*	\$4,137,674,770.08	66.03%	87,195
Total All VRS Plans	\$6,266,769,557.08	100.00%	463,230

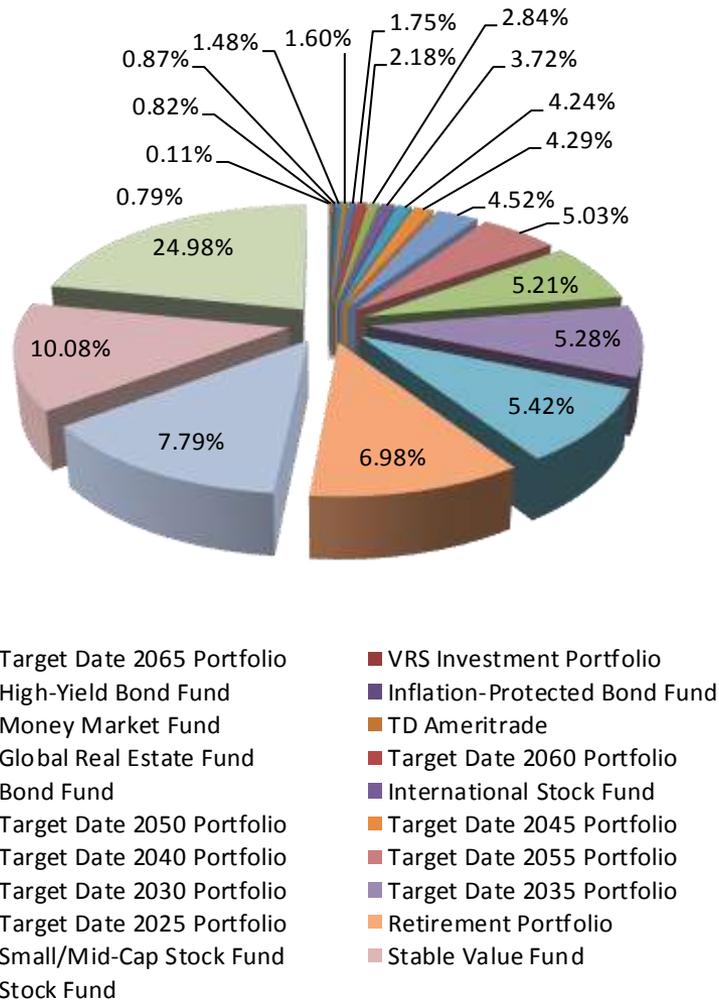
Forfeiture & Reserve Accounts – Balances and Counts



Plan	Balance – 6/30/2021	Number of Accounts
ORP Higher Education ¹	\$66	1
ORP Political Appointees	\$107	1
457 Deferred Comp Plan	\$2,067	1
401(a) Cash Match Plan	\$14,429	1
457 Deferred Comp Plan – Reserve Account	\$330,197	1
Hybrid 401(a)	\$3,857,772	792
Total	\$4,204,638	797

¹ ORPHE balance is a result of the plan transition and does not represent forfeited assets.

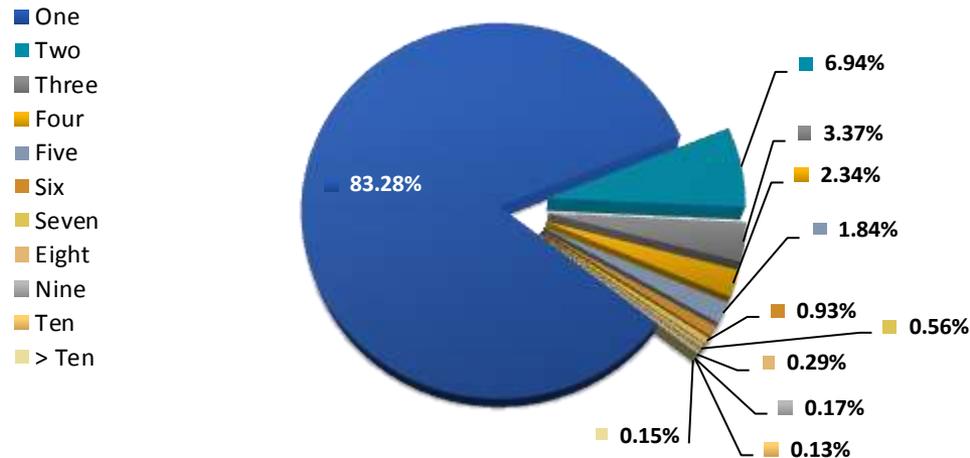
Plan Assets by Fund – All Plans



Fund Name	Fund Balance 6/30/2021	% of Plan Assets
Target Date 2065 Portfolio	\$6,704,824.15	0.11%
VRS Investment Portfolio	\$49,753,307.04	0.79%
High-Yield Bond Fund	\$51,466,274.19	0.82%
Inflation-Protected Bond Fund	\$54,574,447.13	0.87%
Money Market Fund	\$92,914,907.72	1.48%
TD Ameritrade	\$100,302,896.81	1.60%
Global Real Estate Fund	\$109,784,854.78	1.75%
Target Date 2060 Portfolio	\$136,786,704.63	2.18%
Bond Fund	\$178,239,005.95	2.84%
International Stock Fund	\$233,358,779.13	3.72%
Target Date 2050 Portfolio	\$265,900,700.27	4.24%
Target Date 2045 Portfolio	\$268,746,970.87	4.29%
Target Date 2040 Portfolio	\$283,042,371.44	4.52%
Target Date 2055 Portfolio	\$315,250,979.79	5.03%
Target Date 2030 Portfolio	\$326,388,428.27	5.21%
Target Date 2035 Portfolio	\$330,664,775.40	5.28%
Target Date 2025 Portfolio	\$339,487,336.03	5.42%
Retirement Portfolio	\$437,429,435.94	6.98%
Small/Mid-Cap Stock Fund	\$488,286,015.04	7.79%
Stable Value Fund	\$631,966,530.61	10.08%
Stock Fund	\$1,565,720,011.89	24.98%
Total	\$6,266,769,557.08	100.00%

Number of Investments Held By Participants

Note: Includes All Plans; Forfeiture and Reserve Accounts Excluded



Number of Investments Held	Number of Participants	% of Participants
One	222,980	83.28%
Two	18,570	6.94%
Three	9,035	3.37%
Four	6,258	2.34%
Five	4,939	1.84%
Six	2,496	0.93%
Seven	1,497	0.56%
Eight	785	0.29%
Nine	459	0.17%
Ten	338	0.13%
> Ten	404	0.15%
Total	267,761	100.00%

COV 457 and Hybrid 401(a) Plans – Participants Invested In a Single Fund

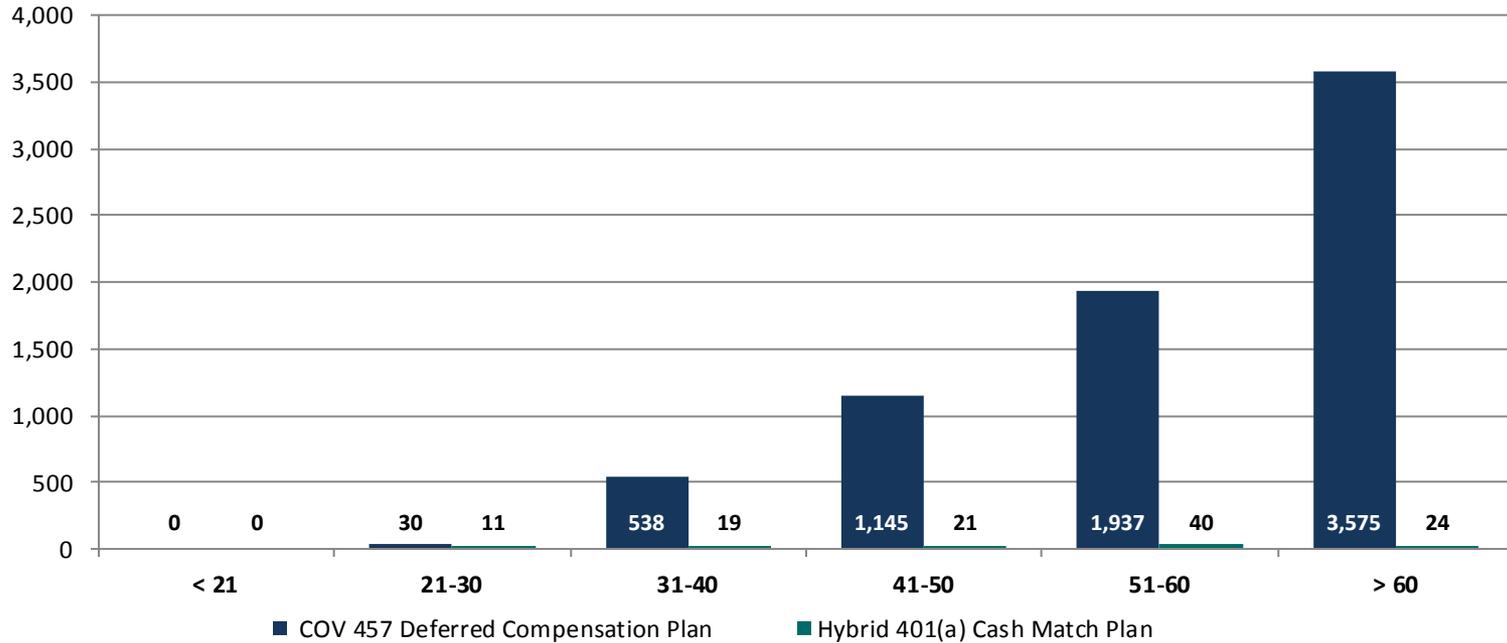
Note: Beneficiary Plans and Forfeiture Accounts Excluded

COV 457 Deferred Compensation Plan		
Fund Name	# of Accounts	% of Total
Bond Fund	226	0.40%
Global Real Estate Fund	118	0.21%
High-Yield Bond Fund	86	0.15%
Inflation-Protected Bond Fund	63	0.11%
International Stock Fund	169	0.30%
Money Market Fund	491	0.87%
Small/Mid-Cap Stock Fund	297	0.52%
Stable Value Fund	7,225	12.73%
Stock Fund	2,763	4.87%
TD Ameritrade	22	0.04%
VRS Investment Portfolio	14	0.02%
All Target Date Portfolio	45,273	79.78%
Retirement Portfolio	4,070	
Target Date 2025 Portfolio	4,076	
Target Date 2030 Portfolio	4,662	
Target Date 2035 Portfolio	5,114	
Target Date 2040 Portfolio	5,201	
Target Date 2045 Portfolio	6,222	
Target Date 2050 Portfolio	6,921	
Target Date 2055 Portfolio	5,777	
Target Date 2060 Portfolio	2,724	
Target Date 2065 Portfolio	506	
Participants With Single Fund	56,747	100.00%

Hybrid 401(a) Cash Match Plan		
Fund Name	# of Accounts	% of Total
Bond Fund	15	0.01%
Global Real Estate Fund	13	0.01%
High-Yield Bond Fund	8	0.00%
Inflation-Protected Bond Fund	11	0.01%
International Stock Fund	10	0.01%
Money Market Fund	60	0.03%
Small/Mid-Cap Stock Fund	66	0.04%
Stable Value Fund	115	0.06%
Stock Fund	647	0.36%
TD Ameritrade	3	0.00%
VRS Investment Portfolio	1	0.00%
All Target Date Portfolio	177,303	99.47%
Retirement Portfolio	6,044	
Target Date 2025 Portfolio	9,389	
Target Date 2030 Portfolio	13,302	
Target Date 2035 Portfolio	16,386	
Target Date 2040 Portfolio	17,083	
Target Date 2045 Portfolio	19,719	
Target Date 2050 Portfolio	24,222	
Target Date 2055 Portfolio	37,664	
Target Date 2060 Portfolio	30,506	
Target Date 2065 Portfolio	2,988	
Participants With Single Fund	178,252	100.00%

COV 457 and Hybrid 401(a) Plans – Stable Value as Sole Fund Held – Age Ranges

Note: Forfeiture Accounts Excluded



COV 457 Deferred Compensation Plan	
Age Range	Number of Participants
<21	0
21-30	30
31-40	538
41-50	1,145
51-60	1,937
>60	3,575
Total	7,225

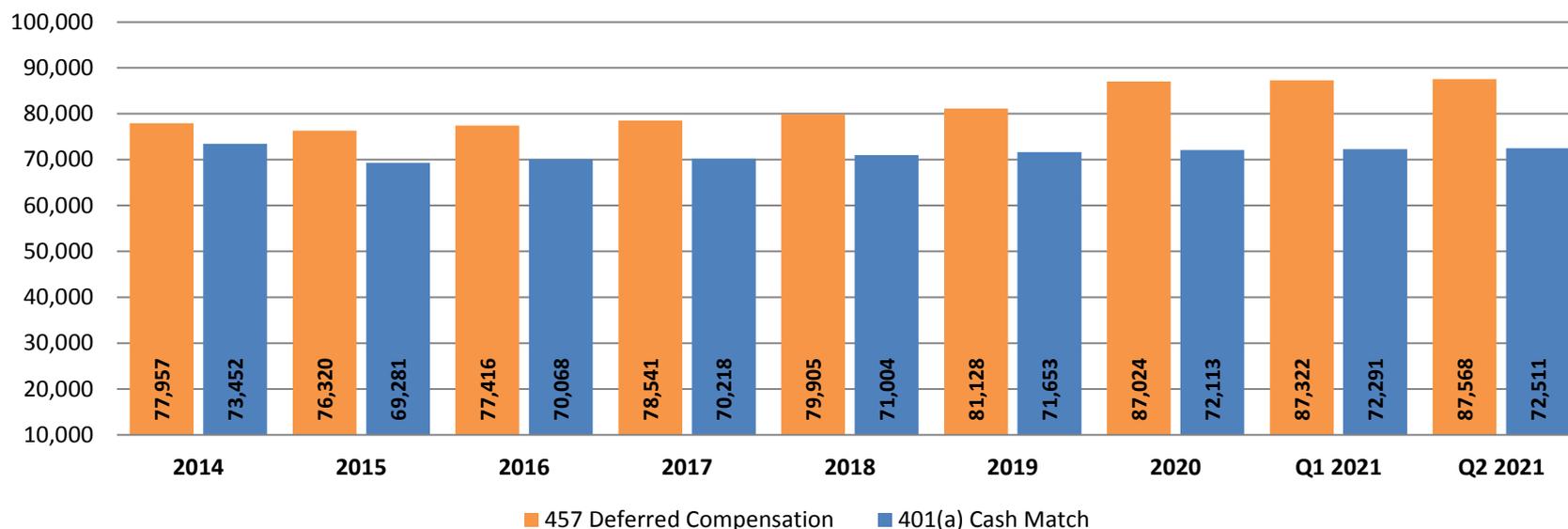
Hybrid 401(a) Cash Match Plan	
Age Range	Number of Participants
<21	0
21-30	11
31-40	19
41-50	21
51-60	40
>60	24
Total	115

Commonwealth of Virginia 457 Deferred Compensation Plan 401(a) Cash Match Plan

Note: All data is as of 6/30/2021 unless otherwise stated.

457 and 401(a) Cash Match Plans – Number of Participant Accounts

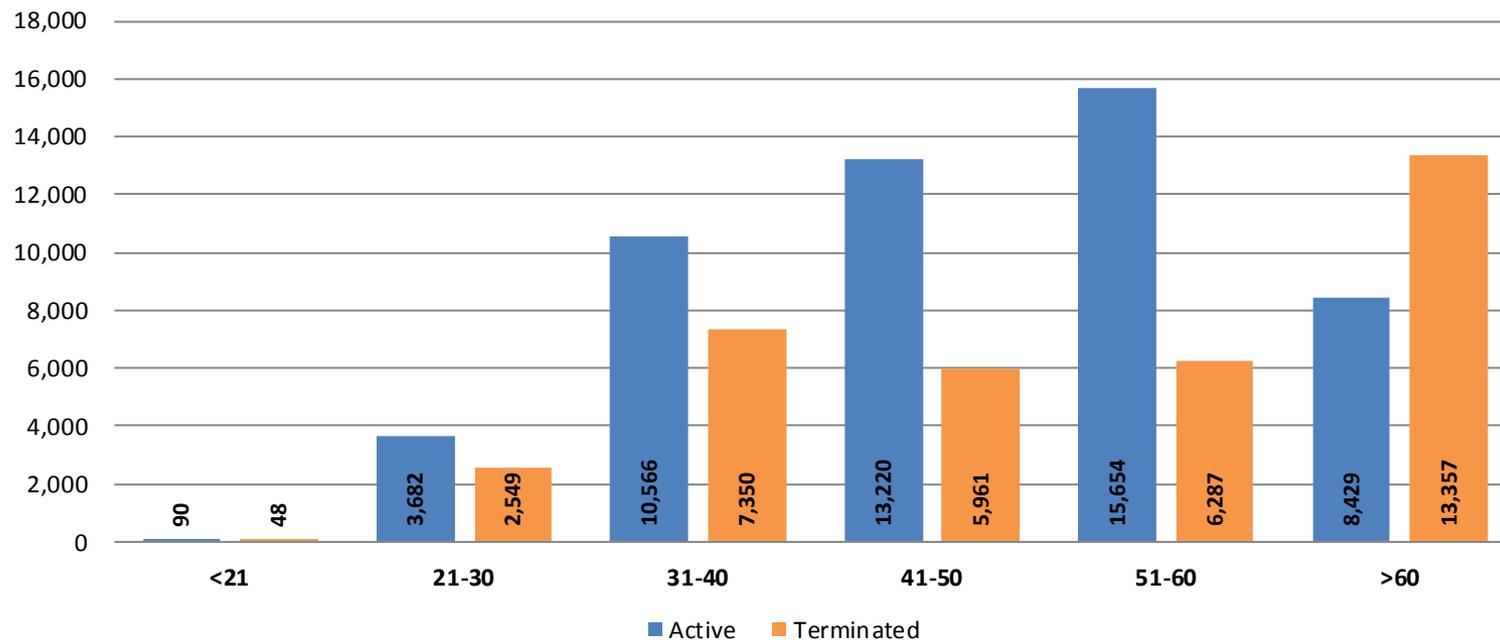
Note: Includes Beneficiary Plans; Forfeiture Accounts and 457 Reserve Account Excluded



Period	457 Deferred Compensation	401(a) Cash Match	Total
2014	77,957	73,452	151,409
2015	76,320	69,281	145,601
2016	77,416	70,068	147,484
2017	78,541	70,218	148,759
2018	79,905	71,004	150,909
2019	81,128	71,653	152,781
2020	87,024	72,113	159,137
Q1 2021	87,322	72,291	159,613
Q2 2021	87,568	72,511	160,079

457 Plan – Participant Status Count by Age

Note: Beneficiary Plan Accounts, Forfeiture Account and Reserve Account Excluded

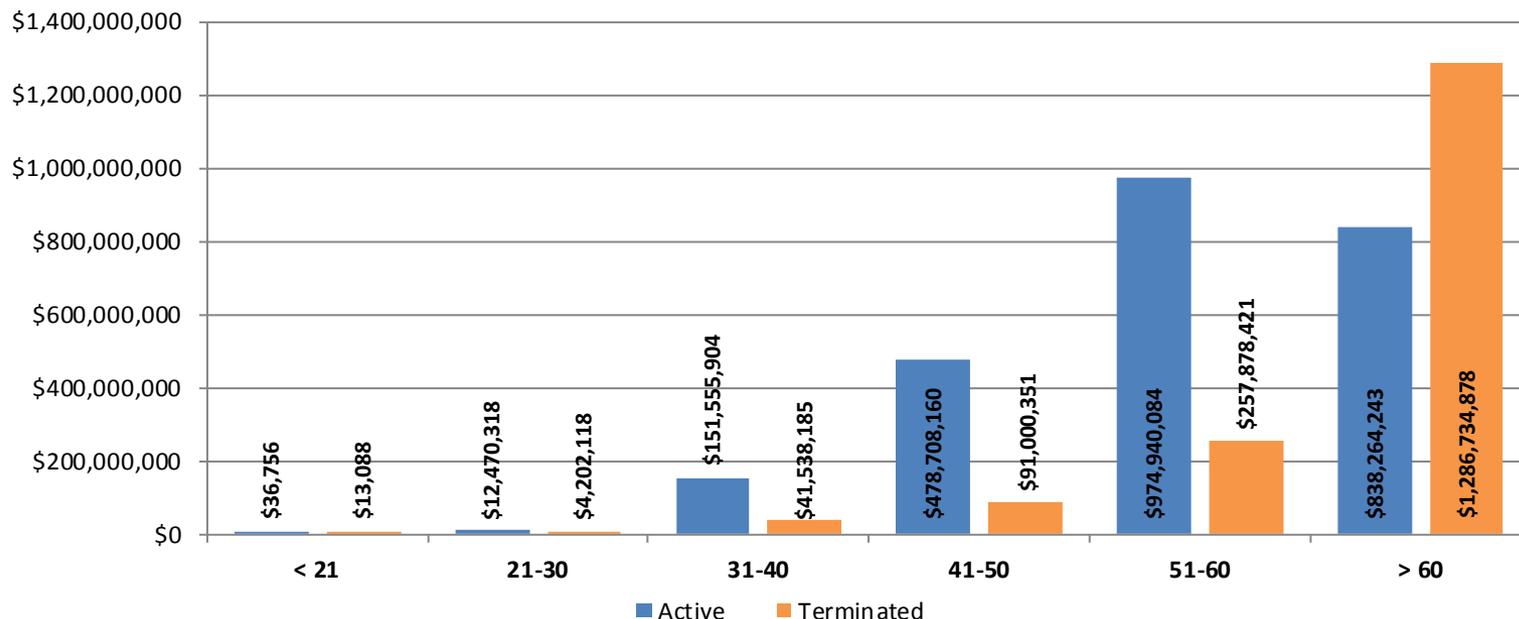


Age Range	Active	Terminated	Total
<21	90	48	138
21-30	3,682	2,549	6,231
31-40	10,566	7,350	17,916
41-50	13,220	5,961	19,181
51-60	15,654	6,287	21,941
>60	8,429	13,357	21,786
Total	51,641	35,552	87,193

* Active Participants do not have a termination date on file and may not have made a contribution during the quarter. Terminated Participants have a terminate date on file.

457 Plan – Participant Status Assets by Age

Note: Beneficiary Plan Accounts, Forfeiture Account and Reserve Account Excluded

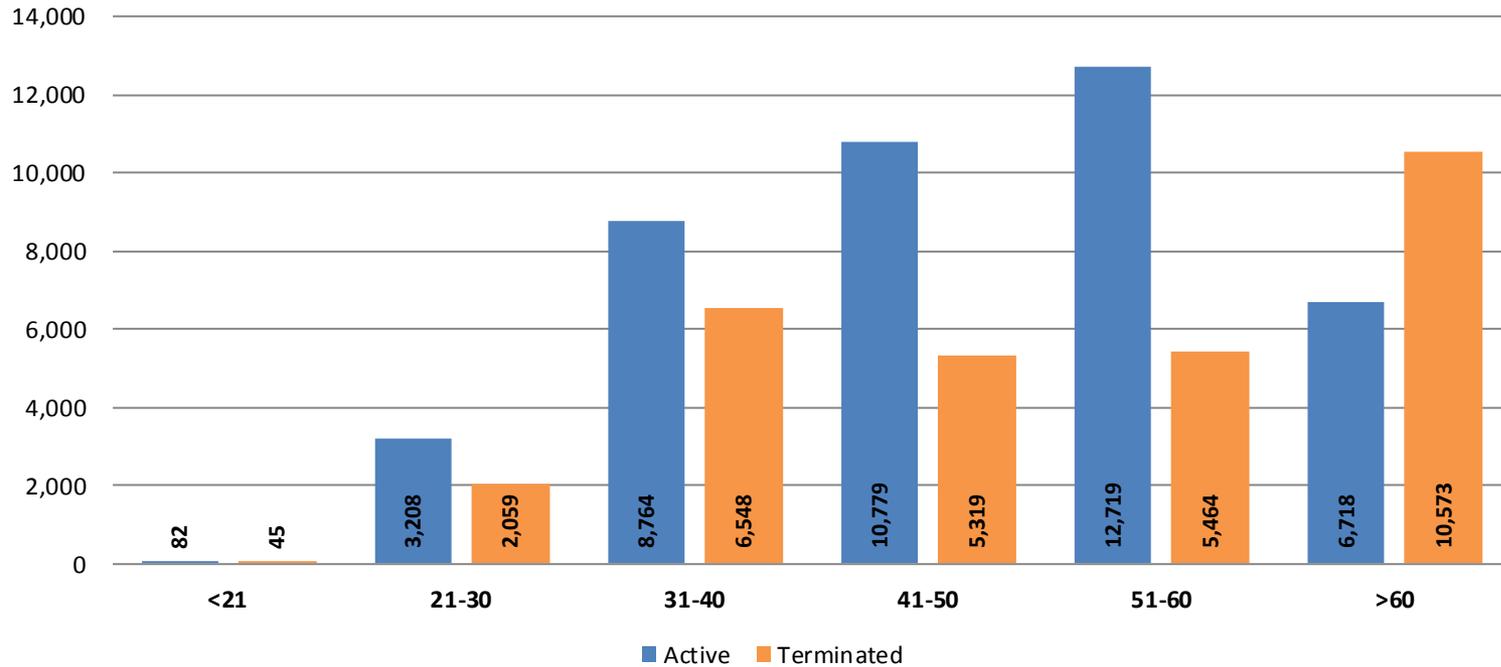


Age	Active	Terminated	Total
< 21	\$36,756	\$13,088	\$49,844
21-30	\$12,470,318	\$4,202,118	\$16,672,436
31-40	\$151,555,904	\$41,538,185	\$193,094,089
41-50	\$478,708,160	\$91,000,351	\$569,708,511
51-60	\$974,940,084	\$257,878,421	\$1,232,818,505
> 60	\$838,264,243	\$1,286,734,878	\$2,124,999,121
Total	\$2,455,975,464	\$1,681,367,041	\$4,137,342,505

* Active Participants do not have a termination date on file and may not have made a contribution during the quarter. Terminated Participants have a terminate date on file.

401(a) Cash Match Plan – Participant Status Count by Age

Note: Beneficiary Plan and Forfeiture Account Excluded

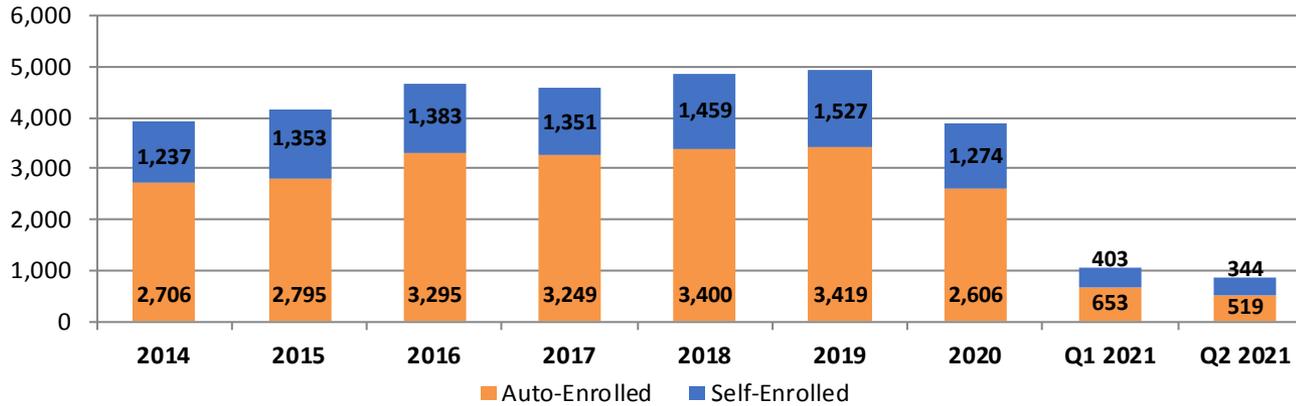


Age Range	Active	Terminated	Total
<21	82	45	127
21-30	3,208	2,059	5,267
31-40	8,764	6,548	15,312
41-50	10,779	5,319	16,098
51-60	12,719	5,464	18,183
>60	6,718	10,573	17,291
Total	42,270	30,008	72,278

* Active Participants do not have a termination date on file and may not have made a contribution during the quarter. Terminated Participants have a terminate date on file.

457 Plan – New Enrollments

Note: Auto-enrolled category includes participants designated as auto-enroll eligible on incoming indicative data files during the quarter as well as those auto-enrolled during the quarter



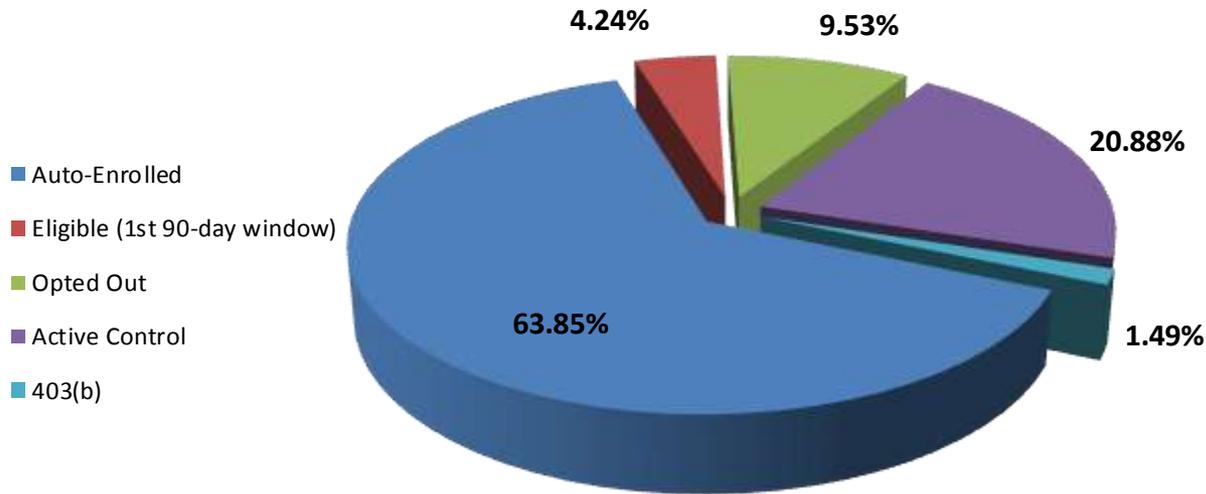
Period	Auto-Enrolled	Self-Enrolled	Total Enrolled
2014	2,706	1,237	3,943
2015	2,795	1,353	4,148
2016	3,295	1,383	4,678
2017	3,249	1,351	4,600
2018	3,400	1,459	4,859
2019	3,419	1,527	4,946
2020	2,606	1,274	3,880
Q1 2021	653	403	1,056
Q2 2021	519	344	863

Period	Schools		Political Sub-Divisions		State Agencies		Total Enrolled
	Auto-Enrolled	Self-Enrolled	Auto-Enrolled	Self-Enrolled	Auto-Enrolled	Self-Enrolled	
2020	n/a	204	n/a	171	2,606	899	3,880
Q1 2021	n/a	66	n/a	43	653	294	1,056
Q2 2021	n/a	48	n/a	36	519	260	863

457 Plan – Automatic Enrollment Snapshot

Note: Chart shows current status of active participants set up as auto-enroll eligible after plan conversion, January 6, 2014; excludes terminated participants

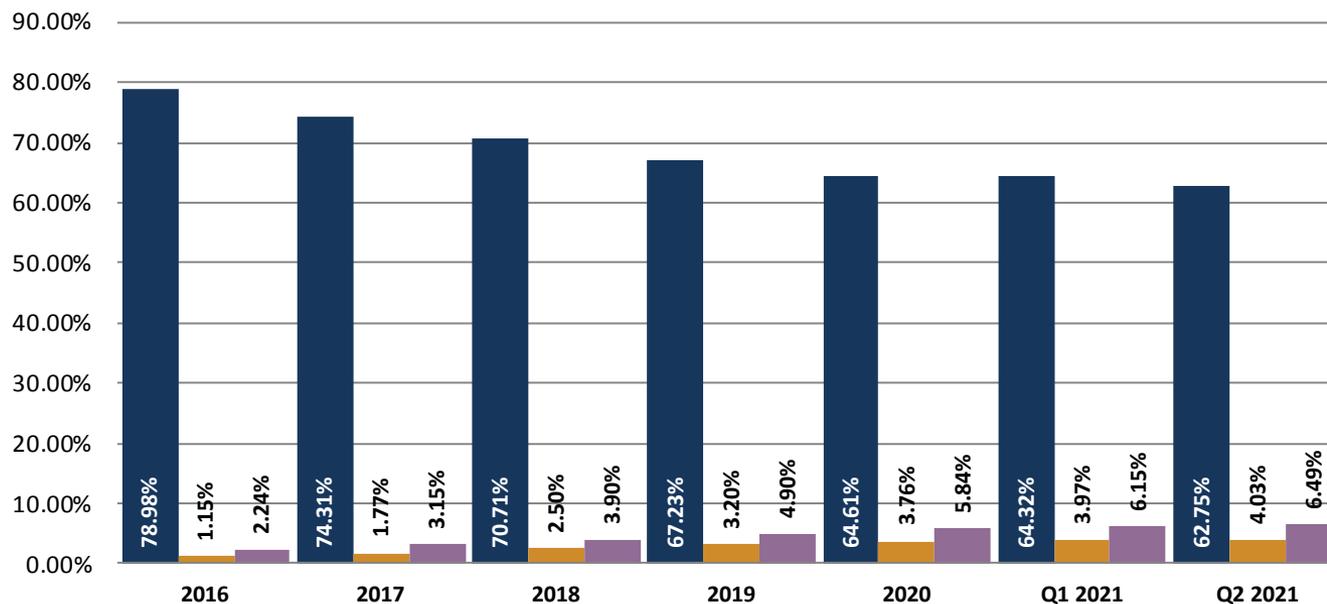
**Auto-Enrolled Participants
Conversion-To-Date**



Enrollment Category	Active	% of Active Participants
Auto-Enrolled	6,965	63.85%
Eligible (1st 90-day window)	463	4.24%
Opted Out	1,040	9.53%
Active Control	2,278	20.88%
403(b)	163	1.49%
Total	10,909	100%

457 Plan – Deferral Types

Note: Active count — all active participants, including participants who do not have a balance in the plan



■ Pre-tax Only Roth Only Pre-Tax & Roth

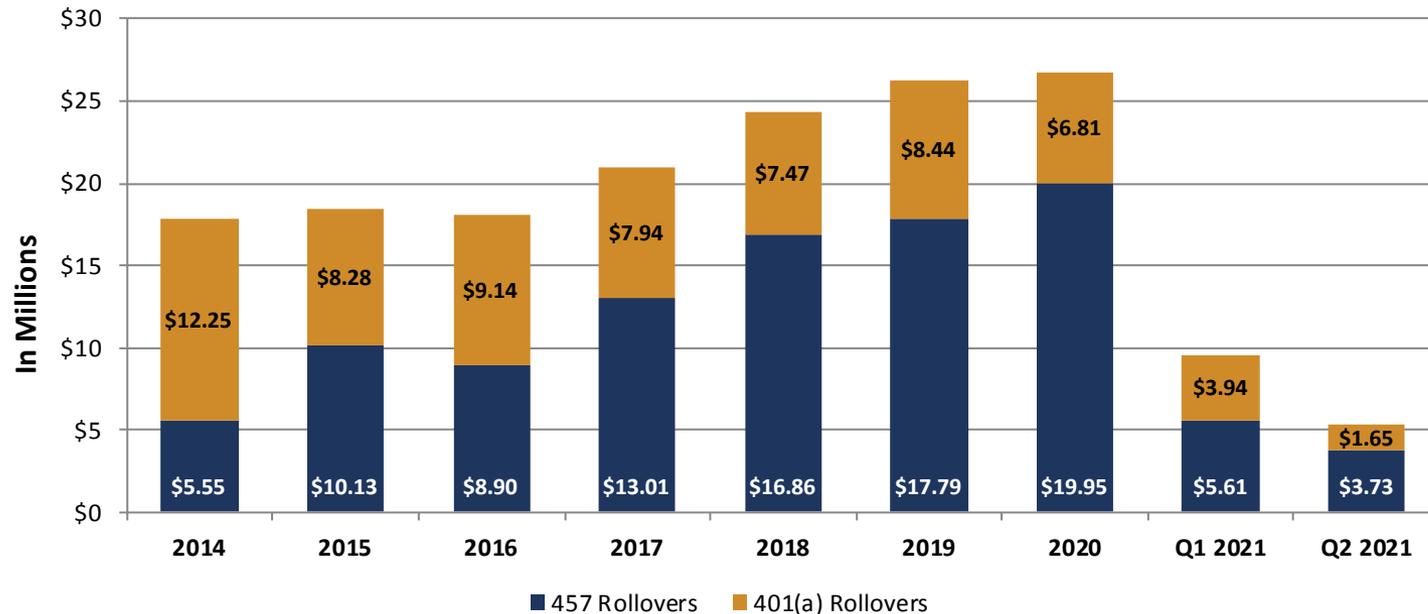
Period	Active Participants	Pre-tax Only	Roth Only	Pre-Tax & Roth	% of Participants With Deferrals
2016	57,510	78.98%	1.15%	2.24%	82.37%
2017	59,104	74.31%	1.77%	3.15%	79.23%
2018	60,399	70.71%	2.50%	3.90%	77.11%
2019	61,554	67.23%	3.20%	4.90%	75.33%
2020	64,569	64.61%	3.76%	5.84%	74.21%
Q1 2021	64,221	64.32%	3.97%	6.15%	74.43%
Q2 2021	64,630	62.75%	4.03%	6.49%	73.27%

457 and 401(a) Cash Match Plans – Contributions



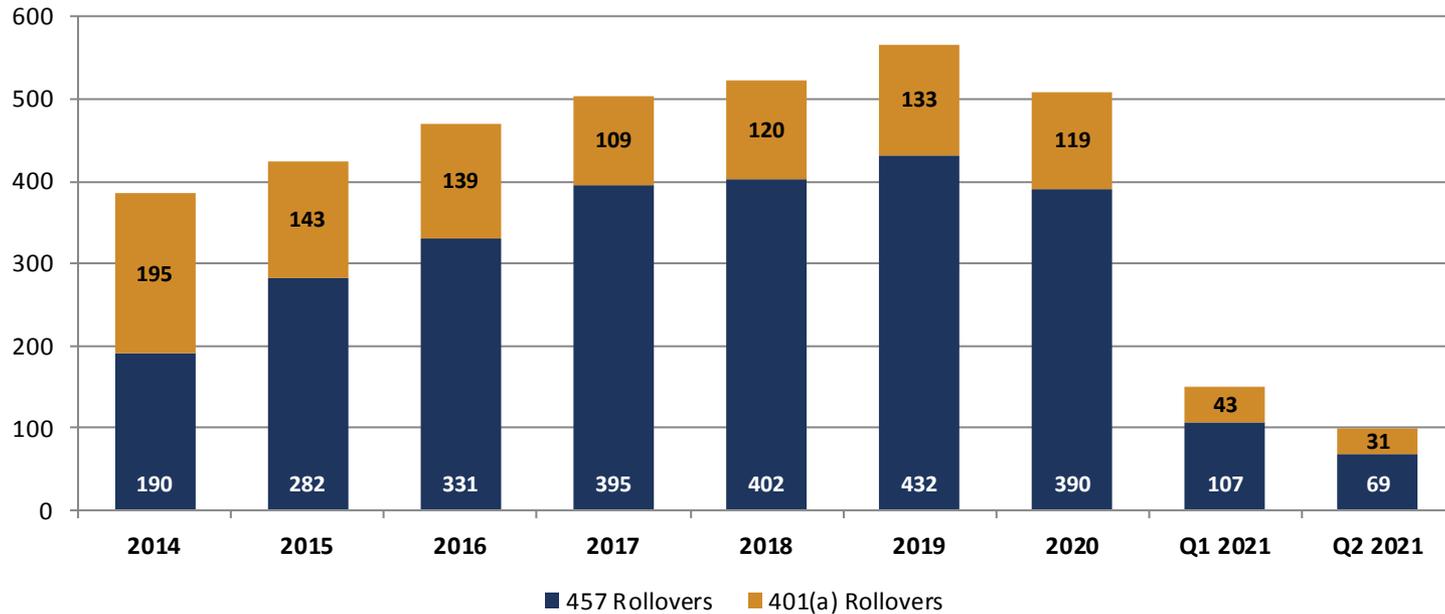
Period	457 Contributions	401(a) Contributions	Total
2014	\$129.95	\$17.49	\$147.44
2015	\$134.94	\$16.78	\$151.72
2016	\$133.29	\$16.20	\$149.49
2017	\$136.96	\$15.87	\$152.83
2018	\$143.15	\$15.66	\$158.82
2019	\$149.55	\$15.40	\$164.95
2020	\$167.11	\$15.21	\$182.32
Q1 2021	\$44.66	\$3.74	\$48.40
Q2 2021	\$39.47	\$3.16	\$42.63

457 and 401(a) Cash Match Plans – Incoming Rollovers



Period	457 Rollovers	401(a) Rollovers	Total
2014	\$5.55	\$12.25	\$17.81
2015	\$10.13	\$8.28	\$18.41
2016	\$8.90	\$9.14	\$18.04
2017	\$13.01	\$7.94	\$20.95
2018	\$16.86	\$7.47	\$24.33
2019	\$17.79	\$8.44	\$26.23
2020	\$19.95	\$6.81	\$26.76
Q1 2021	\$5.61	\$3.94	\$9.55
Q2 2021	\$3.73	\$1.65	\$5.38

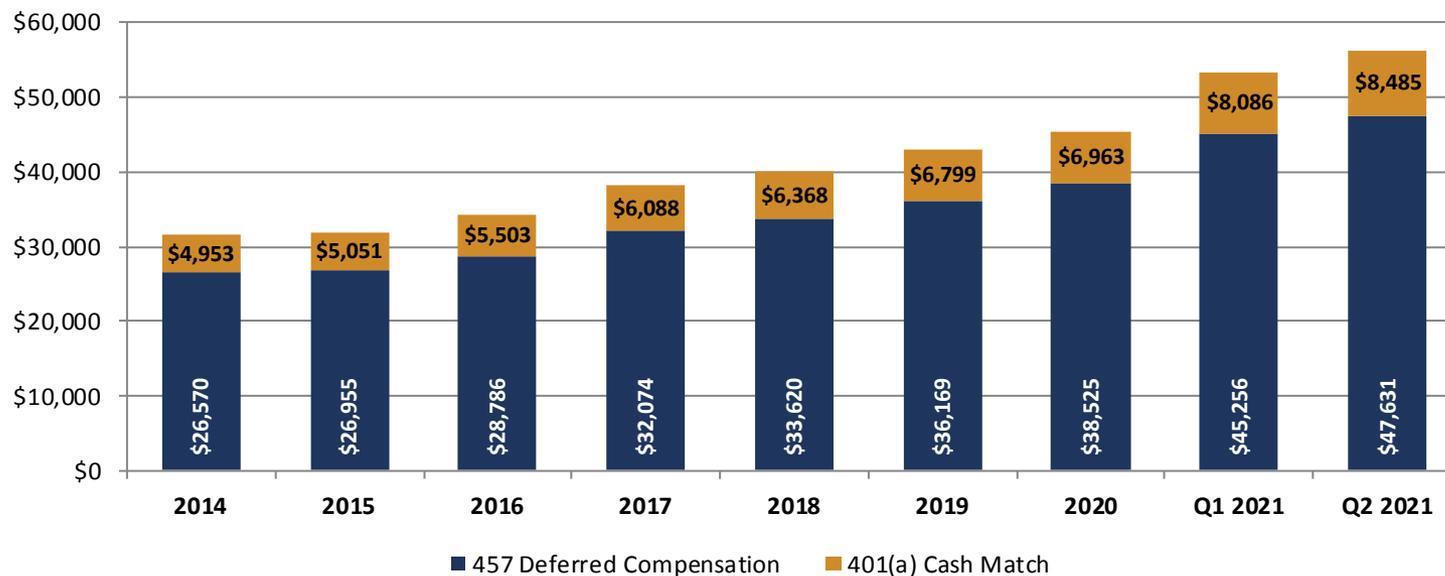
457 and 401(a) Cash Match Plans – Incoming Rollovers – Counts



Period	457 Rollovers	401(a) Rollovers	Total
2014	190	195	385
2015	282	143	425
2016	331	139	470
2017	395	109	504
2018	402	120	522
2019	432	133	565
2020	390	119	509
Q1 2021	107	43	150
Q2 2021	69	31	96

457 and 401(a) Cash Match Plans – Participant Average Account Balance

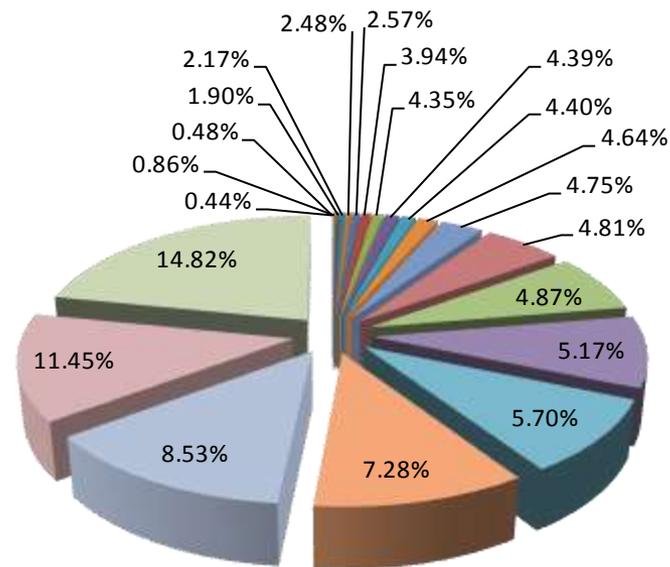
Note: Includes Beneficiary Plans



Period	457 Deferred Compensation	401(a) Cash Match	Total
2014	\$26,570.18	\$4,953.42	\$31,523.60
2015	\$26,954.62	\$5,051.05	\$32,005.67
2016	\$28,786.34	\$5,502.95	\$34,289.28
2017	\$32,073.51	\$6,087.86	\$38,161.37
2018	\$33,619.62	\$6,367.88	\$39,987.50
2019	\$36,168.70	\$6,798.54	\$42,967.24
2020	\$38,525.35	\$6,963.06	\$45,488.41
Q1 2021	\$45,256.38	\$8,086.37	\$53,342.75
Q2 2021	\$47,631.20	\$8,484.64	\$56,115.85

457 Plan – Participant Use of Funds

Note: Includes Beneficiary Plan and Reserve Account

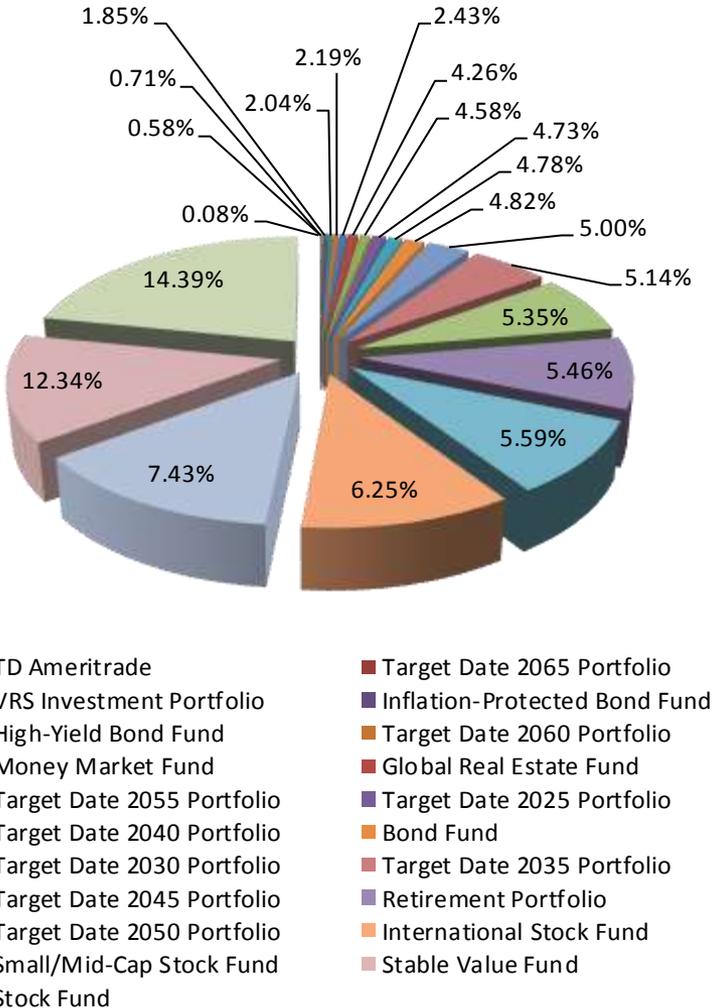


- TD Ameritrade
- VRS Investment Portfolio
- Inflation-Protected Bond Fund
- Money Market Fund
- Global Real Estate Fund
- Target Date 2040 Portfolio
- Target Date 2035 Portfolio
- Target Date 2050 Portfolio
- Bond Fund
- Small/Mid-Cap Stock Fund
- Stock Fund
- Target Date 2065 Portfolio
- Target Date 2060 Portfolio
- High-Yield Bond Fund
- Target Date 2055 Portfolio
- Target Date 2025 Portfolio
- Target Date 2030 Portfolio
- Target Date 2045 Portfolio
- Retirement Portfolio
- International Stock Fund
- Stable Value Fund

Fund Name	Participant Count 3/31/2021	Participant Count 06/30/2021	% of Participants 6/30/2021	% Change
TD Ameritrade	706	724	0.44%	2.55%
Target Date 2065 Portfolio	654	790	0.48%	20.80%
VRS Investment Portfolio	1,435	1,428	0.86%	-0.49%
Target Date 2060 Portfolio	3,062	3,153	1.90%	2.97%
Inflation-Protected Bond Fund	3,598	3,589	2.17%	-0.25%
High-Yield Bond Fund	4,115	4,105	2.48%	-0.24%
Money Market Fund	4,321	4,258	2.57%	-1.46%
Target Date 2055 Portfolio	6,454	6,533	3.94%	1.22%
Global Real Estate Fund	7,193	7,207	4.35%	0.19%
Target Date 2025 Portfolio	7,284	7,272	4.39%	-0.16%
Target Date 2040 Portfolio	7,233	7,291	4.40%	0.80%
Target Date 2030 Portfolio	7,632	7,682	4.64%	0.66%
Target Date 2035 Portfolio	7,795	7,860	4.75%	0.83%
Target Date 2045 Portfolio	7,906	7,959	4.81%	0.67%
Target Date 2050 Portfolio	7,999	8,060	4.87%	0.76%
Retirement Portfolio	8,674	8,567	5.17%	-1.23%
Bond Fund	9,560	9,445	5.70%	-1.20%
International Stock Fund	12,073	12,052	7.28%	-0.17%
Small/Mid-Cap Stock Fund	14,092	14,122	8.53%	0.21%
Stable Value Fund	19,206	18,967	11.45%	-1.24%
Stock Fund	24,559	24,539	14.82%	-0.08%

401(a) Cash Match – Participant Use of Funds

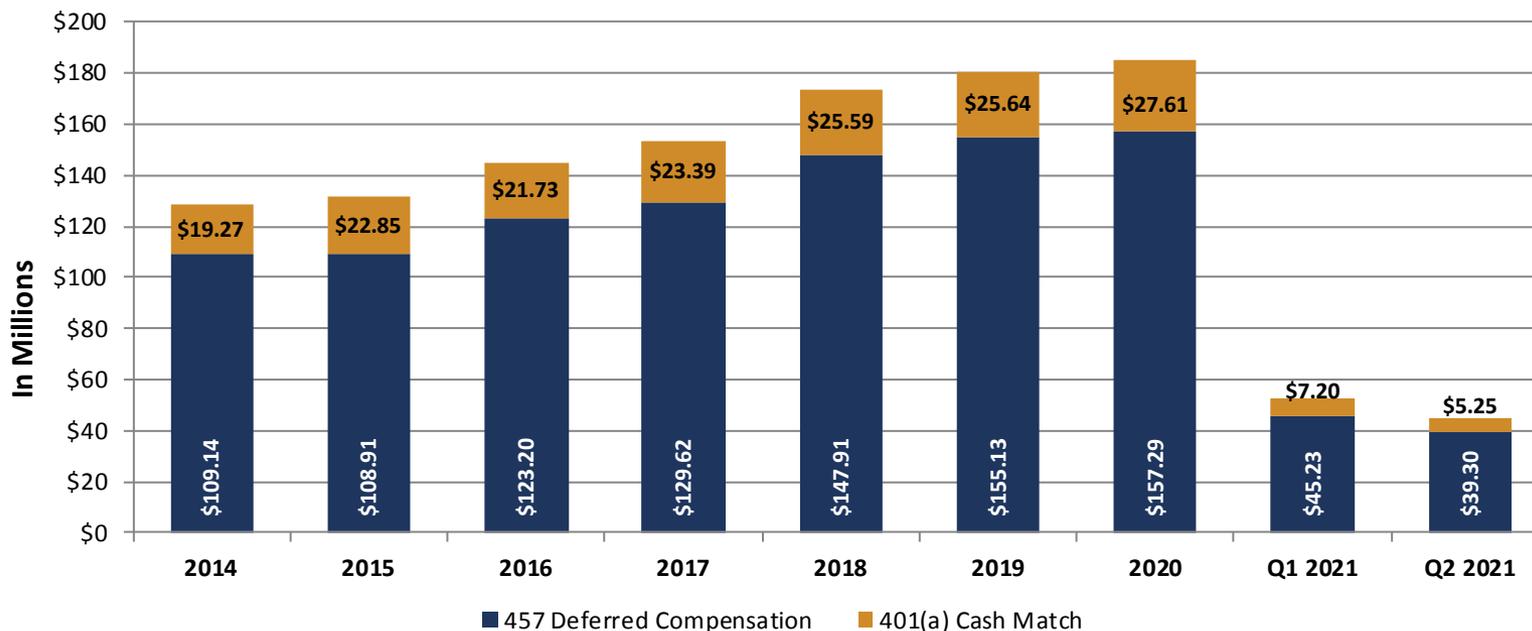
Note: Includes Beneficiary Plan



Fund Name	Participant Count 3/31/2021	Participant Count 6/30/2021	% of Participants 6/30/2021	% Change
TD Ameritrade	95	97	0.08%	2.11%
Target Date 2065 Portfolio	595	711	0.58%	19.50%
VRS Investment Portfolio	870	864	0.71%	-0.69%
Inflation-Protected Bond Fund	2,276	2,258	1.85%	-0.79%
High-Yield Bond Fund	2,497	2,491	2.04%	-0.24%
Target Date 2060 Portfolio	2,590	2,675	2.19%	3.28%
Money Market Fund	2,995	2,966	2.43%	-0.97%
Global Real Estate Fund	5,208	5,201	4.26%	-0.13%
Target Date 2055 Portfolio	5,533	5,595	4.58%	1.12%
Target Date 2025 Portfolio	5,793	5,780	4.73%	-0.22%
Target Date 2040 Portfolio	5,802	5,840	4.78%	0.65%
Bond Fund	5,966	5,891	4.82%	-1.26%
Target Date 2030 Portfolio	6,045	6,100	5.00%	0.91%
Target Date 2035 Portfolio	6,229	6,272	5.14%	0.69%
Target Date 2045 Portfolio	6,483	6,538	5.35%	0.85%
Retirement Portfolio	6,760	6,662	5.46%	-1.45%
Target Date 2050 Portfolio	6,774	6,825	5.59%	0.75%
International Stock Fund	7,651	7,630	6.25%	-0.27%
Small/Mid-Cap Stock Fund	9,069	9,078	7.43%	0.10%
Stable Value Fund	15,240	15,073	12.34%	-1.10%
Stock Fund	17,620	17,569	14.39%	-0.29%

457 and 401(a) Cash Match Plans – Distributions

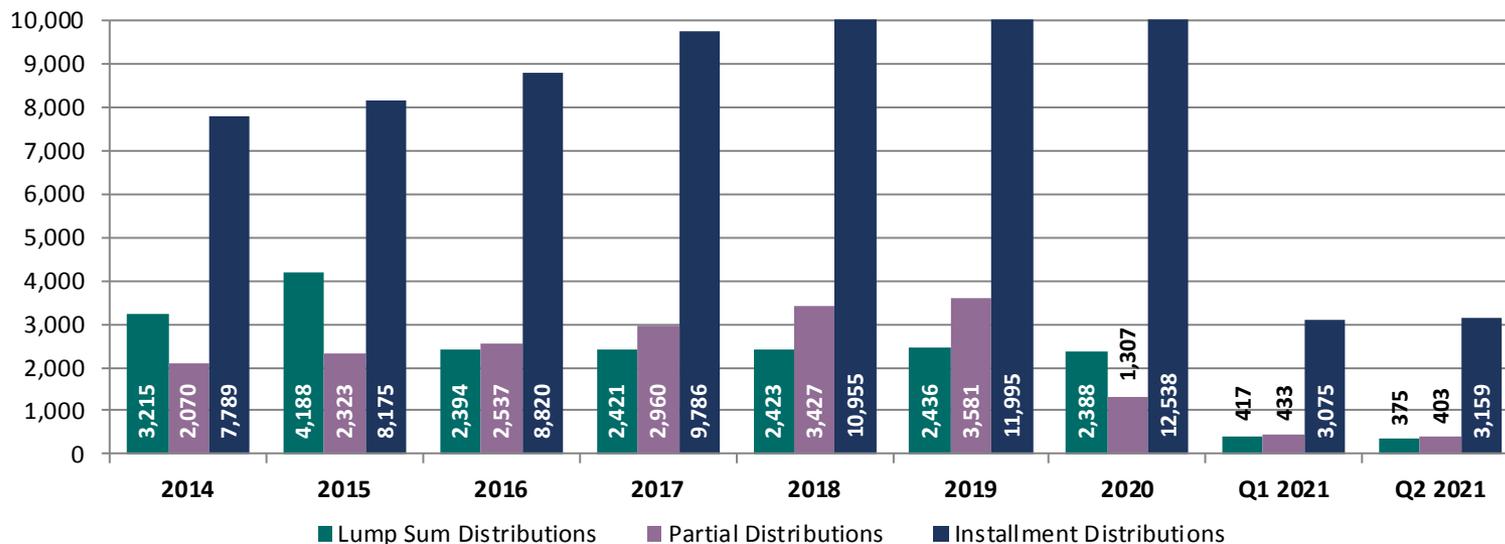
Note: Beneficiary Plans Excluded



Period	457 Deferred Compensation	401(a) Cash Match	Total
2014	\$109.14	\$19.27	\$128.41
2015	\$108.91	\$22.85	\$131.77
2016	\$123.20	\$21.73	\$144.93
2017	\$129.62	\$23.39	\$153.01
2018	\$147.91	\$25.59	\$173.50
2019	\$155.13	\$25.64	\$180.77
2020	\$157.29	\$27.61	\$184.90
Q1 2021	\$45.23	\$7.20	\$52.43
Q2 2021	\$39.30	\$5.25	\$44.55

457 Plan – Distributions by Type

Note: Beneficiary Plan Excluded; Rollover Distributions Excluded and Reported on Subsequent Pages

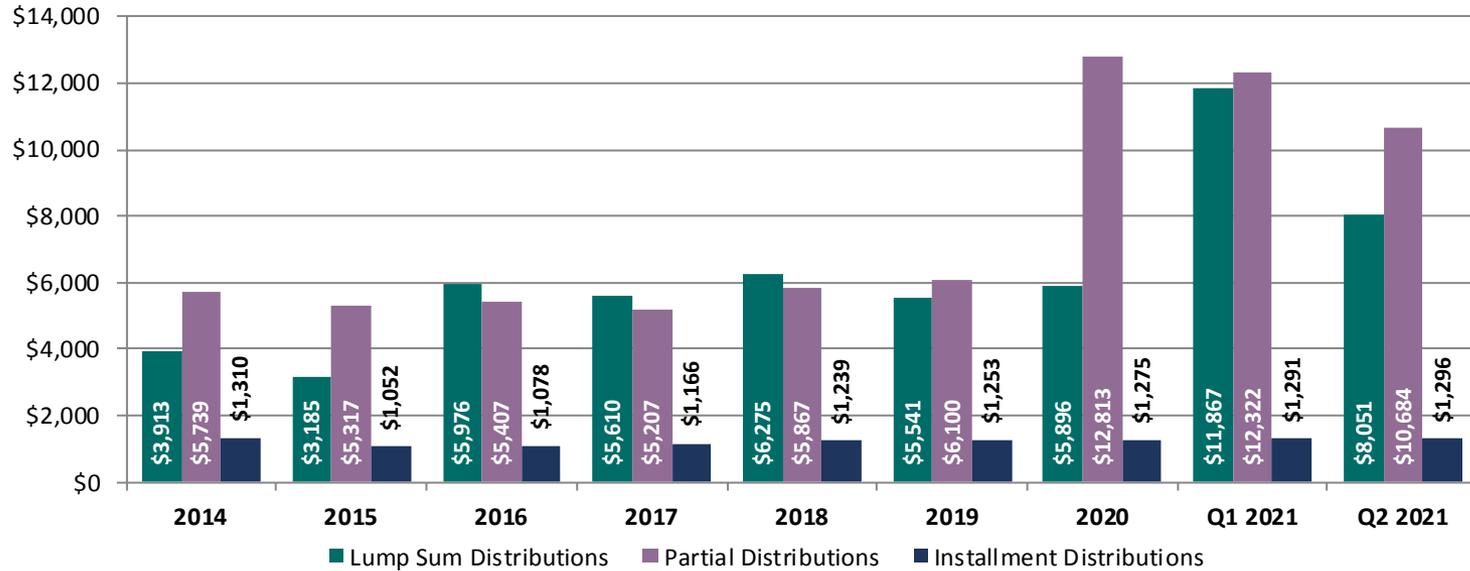


Period	Lump Sum Distributions*	Partial Distributions	Installment Distributions
2014	3,215	2,070	7,789
2015	4,188	2,323	8,175
2016	2,394	2,537	8,820
2017	2,421	2,960	9,786
2018	2,423	3,427	10,955
2019	2,436	3,581	11,995
2020	2,388	1,307	12,538
Q1 2021	417	433	3,075
Q2 2021	375	403	3,159

* Includes EACA distributions.

457 Plan – Distribution Average Amounts

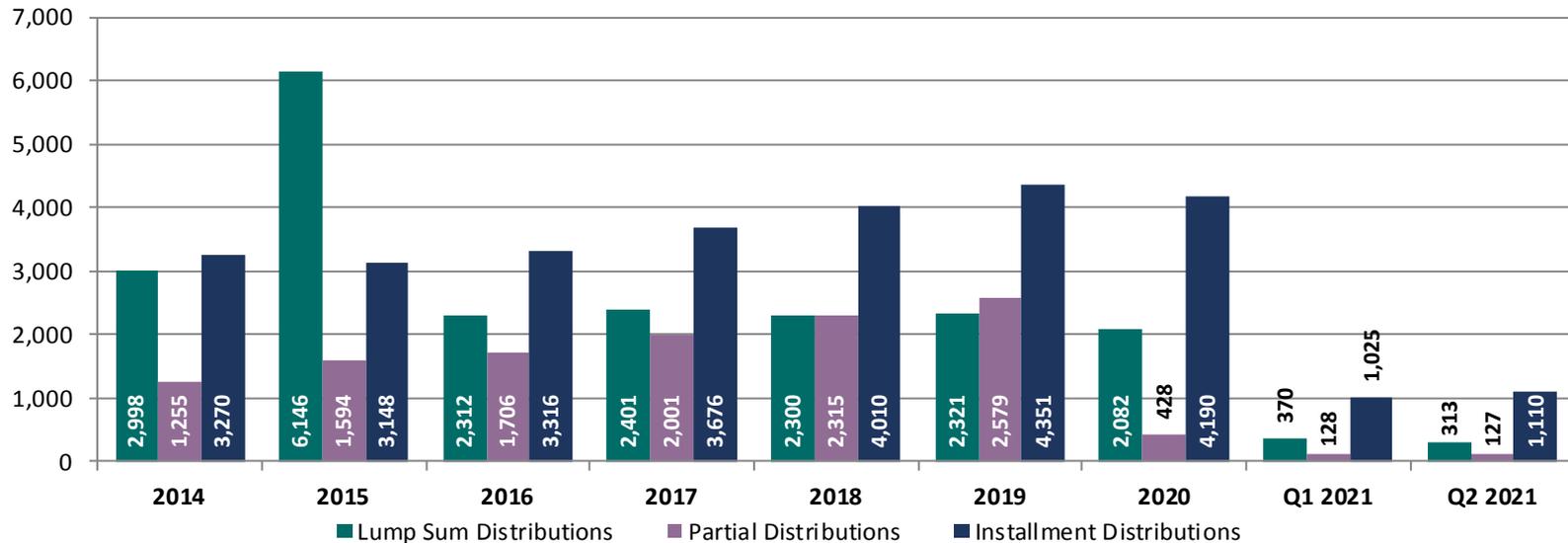
Note: Beneficiary Plan Excluded; Rollover Distributions Excluded and Reported on Subsequent Pages



Period	Lump Sum Distributions	Partial Distributions	Installment Distributions
2014	\$3,913	\$5,739	\$1,310
2015	\$3,185	\$5,317	\$1,052
2016	\$5,976	\$5,407	\$1,078
2017	\$5,610	\$5,207	\$1,166
2018	\$6,275	\$5,867	\$1,239
2019	\$5,541	\$6,100	\$1,253
2020	\$5,896	\$12,813	\$1,275
Q1 2021	\$11,867	\$12,322	\$1,291
Q2 2021	\$8,051	\$10,684	\$1,296

401(a) Cash Match – Distributions by Type

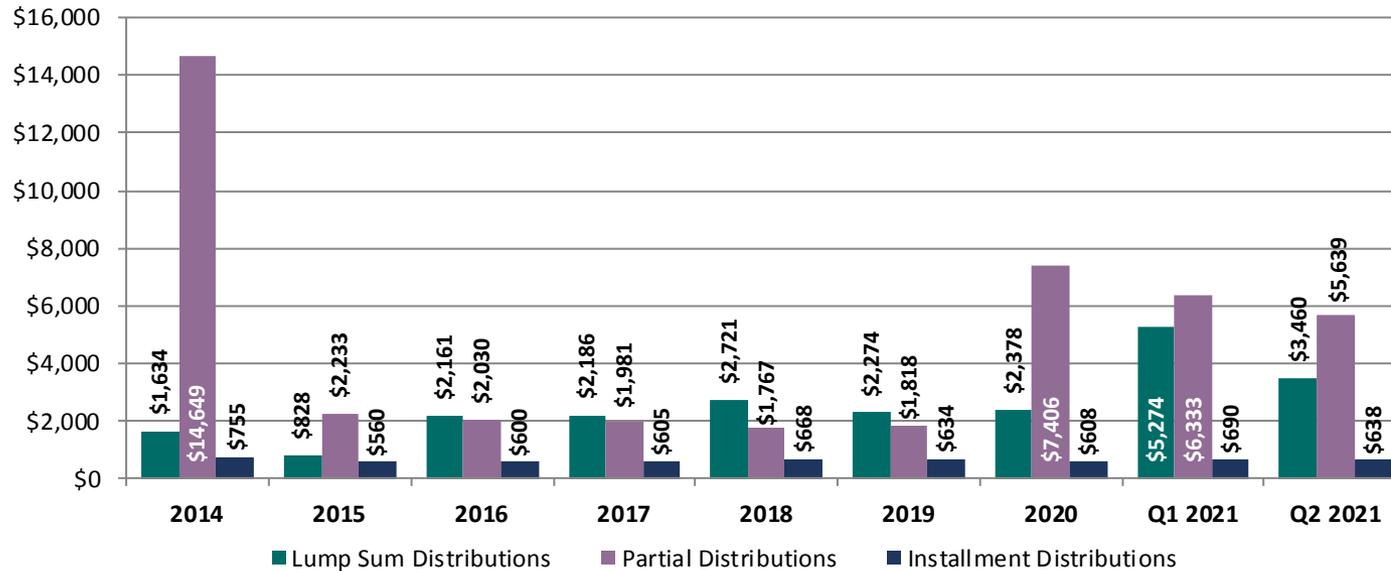
Note: Beneficiary Plan Excluded; Rollover Distributions Excluded and Reported on Subsequent Pages



Period	Lump Sum Distributions	Partial Distributions	Installment Distributions
2014	2,998	1,255	3,270
2015	6,146	1,594	3,148
2016	2,312	1,706	3,316
2017	2,401	2,001	3,676
2018	2,300	2,315	4,010
2019	2,321	2,579	4,351
2020	2,082	428	4,190
Q1 2021	370	128	1,025
Q2 2021	313	127	1,110

401(a) Cash Match Plan – Distribution Average Amounts

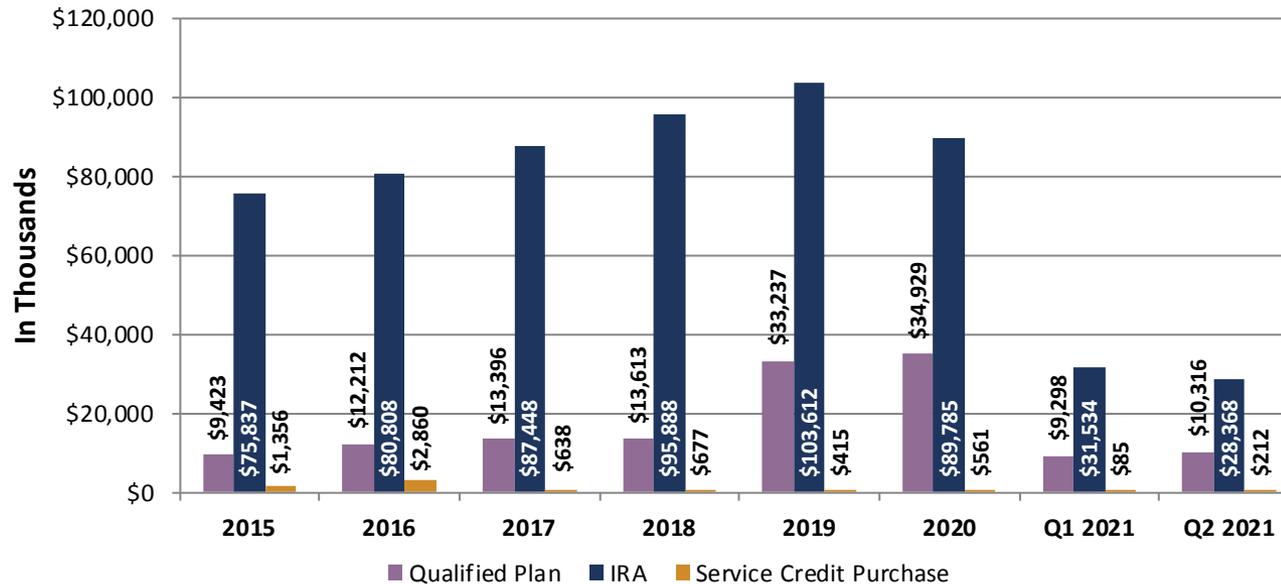
Note: Beneficiary Plan Excluded; Rollover Distributions Excluded and Reported on Subsequent Pages



Period	Lump Sum Distributions	Partial Distributions	Installment Distributions
2014	\$1,634	\$14,649	\$755
2015	\$828	\$2,233	\$560
2016	\$2,161	\$2,030	\$600
2017	\$2,186	\$1,981	\$605
2018	\$2,721	\$1,767	\$668
2019	\$2,274	\$1,818	\$634
2020	\$2,378	\$7,406	\$608
Q1 2021	\$5,274	\$6,333	\$690
Q2 2021	\$3,460	\$5,639	\$638

457 and 401(a) Plans – Rollover Distribution Destinations – Total Amounts

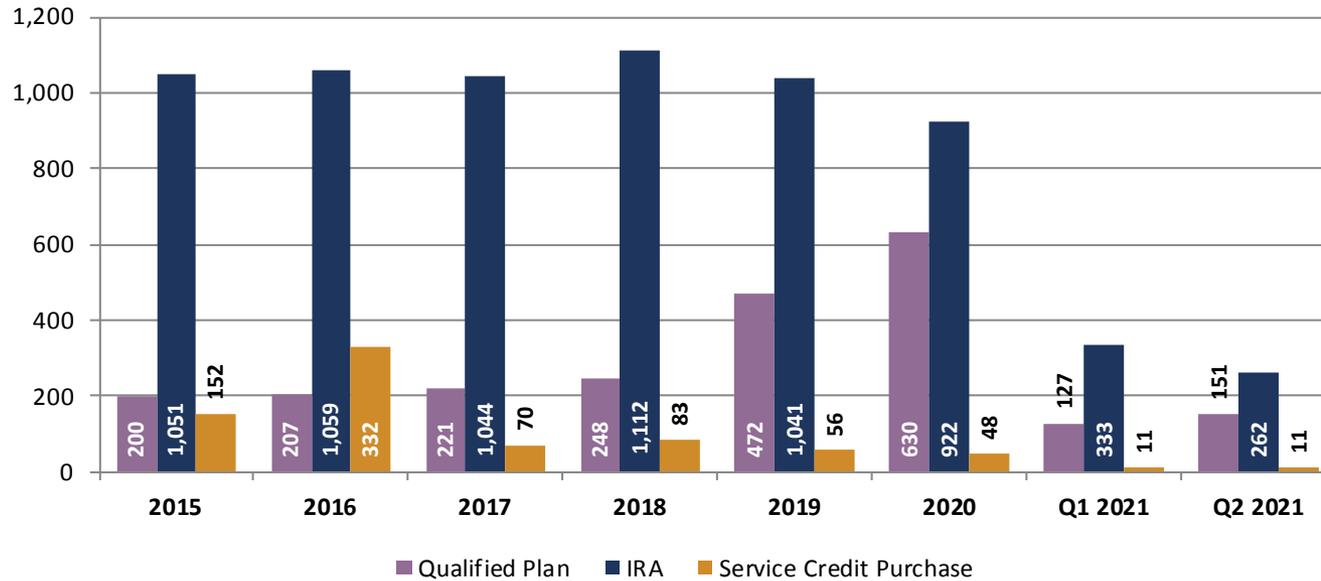
Note: Beneficiary Plan Excluded



Period	Qualified Plan	IRA	Service Credit Purchase	Total
2015	\$9,423	\$75,837	\$1,356	\$86,616
2016	\$12,212	\$80,808	\$2,860	\$95,880
2017	\$13,396	\$87,448	\$638	\$101,481
2018	\$13,613	\$95,888	\$677	\$110,178
2019	\$33,237	\$103,612	\$415	\$137,264
2020	\$34,929	\$89,785	\$561	\$125,275
Q1 2021	\$9,298	\$31,534	\$85	\$40,918
Q2 2021	\$10,316	\$28,368	\$212	\$38,896

457 Plan – Rollover Distribution Destinations

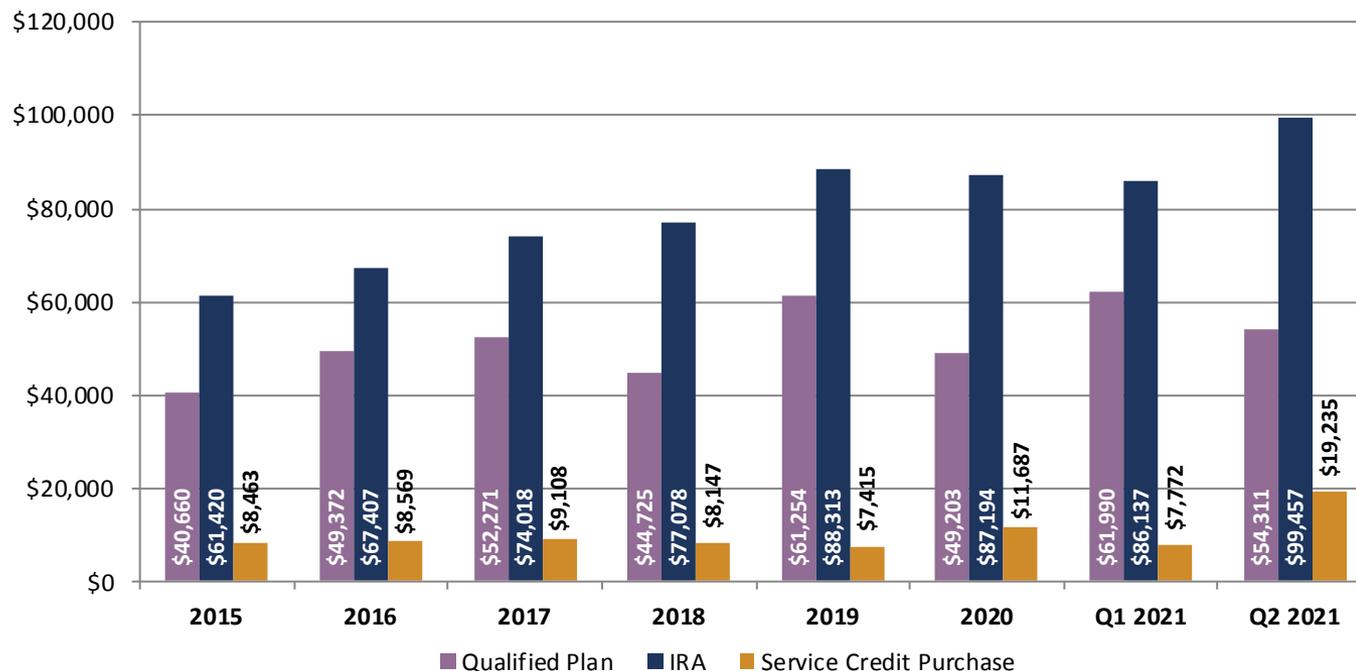
Note: Beneficiary Plan Excluded



Period	Qualified Plan	IRA	Service Credit Purchase	Total Rollover Distributions
2015	200	1,051	152	1,403
2016	207	1,059	332	1,598
2017	221	1,044	70	1,335
2018	248	1,112	83	1,443
2019	472	1,041	56	1,569
2020	630	922	48	1,600
Q1 2021	127	333	11	471
Q2 2021	151	262	11	424

457 Plan – Rollover Distribution Average Amounts

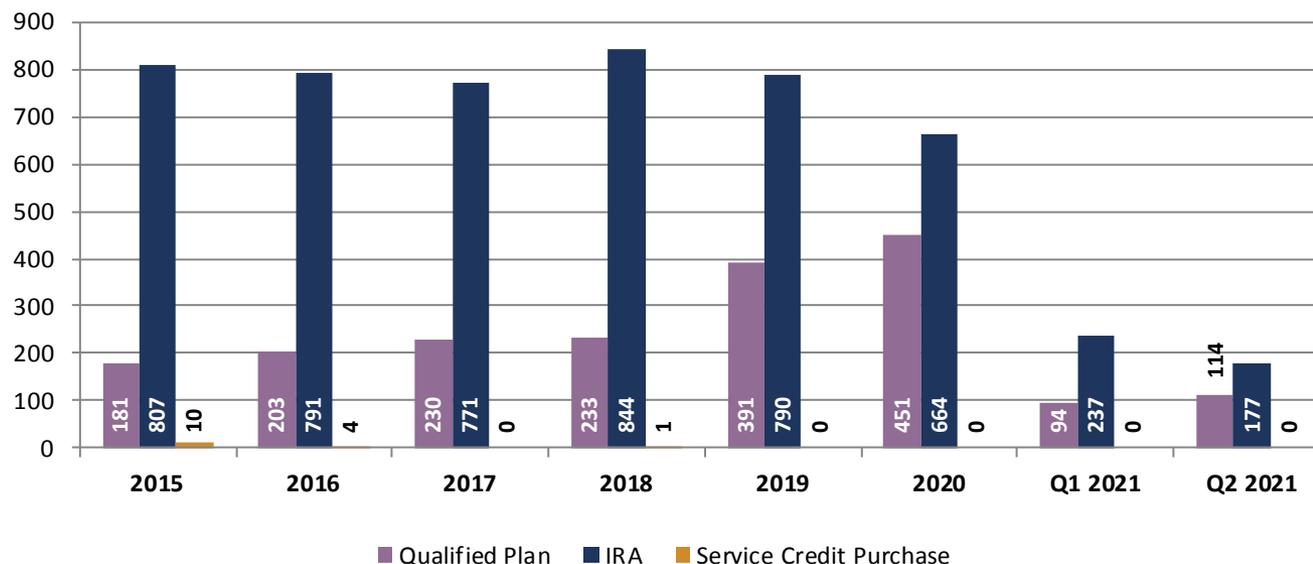
Note: Beneficiary Plan Excluded



Period	Qualified Plan	IRA	Service Credit Purchase	Average Rollover Distribution
2015	\$40,660	\$61,420	\$8,463	\$52,855
2016	\$49,372	\$67,407	\$8,569	\$52,847
2017	\$52,271	\$74,018	\$9,108	\$67,015
2018	\$44,725	\$77,078	\$8,147	\$67,553
2019	\$61,254	\$88,313	\$7,415	\$77,285
2020	\$49,203	\$87,194	\$11,687	\$69,970
Q1 2021	\$61,990	\$86,137	\$7,772	\$77,796
Q2 2021	\$54,311	\$99,457	\$19,235	\$81,297

401(a) Cash Match Plan – Rollover Distribution Destinations

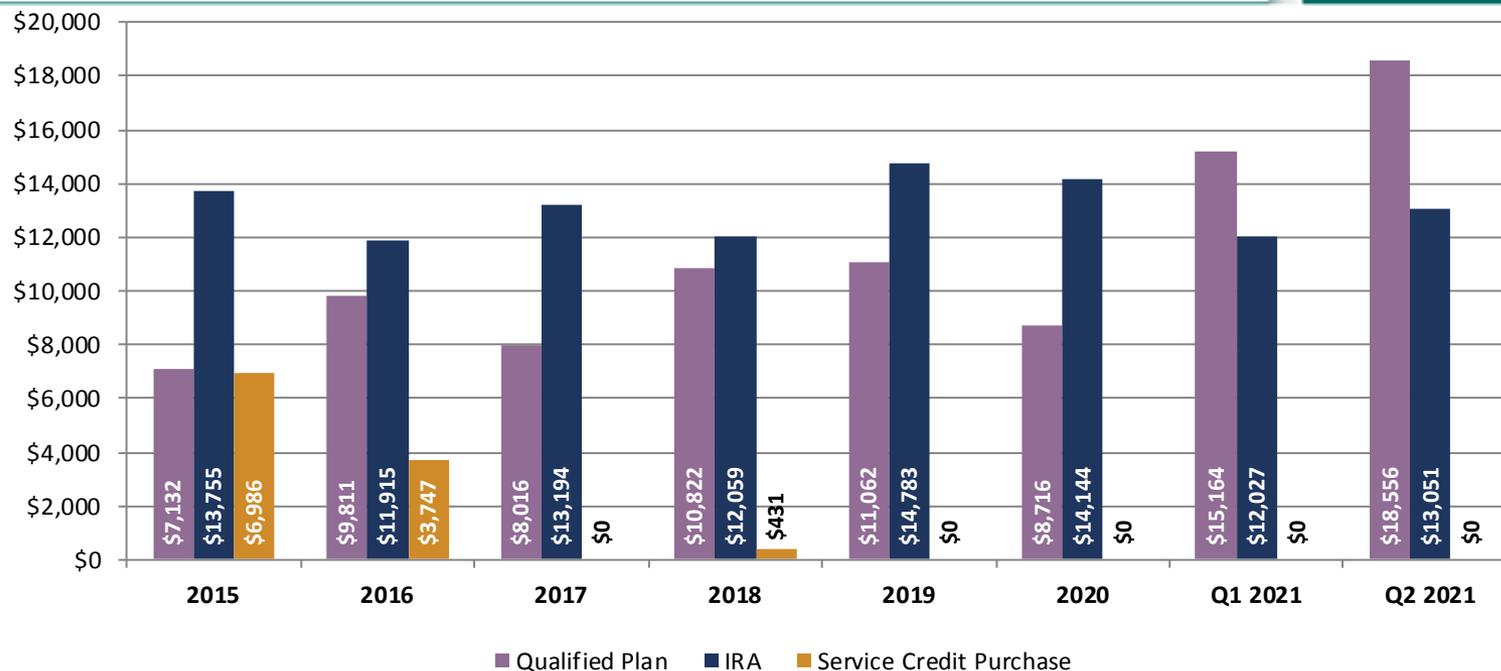
Note: Beneficiary Plan Excluded



Period	Qualified Plan	IRA	Service Credit Purchase	Total Rollover Distributions
2015	181	807	10	998
2016	203	791	4	998
2017	230	771	0	1,001
2018	233	844	1	1,078
2019	391	790	0	1,181
2020	451	664	0	1,115
Q1 2021	94	237	0	331
Q2 2021	114	177	0	291

401(a) Cash Match Plan – Rollover Distribution Average Amounts

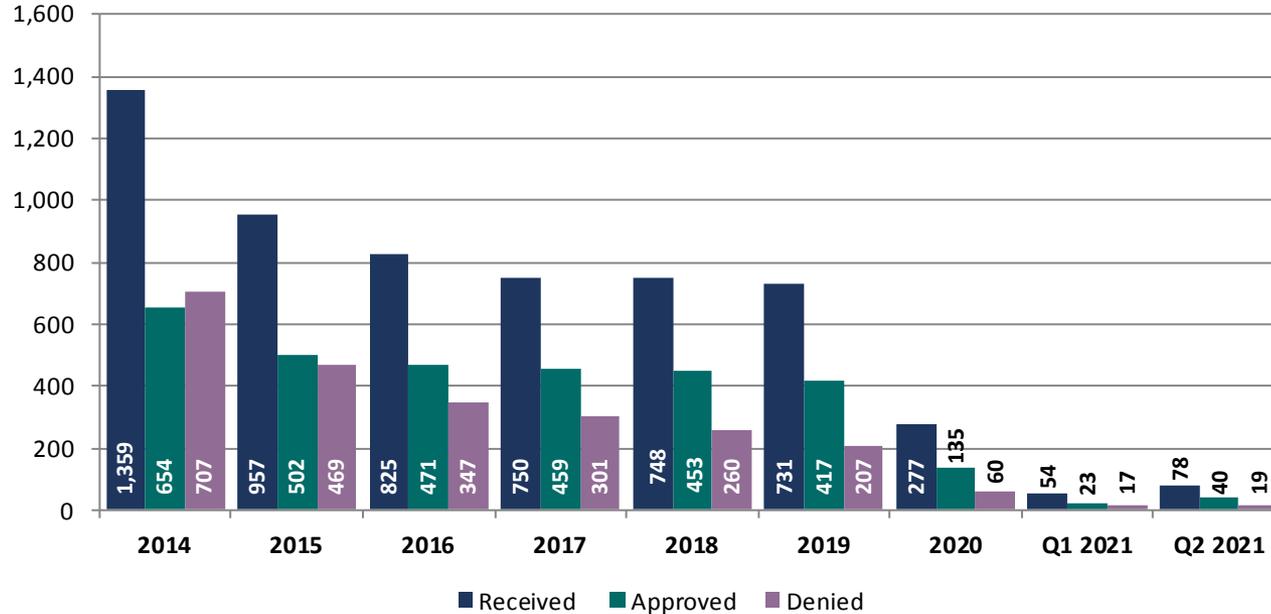
Note: Beneficiary Plan Excluded



Period	Qualified Plan	IRA	Service Credit Purchase	Average Rollover Distribution
2015	\$7,132	\$13,755	\$6,986	\$12,486
2016	\$9,811	\$11,915	\$3,747	\$11,454
2017	\$8,016	\$13,194	\$0	\$12,005
2018	\$10,822	\$12,059	\$431	\$11,781
2019	\$11,062	\$14,783	\$0	\$13,551
2020	\$8,716	\$14,144	\$0	\$11,949
Q1 2021	\$15,164	\$12,027	\$0	\$12,918
Q2 2021	\$18,556	\$13,051	\$0	\$15,208

457 Plan – Unforeseeable Emergency Withdrawals

Note: Reporting for Withdrawal Reasons Started In 2015



Withdrawals Approved and Paid								
Withdrawal Reason	2015	2016	2017	2018	2019	2020	Q1 2021	Q2 2021
Eviction	121	118	98	103	122	29	4	3
Foreclosure	48	52	50	29	24	6	0	0
Funeral Expenses	14	14	11	9	12	4	1	1
Lost Wages*	0	0	5	29	33	12	1	5
Medical Bills	312	279	288	269	215	82	17	31
Property Damage	7	8	7	14	11	2	0	0
Total Paid	502	471	459	453	417	135	23	40

* New category added in October 2017.

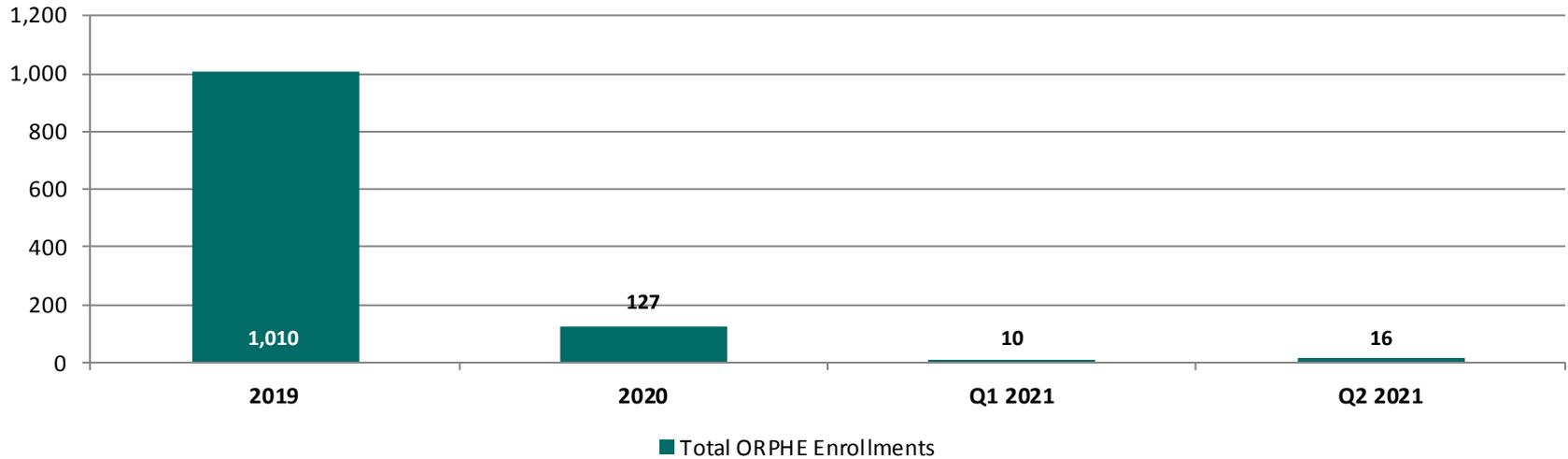
During Q2 2020 a moratorium was placed on Evictions through July 31, 2021 as a result of the COVID-19

pandemic. Other UFW throughout 2020 may have been impacted as a result of the pandemic.

ORP for Higher Ed

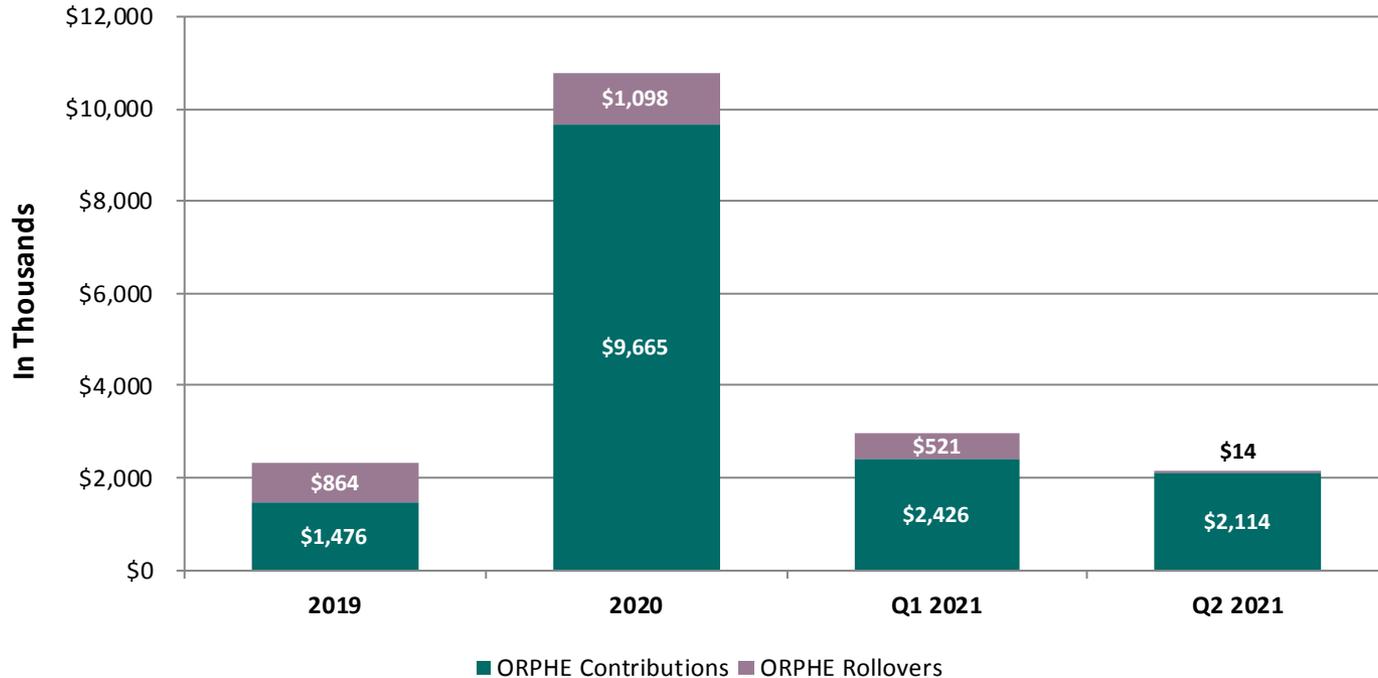
Note: All data is as of 6/30/2021 unless otherwise stated.

ORPHE Plan – New Enrollments



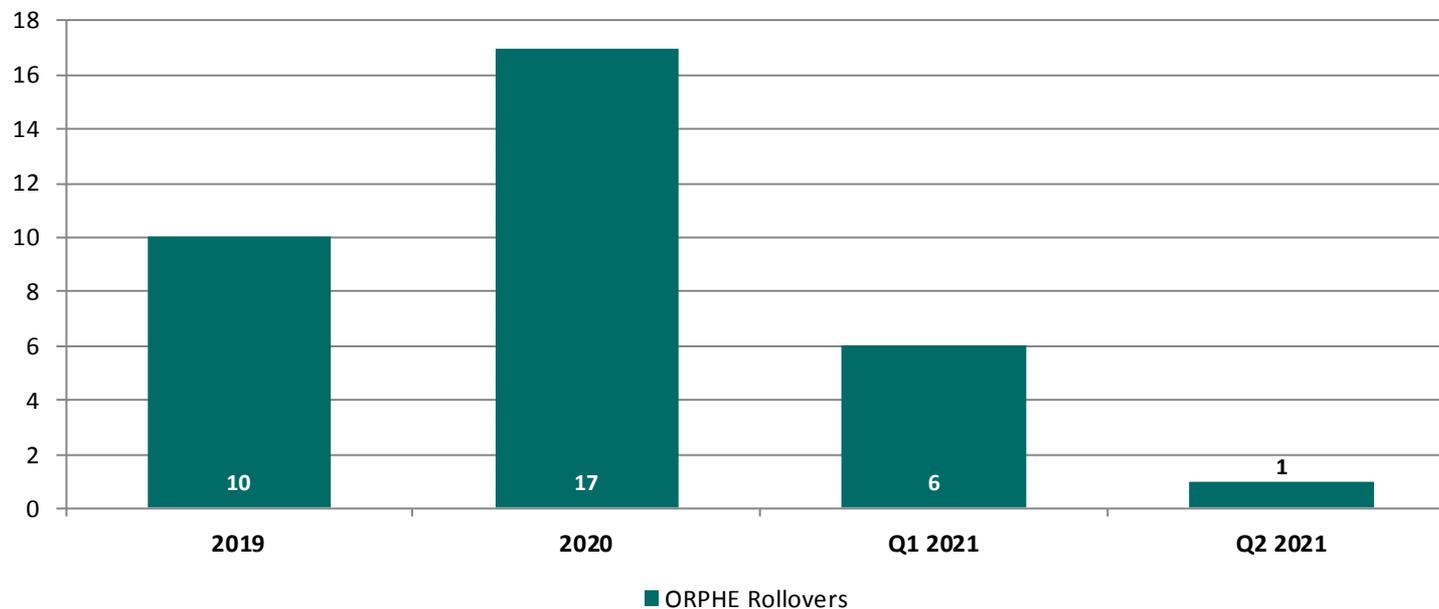
Period	Total ORPHE Enrollments
2019	1,010
2020	127
Q1 2021	10
Q2 2021	16

ORPHE Plan – Contributions and Incoming Rollovers



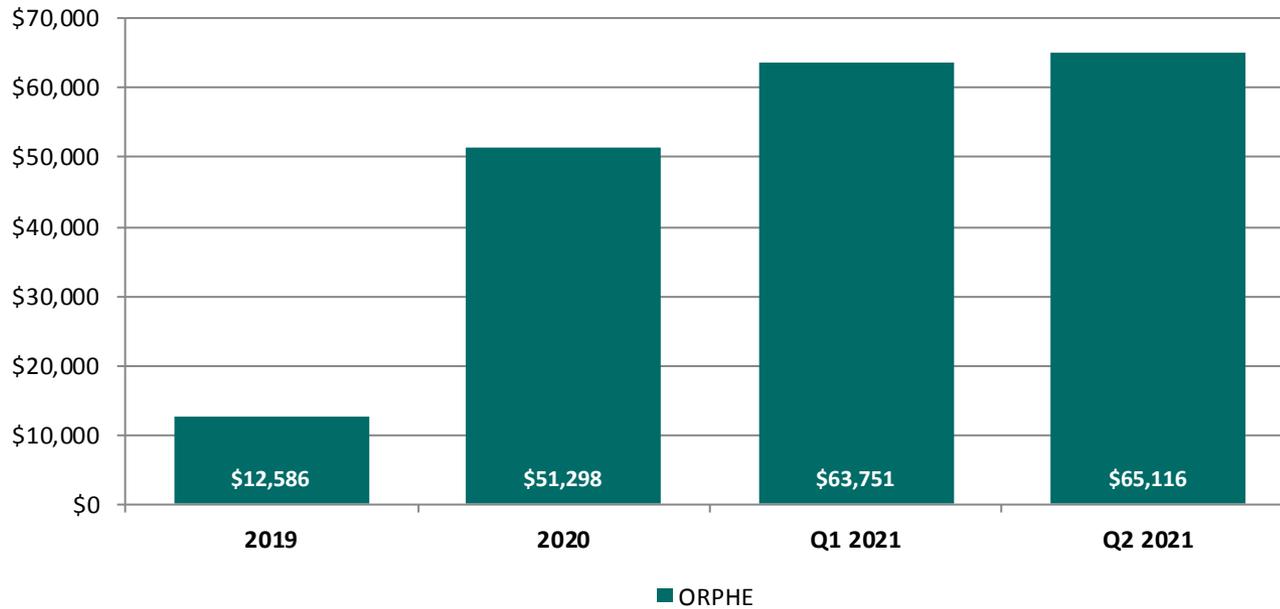
Period	ORPHE Contributions	ORPHE Rollovers	Total
2019	\$1,476.42	\$864.47	\$2,340.89
2020	\$9,664.81	\$1,097.86	\$10,762.67
Q1 2021	\$2,426.33	\$521.38	\$2,947.71
Q2 2021	\$2,113.53	\$14.10	\$2,127.63

ORPHE Plan – Incoming Rollovers – Counts



Period	ORPHE Rollovers
2019	10
2020	17
Q1 2021	6
Q2 2021	1

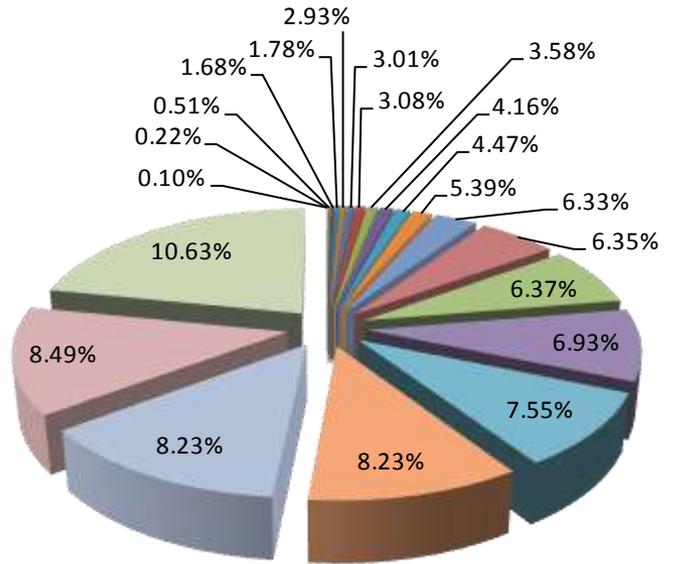
ORPHE Plan – Participant Average Account Balance



Period	ORPHE
2019	\$12,586
2020	\$51,298
Q1 2021	\$63,751
Q2 2021	\$65,116

ORPHE– Participant Use of Funds

Note: Includes Beneficiary Plan

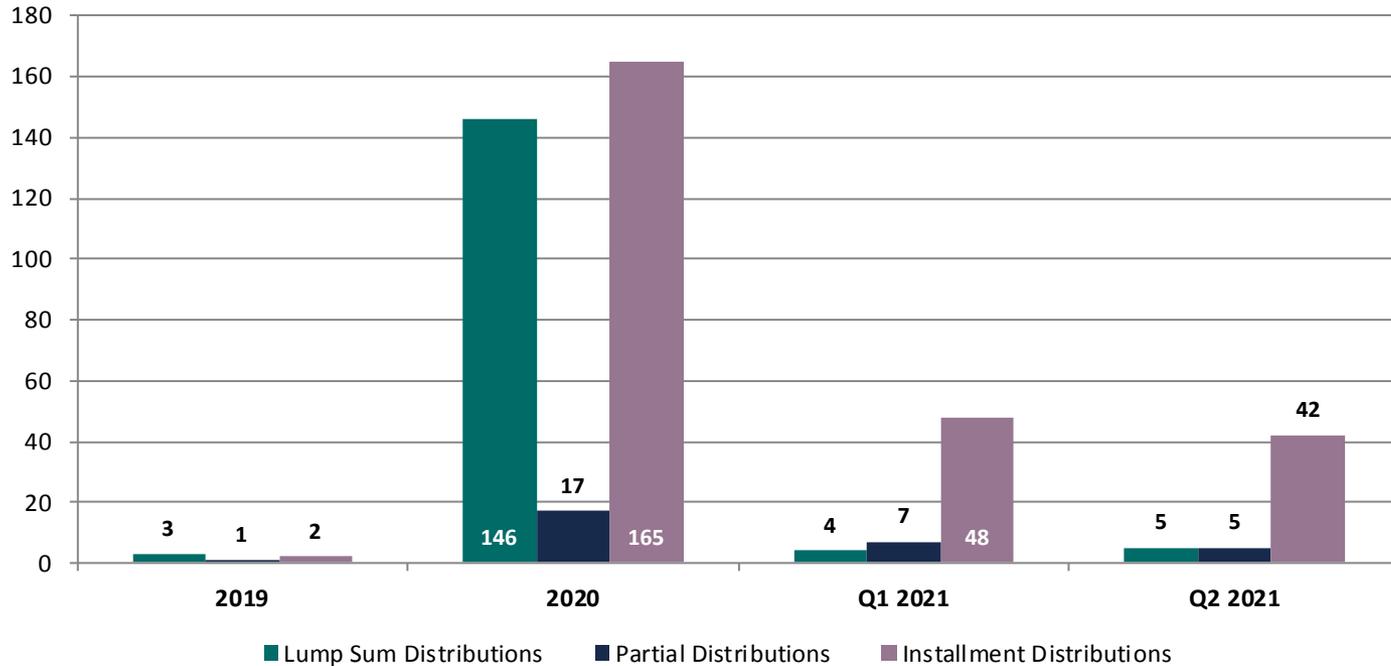


- VRS Investment Portfolio
- Target Date 2065 Portfolio
- TD Ameritrade
- Stable Value Fund
- Inflation-Protected Bond Fund
- Bond Fund
- High-Yield Bond Fund
- Target Date 2060 Portfolio
- Money Market Fund
- Global Real Estate Fund
- Target Date 2050 Portfolio
- Target Date 2055 Portfolio
- Target Date 2025 Portfolio
- Target Date 2050 Portfolio
- Target Date 2030 Portfolio
- International Stock Fund
- Target Date 2035 Portfolio
- Target Date 2045 Portfolio
- Target Date 2025 Portfolio
- Retirement Portfolio
- Target Date 2040 Portfolio
- Small/Mid-Cap Stock Fund
- Stock Fund

Fund Name	Participant Count 3/31/2021	Participant Count 6/30/2021	% of Participants 6/30/2021	% Change
VRS Investment Portfolio	4	4	0.10%	0.00%
Target Date 2065 Portfolio	9	9	0.22%	0.00%
TD Ameritrade	20	21	0.51%	5.00%
Stable Value Fund	68	70	1.68%	2.94%
Inflation-Protected Bond Fund	69	74	1.78%	7.25%
Bond Fund	118	122	2.93%	3.39%
High-Yield Bond Fund	114	125	3.01%	9.65%
Target Date 2060 Portfolio	125	128	3.08%	2.40%
Money Market Fund	144	149	3.58%	3.47%
Global Real Estate Fund	161	173	4.16%	7.45%
Target Date 2025 Portfolio	183	186	4.47%	1.64%
Target Date 2055 Portfolio	223	224	5.39%	0.45%
Target Date 2030 Portfolio	254	263	6.33%	3.54%
International Stock Fund	247	264	6.35%	6.88%
Target Date 2035 Portfolio	254	265	6.37%	4.33%
Target Date 2045 Portfolio	268	288	6.93%	7.46%
Target Date 2050 Portfolio	304	314	7.55%	3.29%
Retirement Portfolio	309	342	8.23%	10.68%
Target Date 2040 Portfolio	324	342	8.23%	5.56%
Small/Mid-Cap Stock Fund	327	353	8.49%	7.95%
Stock Fund	412	442	10.63%	7.28%

ORPHE Plan – Distributions by Type

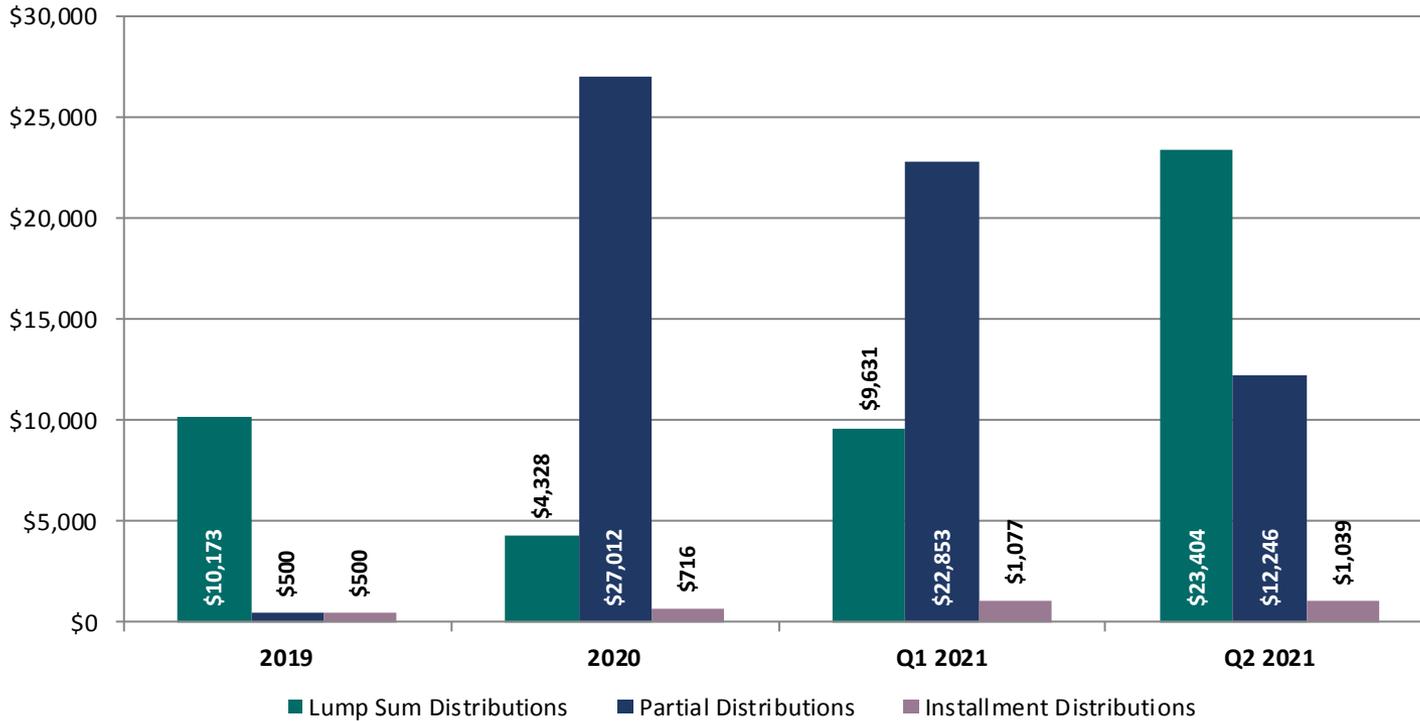
Note: Rollover Distributions Excluded and Reported on Subsequent Pages



Period	Lump Sum Distributions	Partial Distributions	Installment Distributions
2019	3	1	2
2020	146	17	165
Q1 2021	4	7	48
Q2 2021	5	5	42

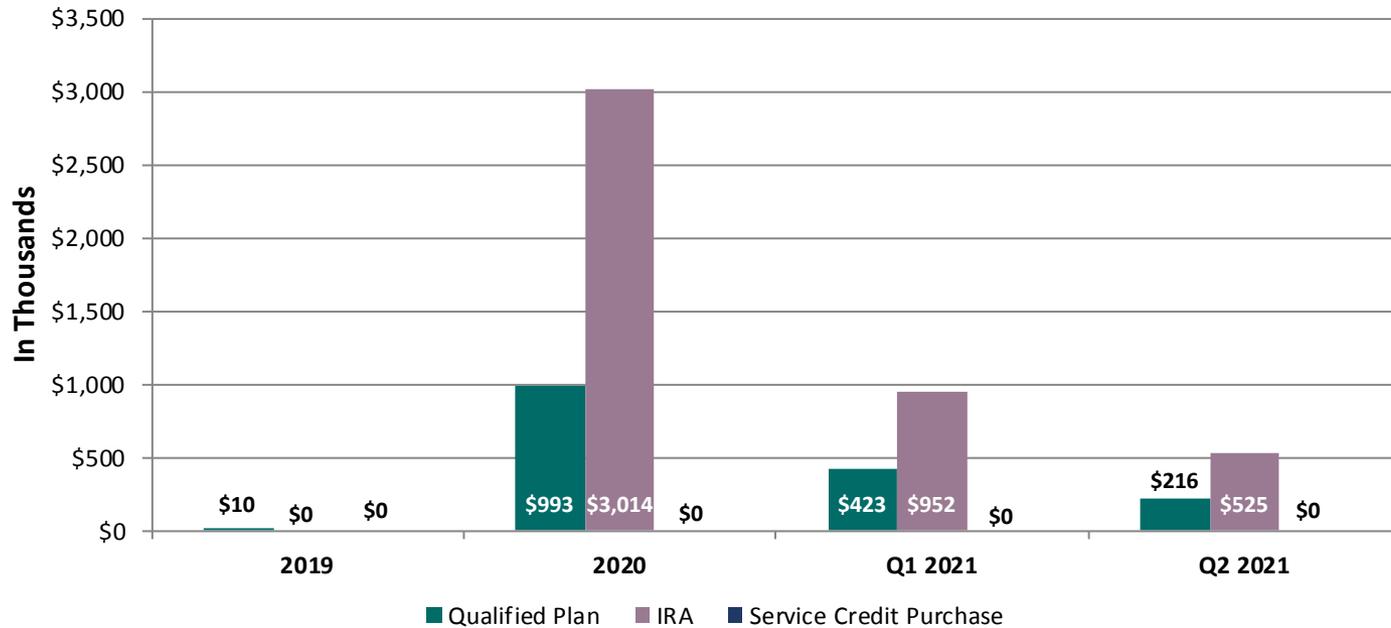
ORPHE Plan – Average Distribution Amount

Note: Rollover Distributions Excluded and Reported on Subsequent Pages



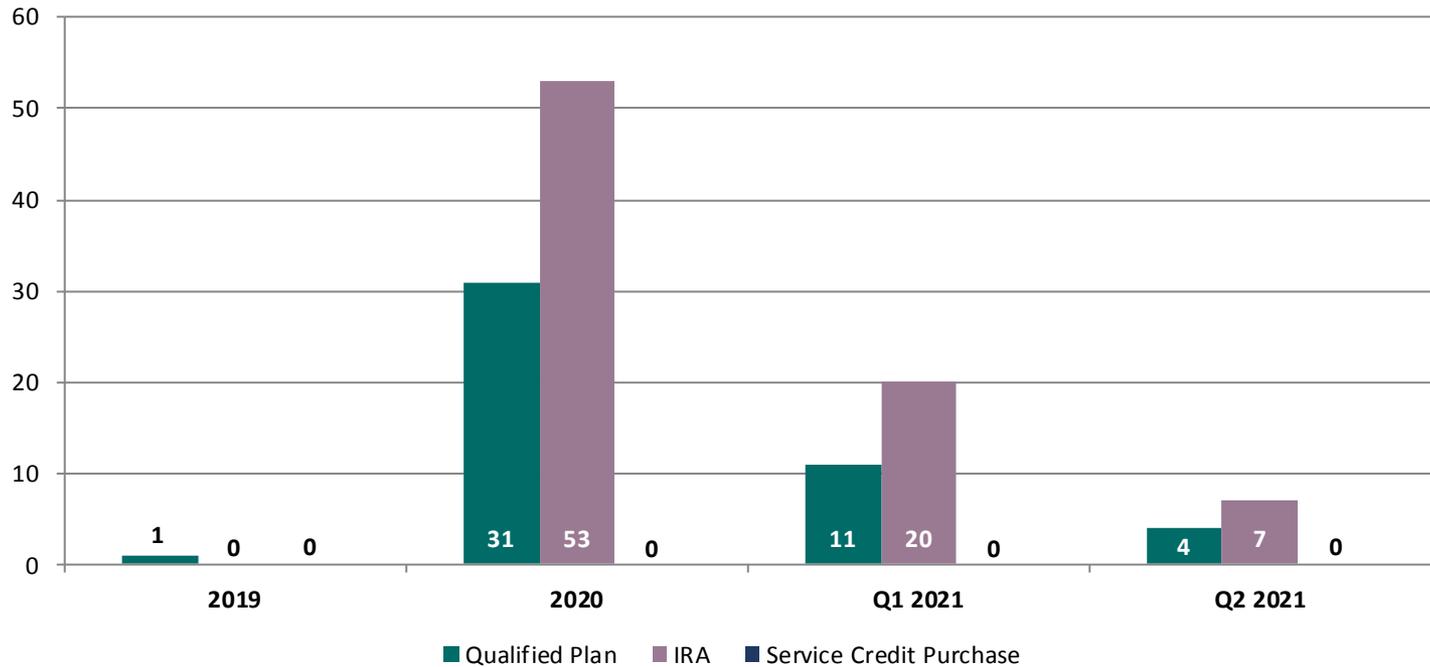
Period	Lump Sum Distributions	Partial Distributions	Installment Distributions
2019	\$10,173	\$500	\$500
2020	\$4,328	\$27,012	\$716
Q1 2021	\$9,631	\$22,853	\$1,077
Q2 2021	\$23,404	\$12,246	\$1,039

ORPHE Plan – Rollover Distribution Destinations – Total Amounts



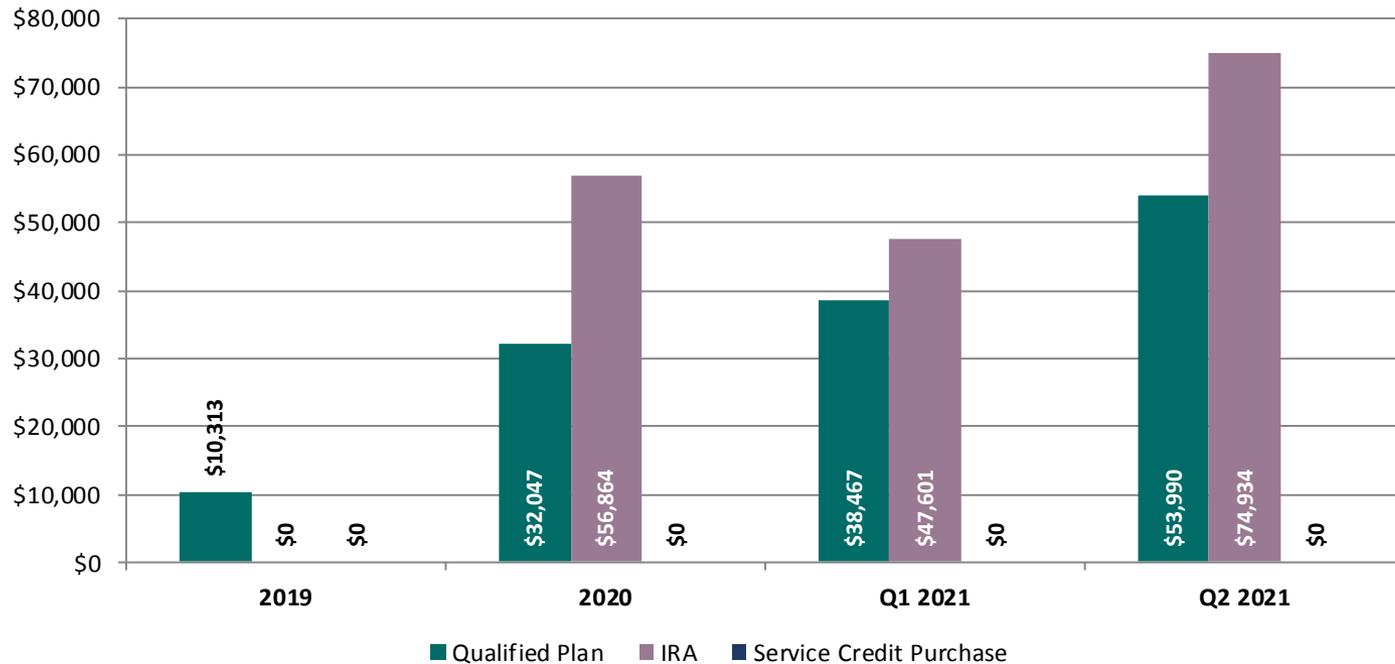
Period	Qualified Plan	IRA	Service Credit Purchase	Total
2019	\$10	\$0	\$0	\$10
2020	\$993	\$3,014	\$0	\$4,007
Q1 2021	\$423	\$952	\$0	\$1,375
Q2 2021	\$216	\$525	\$0	\$741

ORPHE Plan – Rollover Distribution Destinations



Period	Qualified Plan	IRA	Service Credit Purchase	Total Rollover Distributions
2019	1	0	0	1
2020	31	53	0	84
Q1 2021	11	20	0	31
Q2 2021	4	7	0	11

ORPHE Plan – Rollover Distribution Average Amounts



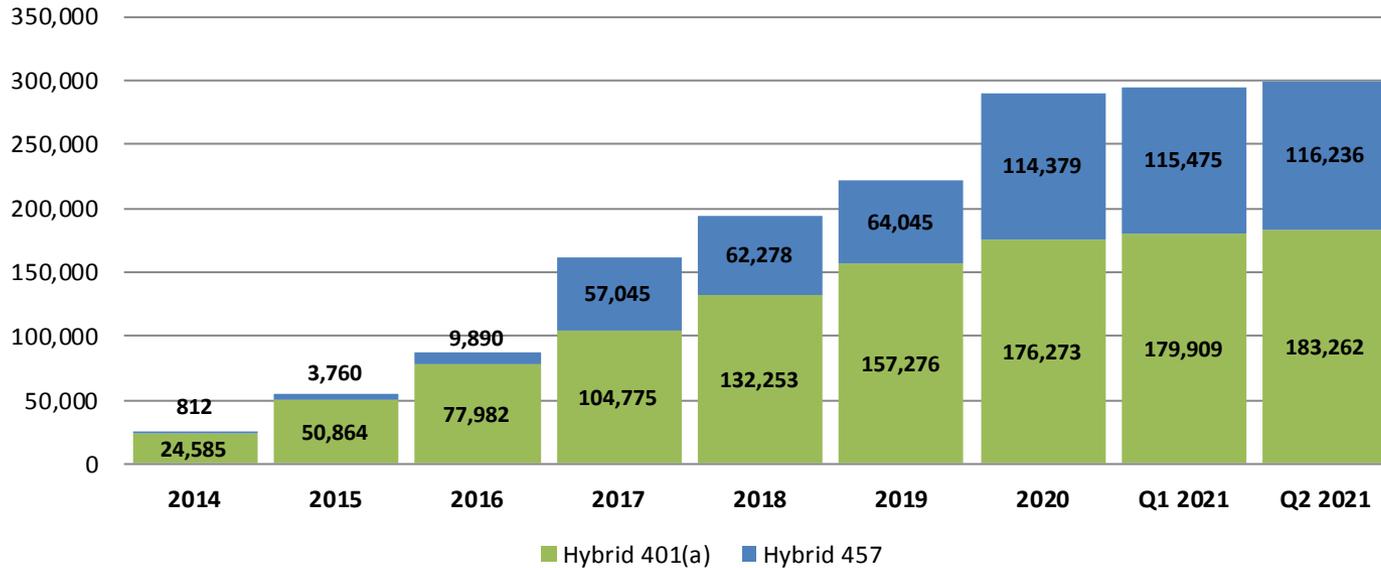
Period	Qualified Plan	IRA	Service Credit Purchase	Average Rollover Distribution
2019	\$10,313	\$0	\$0	\$10,313
2020	\$32,047	\$56,864	\$0	\$47,705
Q1 2021	\$38,467	\$47,601	\$0	\$44,360
Q2 2021	\$53,990	\$74,934	\$0	\$67,318

Hybrid Retirement Plan

Note: All data is as of 6/30/2021 unless otherwise stated.

Hybrid 401(a) & 457 Plans – Number of Participant Accounts

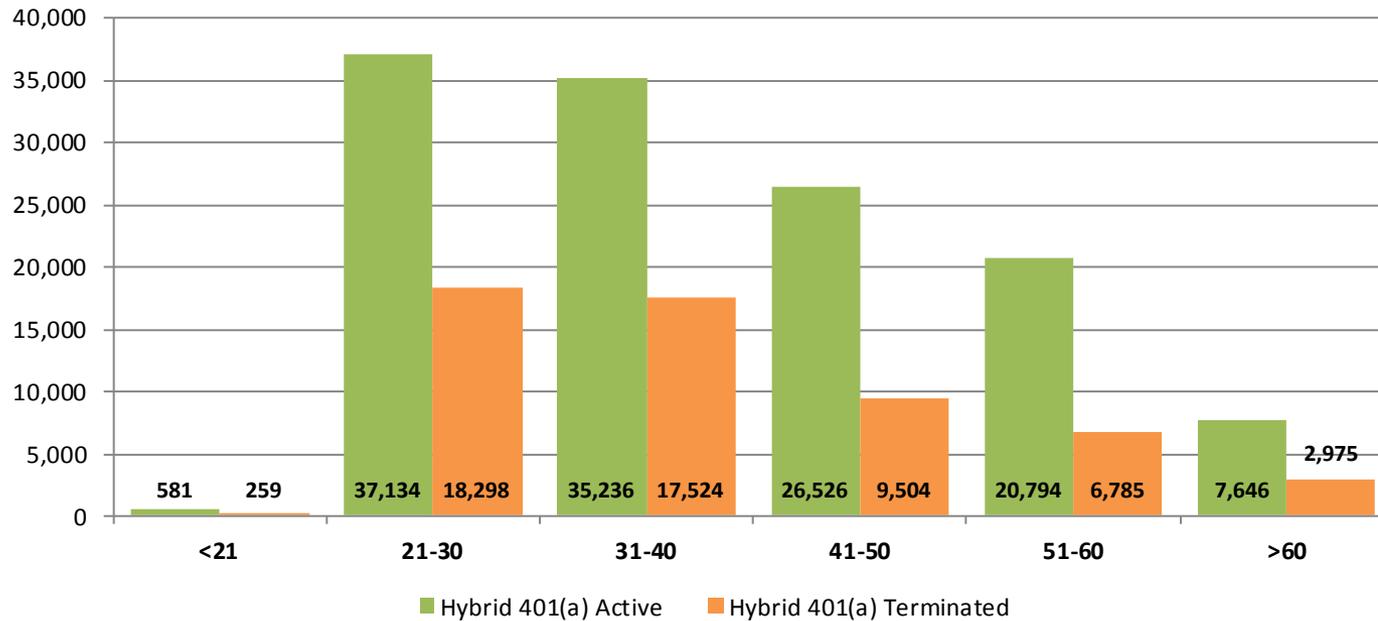
Note: Beneficiary Plans excluded; Forfeiture Accounts excluded starting in 2015;
Counts include Active and Terminated Members



Period	Hybrid 401(a)	Hybrid 457	Total
2014	24,585	812	25,397
2015	50,864	3,760	54,624
2016	77,982	9,890	87,872
2017	104,775	57,045	161,820
2018	132,253	62,278	194,531
2019	157,276	64,045	221,321
2020	176,273	114,379	290,652
Q1 2021	179,909	115,475	295,384
Q2 2021	183,262	116,236	299,498

Hybrid 401(a) Plan – Participant Status Count by Age

Note: Beneficiary Plans and Forfeiture Accounts Excluded

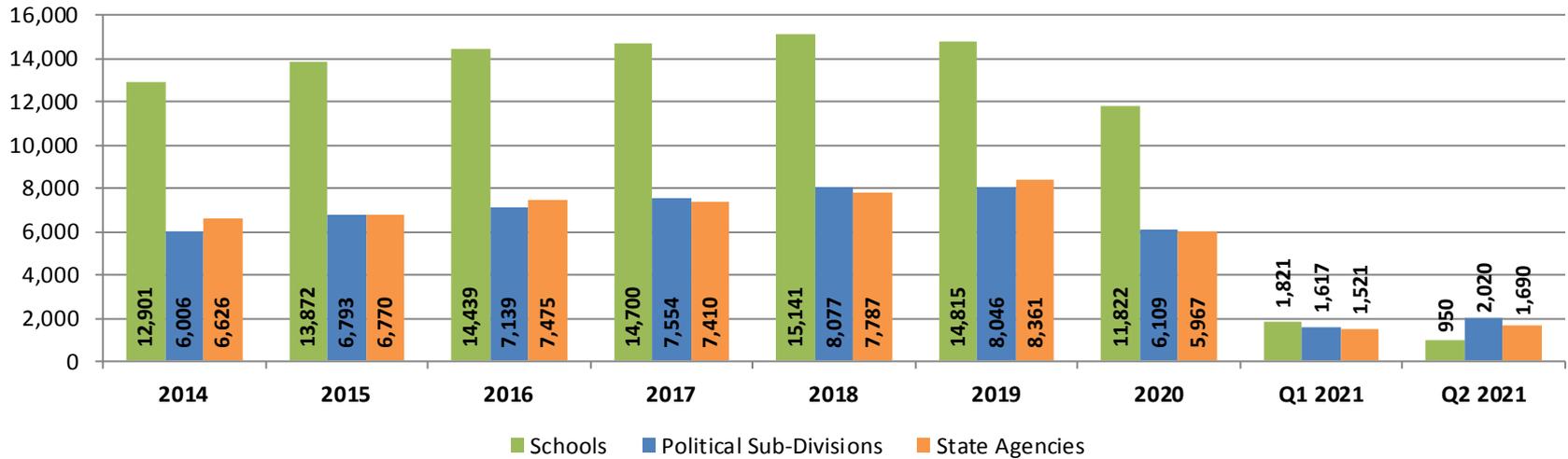


Age Range	Hybrid 401(a) *		
	Active	Terminated	Total
<21	581	259	840
21-30	37,134	18,298	55,432
31-40	35,236	17,524	52,760
41-50	26,526	9,504	36,030
51-60	20,794	6,785	27,579
>60	7,646	2,975	10,621
Total	127,917	55,345	183,262

* Chart shows Hybrid 401(a) counts only, since all participants in the Hybrid 457 counts are included in the Hybrid 401(a) counts.

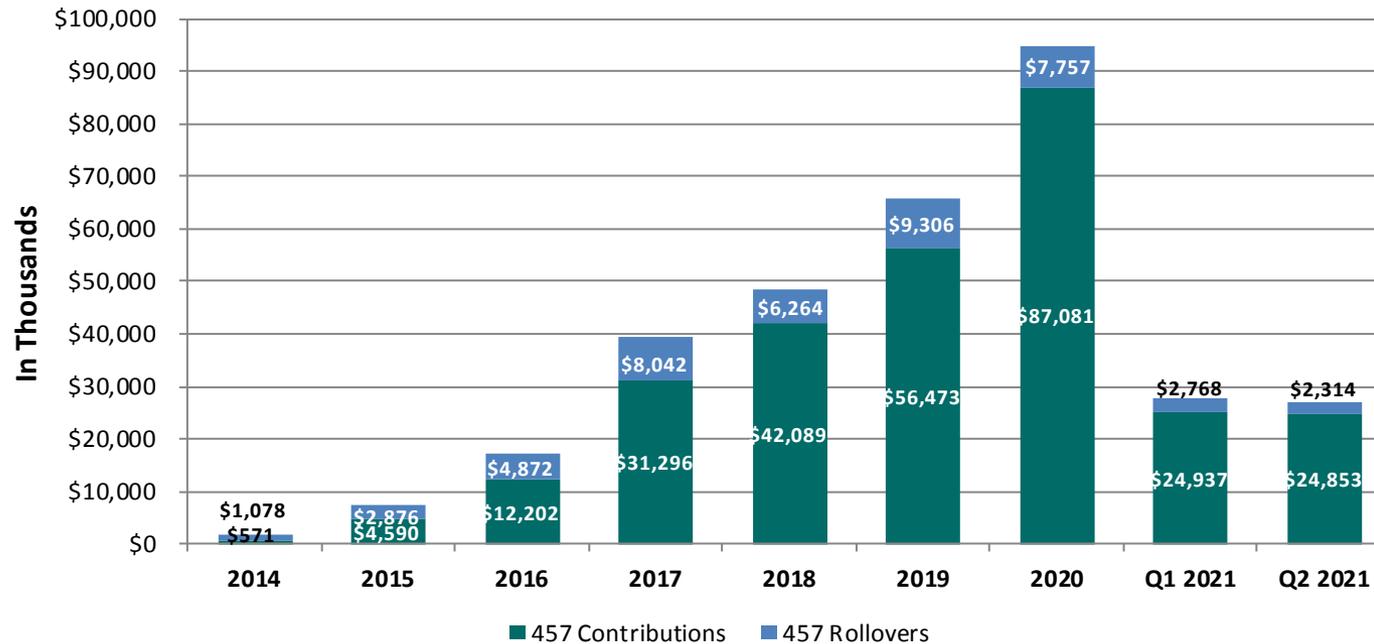
** Active Participants do not have a termination date on file and may not have made a contribution during the quarter. Terminated Participants have a terminate date on file.

Hybrid 401(a) Plan – New Enrollments



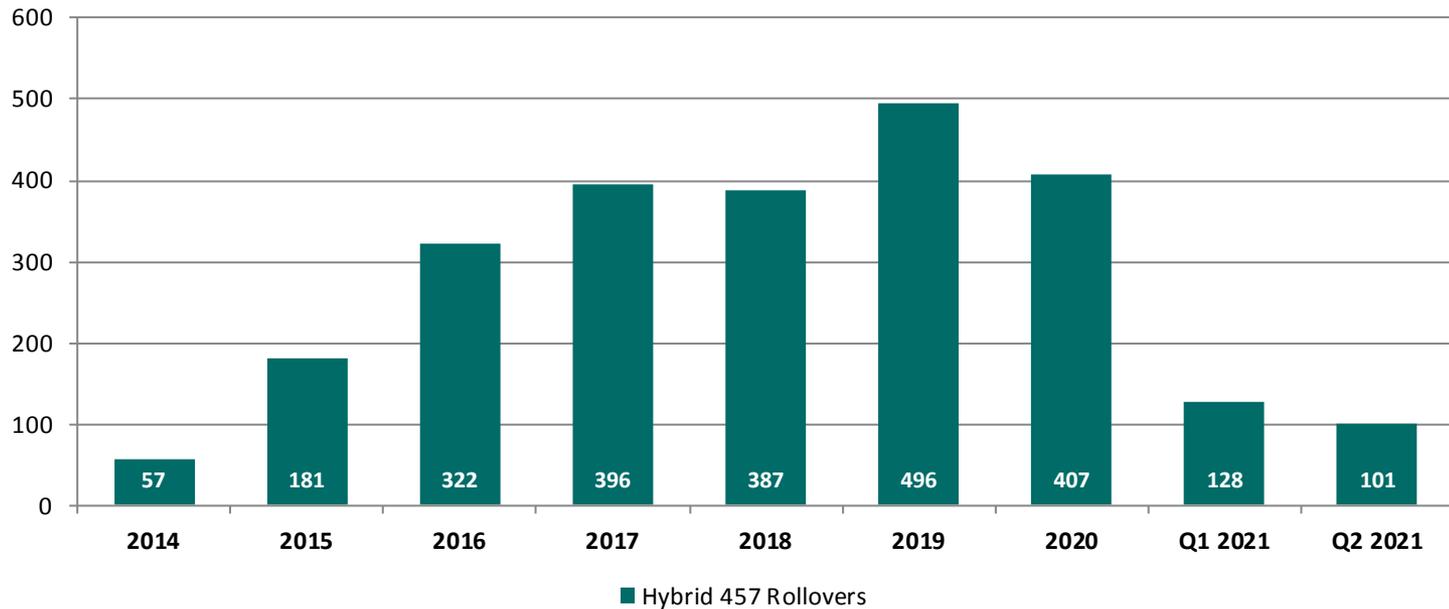
Period	Schools	Political Sub-Divisions	State Agencies	Total Hybrid Enrollments
2014	12,901	6,006	6,626	25,533
2015	13,872	6,793	6,770	27,435
2016	14,439	7,139	7,475	29,053
2017	14,700	7,554	7,410	29,664
2018	15,141	8,077	7,787	31,005
2019	14,815	8,046	8,361	31,222
2020	11,822	6,109	5,967	23,898
Q1 2021	1,821	1,617	1,521	4,959
Q2 2021	950	2,020	1,690	4,660

Hybrid 457 Plan – Contributions and Incoming Rollovers



Period	457 Contributions	457 Rollovers	Total
2014	\$571.04	\$1,078.49	\$1,649.53
2015	\$4,590.00	\$2,876.02	\$7,466.02
2016	\$12,202.01	\$4,872.44	\$17,074.45
2017	\$31,295.56	\$8,042.46	\$39,338.02
2018	\$42,088.69	\$6,264.32	\$48,353.01
2019	\$56,472.59	\$9,305.69	\$65,778.28
2020	\$87,080.69	\$7,757.06	\$94,837.75
Q1 2021	\$24,936.64	\$2,768.33	\$27,704.96
Q2 2021	\$24,852.61	\$2,313.99	\$27,166.60

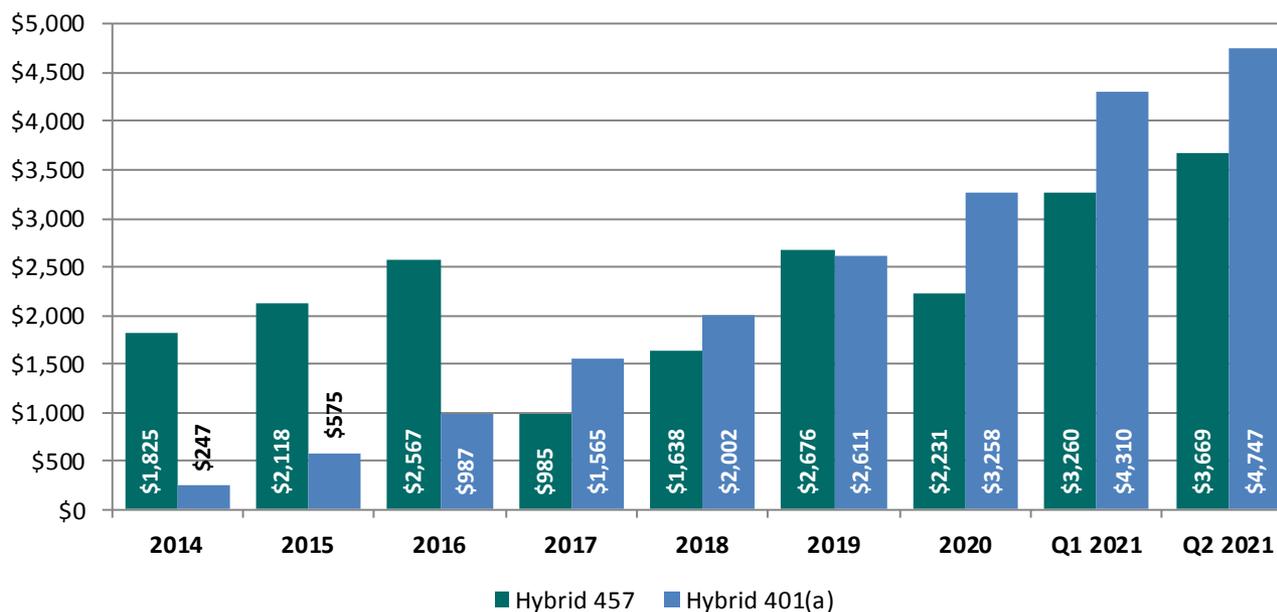
Hybrid 457 Plan – Incoming Rollovers – Counts



Period	Hybrid 457 Rollovers
2014	57
2015	181
2016	322
2017	396
2018	387
2019	496
2020	407
Q1 2021	128
Q2 2021	101

Hybrid 401(a) & 457 Plans – Participant Average Account Balance

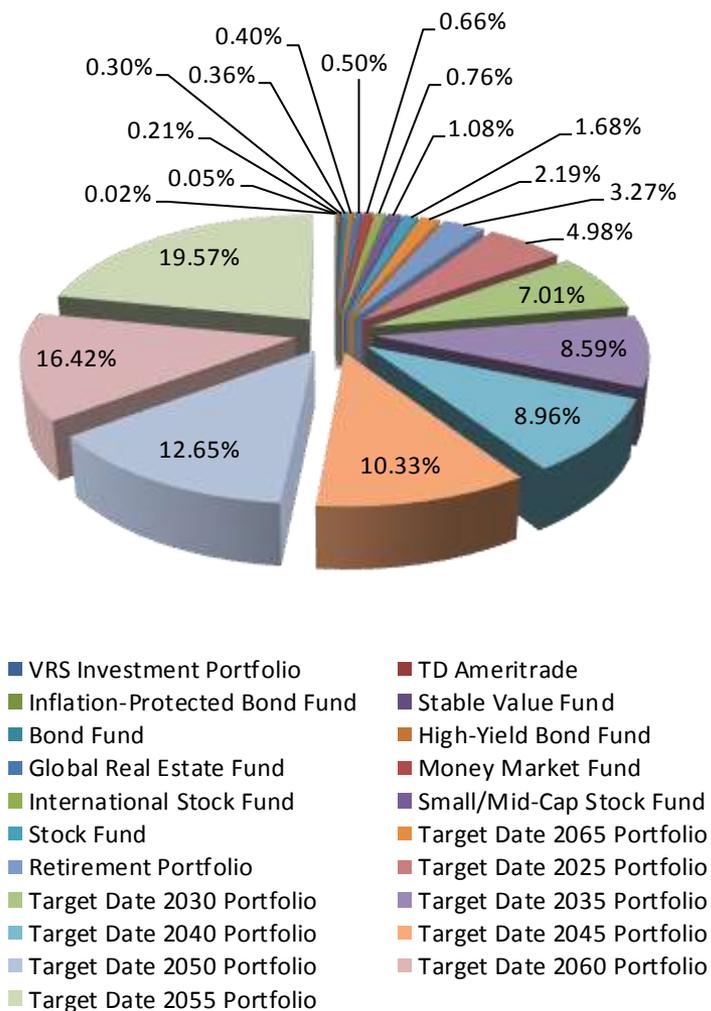
Note: Beneficiary Plans Included; Forfeiture Accounts Excluded Starting 2015



Period	Hybrid 457	Hybrid 401(a)
2014	\$1,825	\$247
2015	\$2,118	\$575
2016	\$2,567	\$987
2017	\$985	\$1,565
2018	\$1,638	\$2,002
2019	\$2,676	\$2,611
2020	\$2,231	\$3,258
Q1 2021	\$3,260	\$4,310
Q2 2021	\$3,669	\$4,747

Hybrid 401(a) Plan – Participant Use of Funds

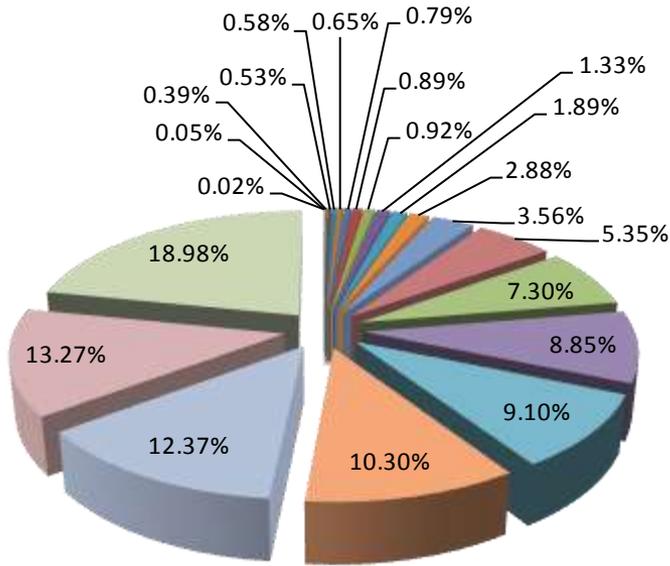
Note: Includes Beneficiary Plan



Fund Name	Participant Count 3/31/2021	Participant Count 6/30/2021	% of Participants 6/30/2021	% Change
VRS Investment Portfolio	40	42	0.02%	5.00%
TD Ameritrade	98	107	0.05%	9.18%
Inflation-Protected Bond Fund	410	417	0.21%	1.71%
Stable Value Fund	581	586	0.30%	0.86%
Bond Fund	692	700	0.36%	1.16%
High-Yield Bond Fund	755	785	0.40%	3.97%
Global Real Estate Fund	926	974	0.50%	5.18%
Money Market Fund	1,280	1,285	0.66%	0.39%
International Stock Fund	1,419	1,492	0.76%	5.14%
Small/Mid-Cap Stock Fund	2,010	2,104	1.08%	4.68%
Stock Fund	3,147	3,284	1.68%	4.35%
Target Date 2065 Portfolio	3,732	4,280	2.19%	14.68%
Retirement Portfolio	6,402	6,387	3.27%	-0.23%
Target Date 2025 Portfolio	9,620	9,727	4.98%	1.11%
Target Date 2030 Portfolio	13,386	13,692	7.01%	2.29%
Target Date 2035 Portfolio	16,491	16,788	8.59%	1.80%
Target Date 2040 Portfolio	17,220	17,507	8.96%	1.67%
Target Date 2045 Portfolio	19,869	20,179	10.33%	1.56%
Target Date 2050 Portfolio	24,329	24,710	12.65%	1.57%
Target Date 2060 Portfolio	31,367	32,073	16.42%	2.25%
Target Date 2055 Portfolio	37,841	38,238	19.57%	1.05%

Hybrid 457 Plan – Participant Use of Funds

Note: Includes Beneficiary Plan

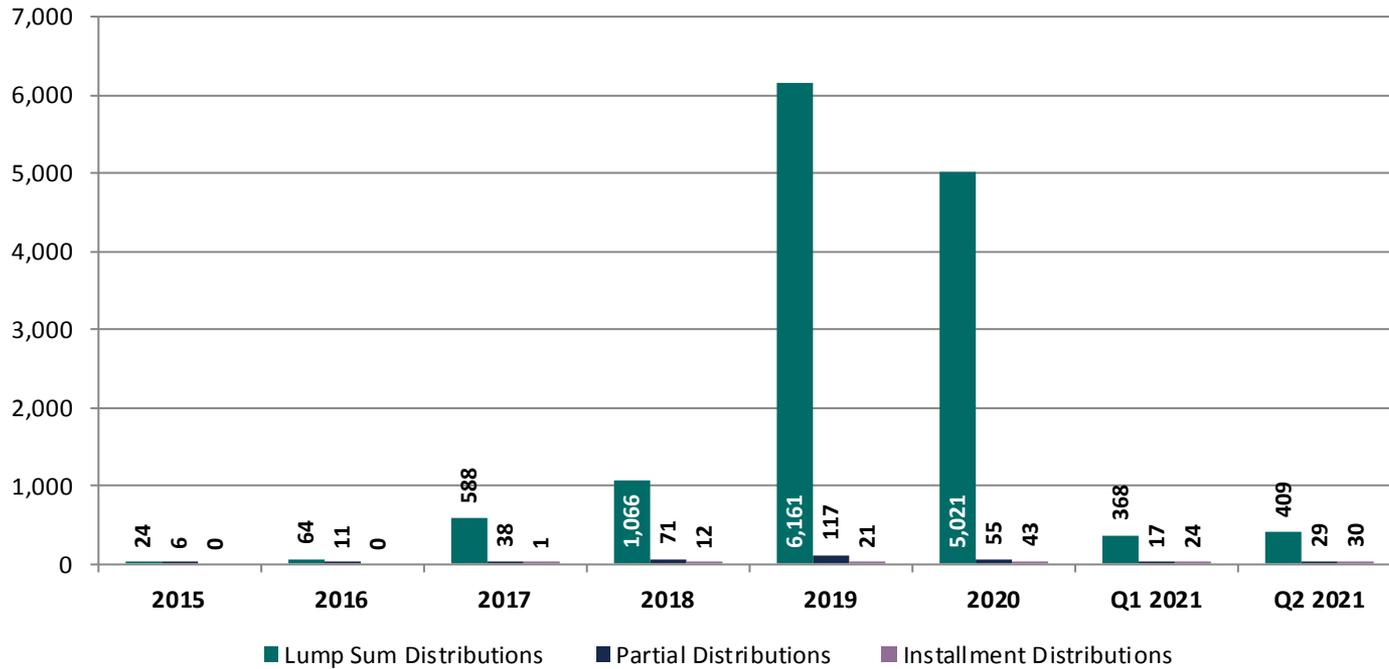


Fund Name	Participant Count 3/31/2021	Participant Count 6/30/2021	% of Participants 6/30/2021	% Change
VRS Investment Portfolio	25	26	0.02%	4.00%
TD Ameritrade	60	66	0.05%	10.00%
Inflation-Protected Bond Fund	479	503	0.39%	5.01%
Money Market Fund	668	679	0.53%	1.65%
Stable Value Fund	720	734	0.58%	1.94%
Bond Fund	812	834	0.65%	2.71%
High-Yield Bond Fund	975	1,006	0.79%	3.18%
Target Date 2065 Portfolio	1,039	1,129	0.89%	8.66%
Global Real Estate Fund	1,135	1,177	0.92%	3.70%
International Stock Fund	1,613	1,690	1.33%	4.77%
Small/Mid-Cap Stock Fund	2,299	2,403	1.89%	4.52%
Stock Fund	3,503	3,668	2.88%	4.71%
Retirement Portfolio	4,570	4,537	3.56%	-0.72%
Target Date 2025 Portfolio	6,798	6,824	5.35%	0.38%
Target Date 2030 Portfolio	9,237	9,305	7.30%	0.74%
Target Date 2035 Portfolio	11,176	11,283	8.85%	0.96%
Target Date 2040 Portfolio	11,514	11,594	9.10%	0.69%
Target Date 2045 Portfolio	13,031	13,128	10.30%	0.74%
Target Date 2050 Portfolio	15,701	15,765	12.37%	0.41%
Target Date 2060 Portfolio	16,714	16,911	13.27%	1.18%
Target Date 2055 Portfolio	24,095	24,186	18.98%	0.38%

- VRS Investment Portfolio
- Inflation-Protected Bond Fund
- Stable Value Fund
- High-Yield Bond Fund
- Global Real Estate Fund
- Small/Mid-Cap Stock Fund
- Retirement Portfolio
- Target Date 2030 Portfolio
- Target Date 2040 Portfolio
- Target Date 2050 Portfolio
- Target Date 2055 Portfolio
- TD Ameritrade
- Money Market Fund
- Bond Fund
- Target Date 2065 Portfolio
- International Stock Fund
- Stock Fund
- Target Date 2025 Portfolio
- Target Date 2035 Portfolio
- Target Date 2045 Portfolio

Hybrid 457 Plan – Distributions by Type

Note: Rollover Distributions Excluded and Reported on Subsequent Pages



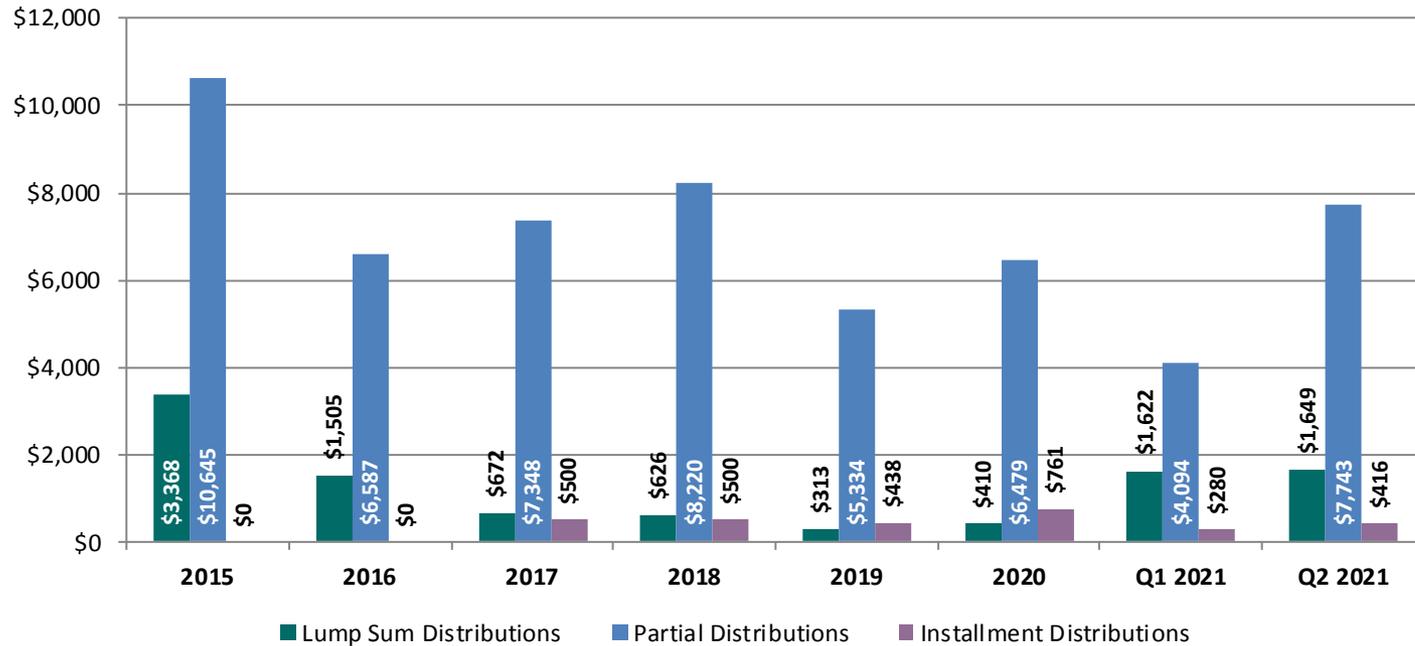
Period	Lump Sum Distributions	Partial Distributions	Installment Distributions
2015	24	6	0
2016	64	11	0
2017	588	38	1
2018	1,066	71	12
2019	6,161	117	21
2020	5,021	55	43
Q1 2021	368	17	24
Q2 2021	409	29	30

Note: Data not available for 2014. Tracking started in 2015.

Small Balance payouts started in Q2 2019.

Hybrid 457 Plan – Average Distribution Amount

Note: Rollover Distributions Excluded and Reported on Subsequent Pages

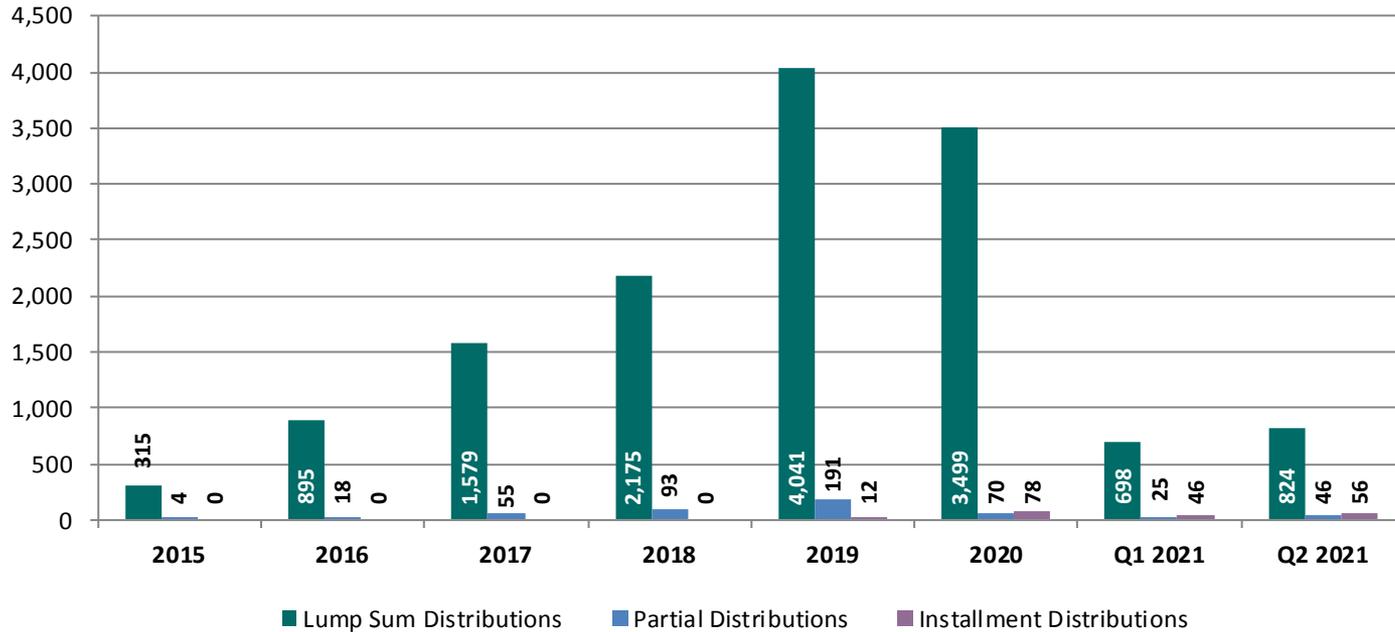


Period	Lump Sum Distributions	Partial Distributions	Installment Distributions
2015	\$3,368	\$10,645	\$0
2016	\$1,505	\$6,587	\$0
2017	\$672	\$7,348	\$500
2018	\$626	\$8,220	\$500
2019	\$313	\$5,334	\$438
2020	\$410	\$6,479	\$761
Q1 2021	\$1,622	\$4,094	\$280
Q2 2021	\$1,649	\$7,743	\$416

Note: Data not available for 2014. Tracking started in 2015.

Hybrid 401(a) Plan – Distributions by Type

Note: Rollover Distributions Excluded and Reported on Subsequent Pages

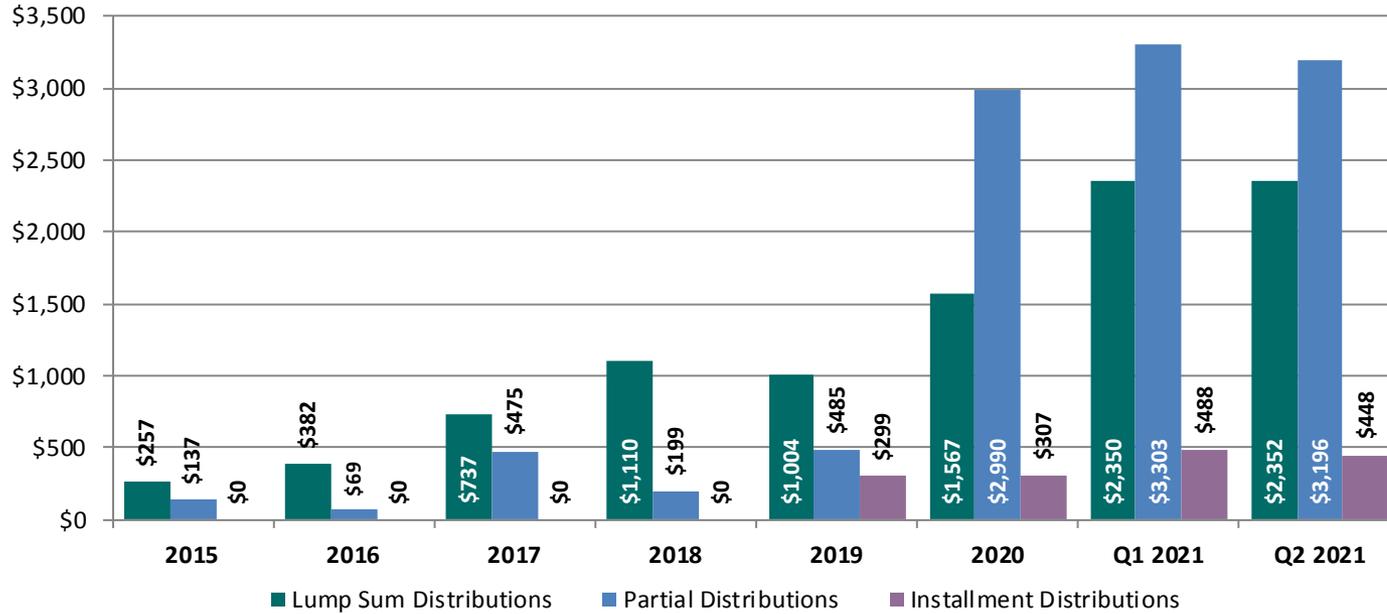


Period	Lump Sum Distributions	Partial Distributions	Installment Distributions
2015	315	4	0
2016	895	18	0
2017	1,579	55	0
2018	2,175	93	0
2019	4,041	191	12
2020	3,499	70	78
Q1 2021	698	25	46
Q2 2021	824	46	56

Note: Data not available for 2014.

Hybrid 401(a) Plan – Average Distribution Amount

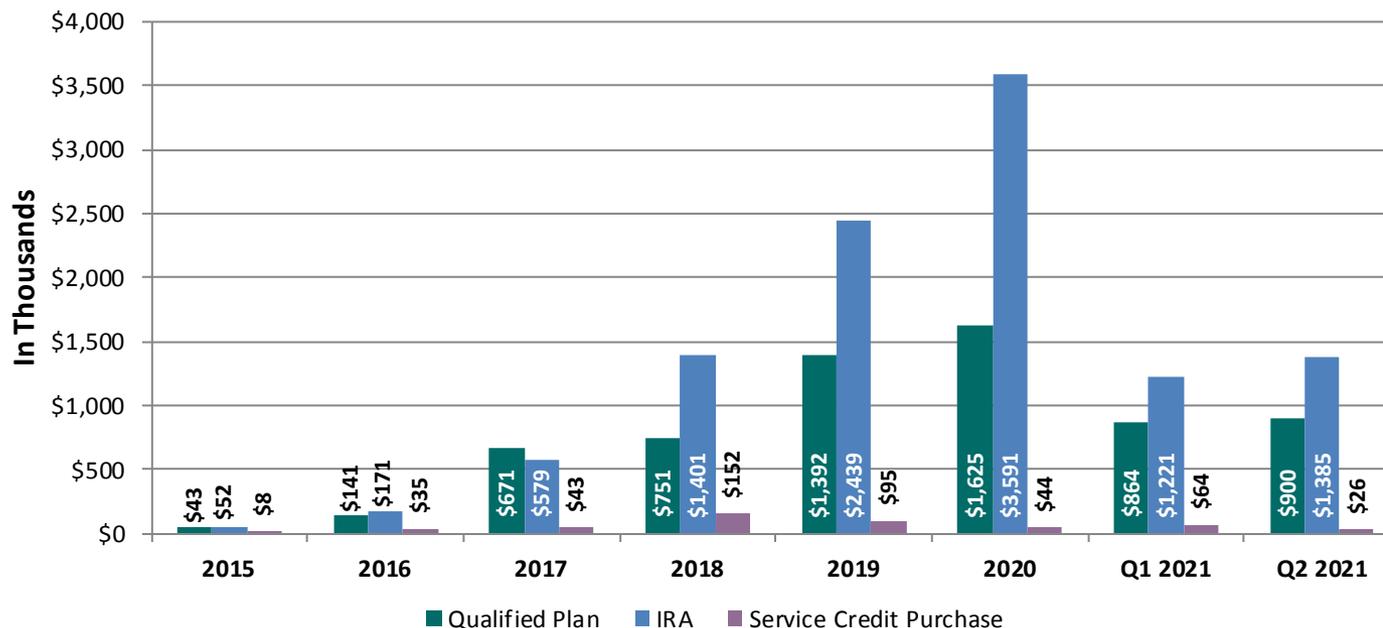
Note: Rollover Distributions Excluded and Reported on Subsequent Pages



Period	Lump Sum Distributions	Partial Distributions	Installment Distributions
2015	\$257	\$137	\$0
2016	\$382	\$69	\$0
2017	\$737	\$475	\$0
2018	\$1,110	\$199	\$0
2019	\$1,004	\$485	\$299
2020	\$1,567	\$2,990	\$307
Q1 2021	\$2,350	\$3,303	\$488
Q2 2021	\$2,352	\$3,196	\$448

Note: Data not available for 2014.

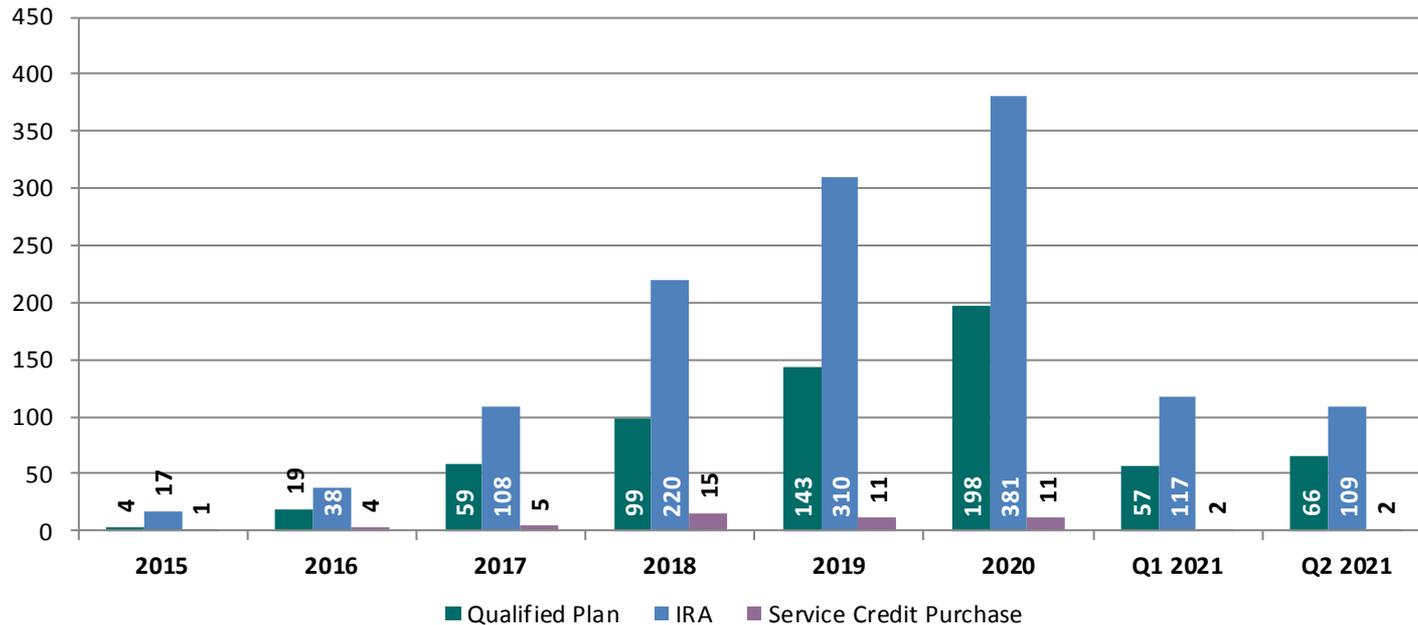
Hybrid 401(a) & 457 Plans – Rollover Distribution Destinations – Total Amounts



Period	Qualified Plan	IRA	Service Credit Purchase	Total
2015	\$43	\$52	\$8	\$103
2016	\$141	\$171	\$35	\$347
2017	\$671	\$579	\$43	\$1,293
2018	\$751	\$1,401	\$152	\$2,305
2019	\$1,392	\$2,439	\$95	\$3,926
2020	\$1,625	\$3,591	\$44	\$5,260
Q1 2021	\$864	\$1,221	\$64	\$2,149
Q2 2021	\$900	\$1,385	\$26	\$2,311

Note: Data not available for 2014. Tracking started in 2015.

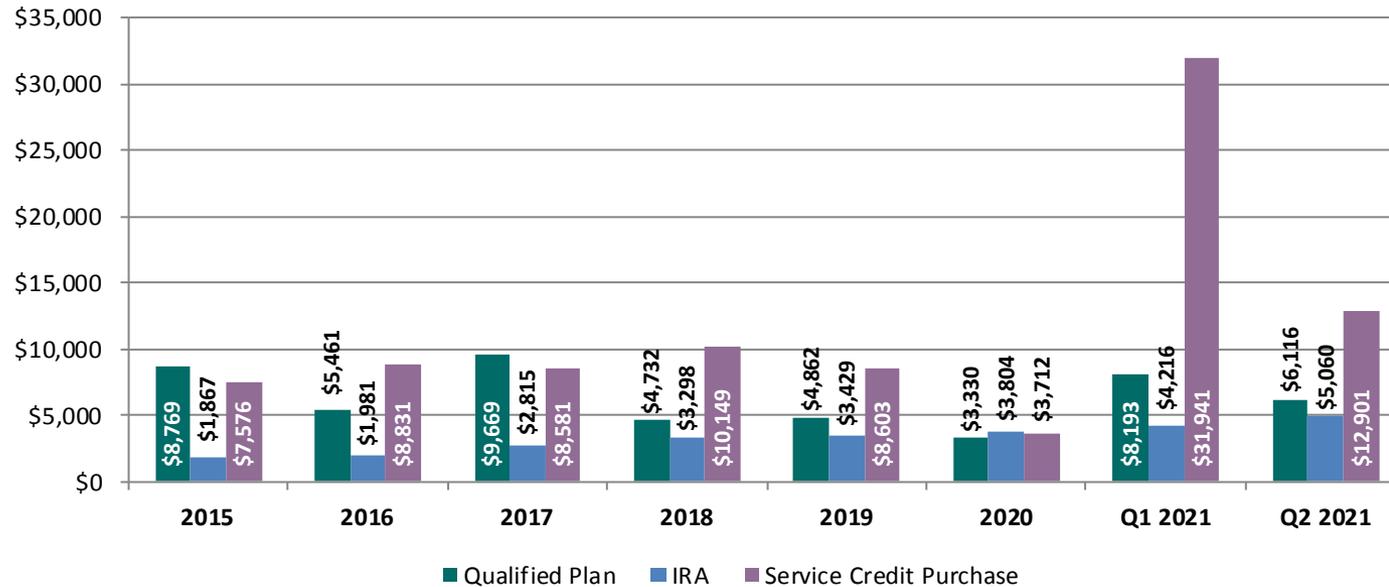
Hybrid 457 Plan – Rollover Distribution Destinations



Period	Qualified Plan	IRA	Service Credit Purchase	Total Rollover Distributions
2015	4	17	1	22
2016	19	38	4	61
2017	59	108	5	172
2018	99	220	15	334
2019	143	310	11	464
2020	198	381	11	590
Q1 2021	57	117	2	176
Q2 2021	66	109	2	177

Note: Data not available for 2014. Tracking started in 2015.

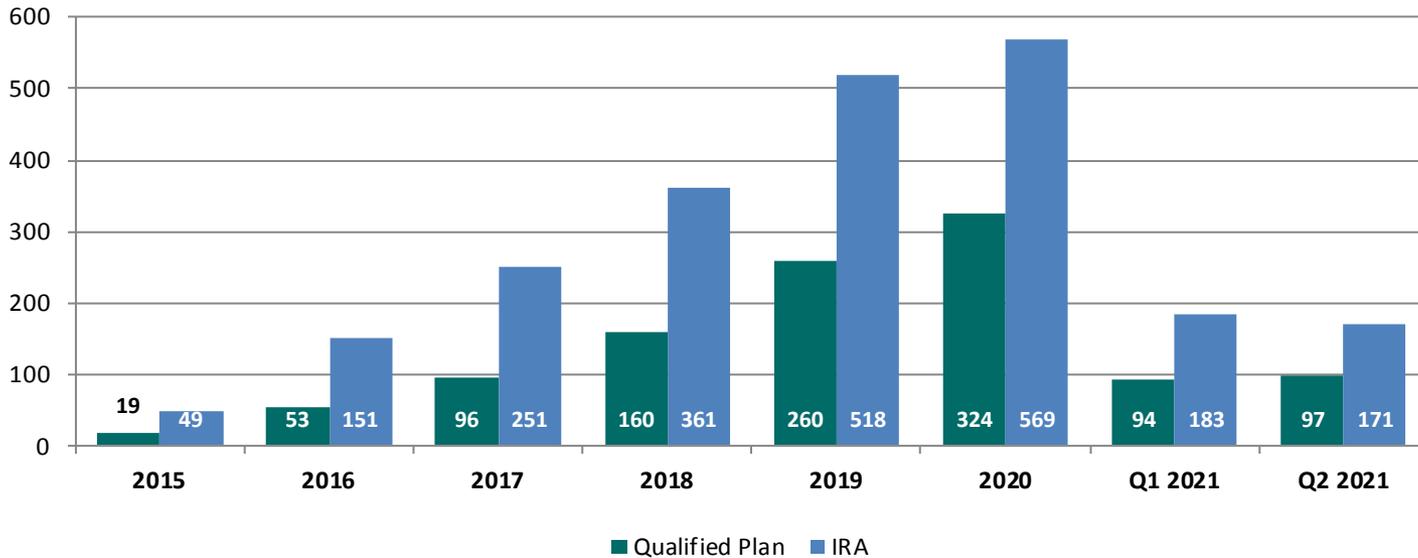
Hybrid 457 Plan – Rollover Distribution Average Amounts



Period	Qualified Plan	IRA	Service Credit Purchase	Average Rollover Distribution
2015	\$8,769	\$1,867	\$7,576	\$3,381
2016	\$5,461	\$1,981	\$8,831	\$3,514
2017	\$9,669	\$2,815	\$8,581	\$5,334
2018	\$4,732	\$3,298	\$10,149	\$4,031
2019	\$4,862	\$3,429	\$8,603	\$3,993
2020	\$3,330	\$3,804	\$3,712	\$3,643
Q1 2021	\$8,193	\$4,216	\$31,941	\$5,819
Q2 2021	\$6,116	\$5,060	\$12,901	\$5,542

Note: Data not available for 2014. Tracking started in 2015.

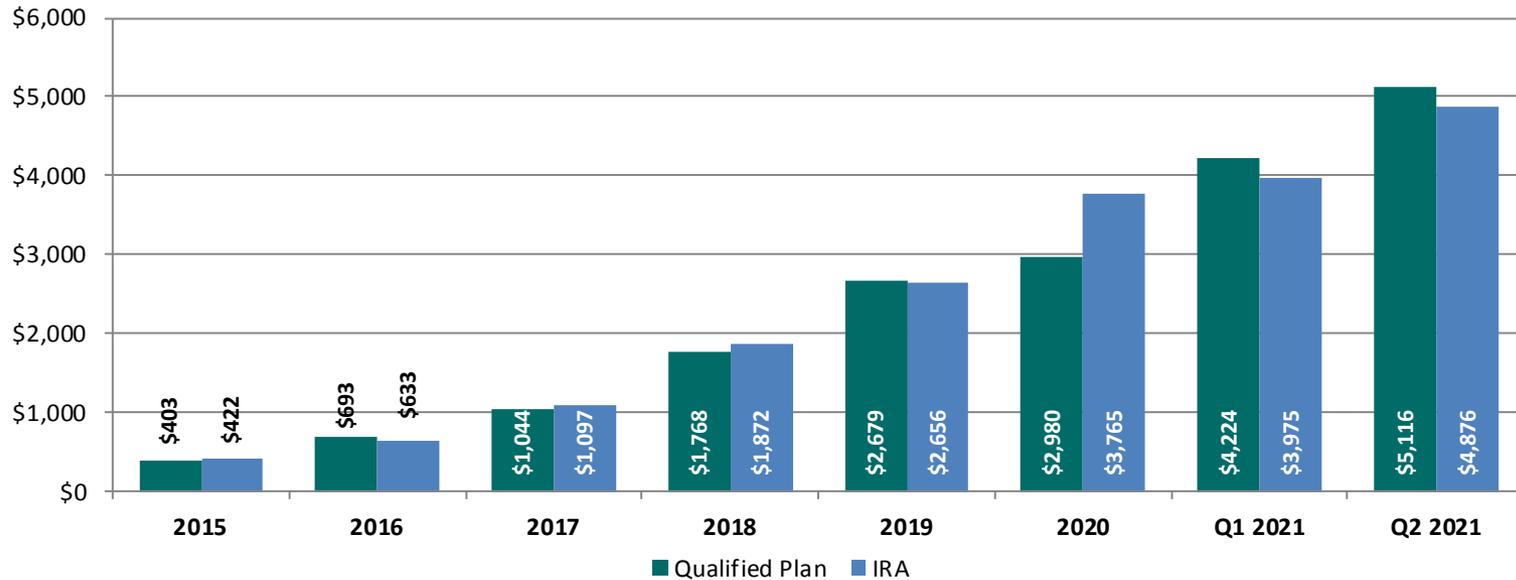
Hybrid 401(a) Plan – Rollover Distribution Destinations



Period	Qualified Plan	IRA	Total Rollover Distributions*
2015	19	49	68
2016	53	151	204
2017	96	251	347
2018	160	361	521
2019	260	518	778
2020	324	569	893
Q1 2021	94	183	277
Q2 2021	97	171	268

* Service Credit Purchases are not allowed from the Hybrid 401 plan.

Hybrid 401(a) Plan – Rollover Distribution Average Amounts



Period	Qualified Plan	IRA	Average Rollover Distribution*
2015	\$403	\$422	\$416
2016	\$693	\$633	\$648
2017	\$1,044	\$1,097	\$1,083
2018	\$1,768	\$1,872	\$1,840
2019	\$2,679	\$2,656	\$2,664
2020	\$2,980	\$3,765	\$3,480
Q1 2021	\$4,224	\$3,975	\$4,060
Q2 2021	\$5,116	\$4,876	\$4,963

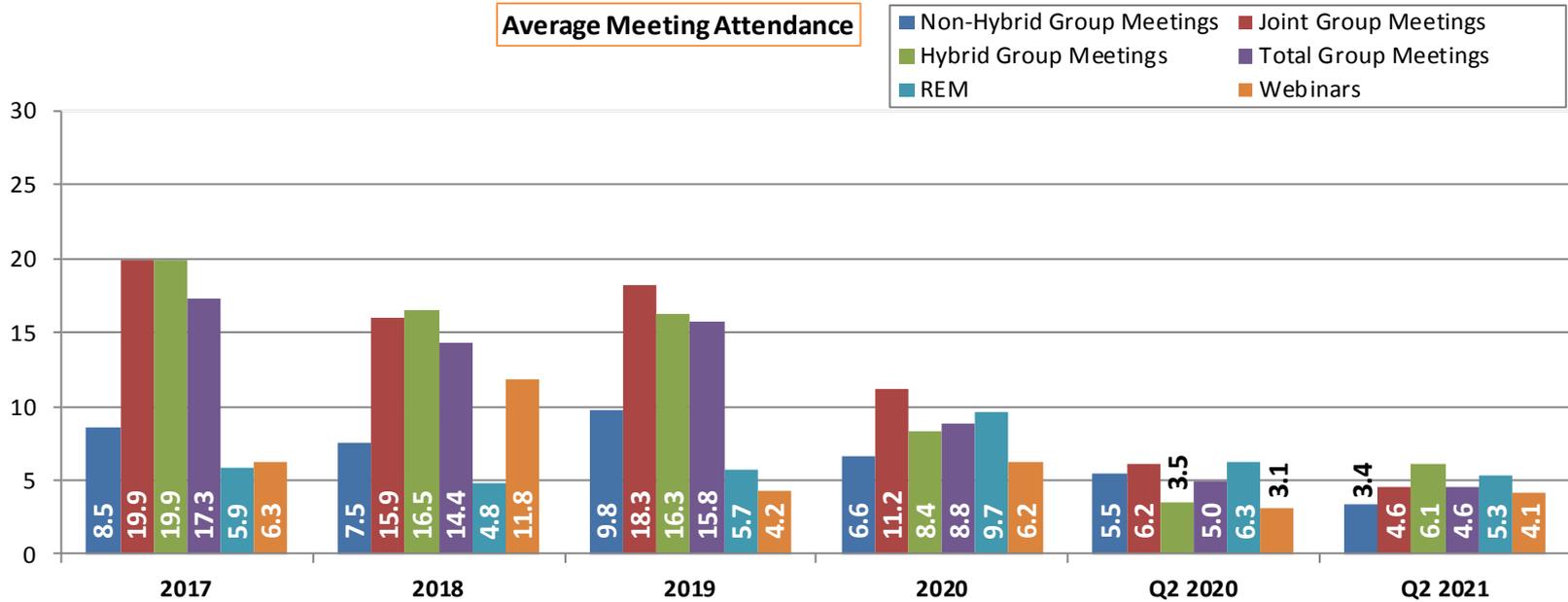
* Service Credit Purchases are not allowed from the Hybrid 401 plan.

Education Services

Note: All data is as of 6/30/2021 unless otherwise stated.

Virginia Service Center – 2021 Activity

Average Meeting Attendance



Type	2017		2018		2019		2020		Q2-2020		Q2-2021	
	Number of Meetings	Attendance	Number of Meetings	Attendance	Number of Meetings	Attendance	Number of Meetings	Attendance	Number of Meetings	Attendance	Number of Meetings	Attendance
Non-Hybrid Group Meetings	480	4,087	396	2,968	409	3,998	356	2,346	83	457	175	594
Joint Group Meetings	976	19,463	972	15,503	877	16,007	400	4,476	87	537	59	271
Hybrid Group Meetings	623	12,424	552	9,085	599	9,739	360	3,015	95	329	138	835
Total Group Meetings	2,079	35,974	1,920	27,556	1,885	29,744	1,116	9,837	265	1,323	372	1,700
REM*	252	1,487	235	1,135	185	1,049	238	2,298	71	446	77	409
Webinars	53	332	54	638	81	344	495	3,078	127	400	352	1,454

* Includes DC and Hybrid Regular Education Meetings

Individual Counseling Sessions/Office Activity				
Period	Number of Individual Counseling Sessions		Virginia Service Center Calls Handled	Virginia Service Center Walk-ins
Q2 2021	Non-Hybrid	821	496	0*
	Hybrid	796		
Q1 2021	Non-Hybrid	1,024	622	0*
	Hybrid	975		
2020	Non-Hybrid	4,215	2,147	45*
	Hybrid	2,821		
2019	Non-Hybrid	4,601	2,042	221
	Hybrid	3,410		
2018	Non-Hybrid	5,248	1,734	151
	Hybrid	3,070		
2017	Non-Hybrid	5,947	1,552	201
	Hybrid	3,125		
2016	Non-Hybrid	5,720	1,693	251
	Hybrid	2,639		
2015	Non-Hybrid	5,483	2,390	177
	Hybrid	1,480		
2014	Non-Hybrid	5,619	1,733	141
	Hybrid	202		

* Virginia Service Center closed to participants for Walk-ins on March 23, 2020 due to the COVID-19 pandemic. Reopen TBD.

- **Audience**
 - Non-Hybrid Presentations (175 group meetings)
 - Hybrid Presentations (138 group meetings)
 - Joint Group Presentations (59 group meetings)
 - Individual Meetings (821 Non-Hybrid, 796 Hybrid)
 - Survey: 436 Respondents (231 Non-Hybrid, 205 Hybrid)
- **Responses – Meetings**
 - 92% or more strongly agreed or agreed: presenter was professional and prepared (97.6%), clearly explained concepts (96.1%), kept employees engaged (92.7%), and met employee’s expectations (93.2%)
 - 91% or more strongly agreed or agreed: seminar provided a clear understanding of the content (95.1%), was of value (94.7%), was recommendable to a co-worker (94.2%), and met their expectations (91.7%)
- **Responses – Individual Consultations**
 - 97% or more of participants who met individually with reps strongly agreed or agreed: presenter was professional (98.3%), prepared (97.8%), knowledgeable (97.4%), allowed ample time (98.3%), and met their overall expectations (97.8%)
 - 97% or more of participants who met individually with reps strongly agreed or agreed: their concerns were addressed (97.4%), the presenter provided value (97.8%), they would recommend to a co-worker (97.4%), and the personalized consultation met their expectations (97.4%)

Survey Highlights – Q2 2021

Action Taken as result of:	Meetings		Individual Consultations	
	Hybrid	Non-Hybrid	Hybrid	Non-Hybrid
Enrolled in the retirement program	8.41%	1.01%	13.27%	5.30%
Began making voluntary contributions	0.00%	0.00%	0.00%	0.00%
Created an online account	10.28%	4.04%	9.18%	3.03%
Increased contributions	13.08%	14.14%	31.63%	22.73%
Reviewed investment options	27.10%	23.23%	33.67%	31.82%
Reallocated account	5.61%	4.04%	4.08%	12.88%
Rolled in assets	0.93%	0.00%	7.14%	0.76%
Signed up for standard catch-up	0.00%	1.01%	0.00%	3.03%
Signed up for e-Delivery	0.00%	0.00%	0.00%	0.00%
Updated beneficiary information	11.21%	9.09%	20.41%	16.67%
Took no action	44.86%	48.48%	19.39%	25.76%
Other	18.69%	18.18%	26.53%	20.45%

*“Other” includes inquiries such as: Indicative Data, Account Access or Disbursements.

Note: Survey totals may equal less than 100% because respondents may not complete all sections of the survey. Survey totals may exceed 100% because participants chose multiple items.

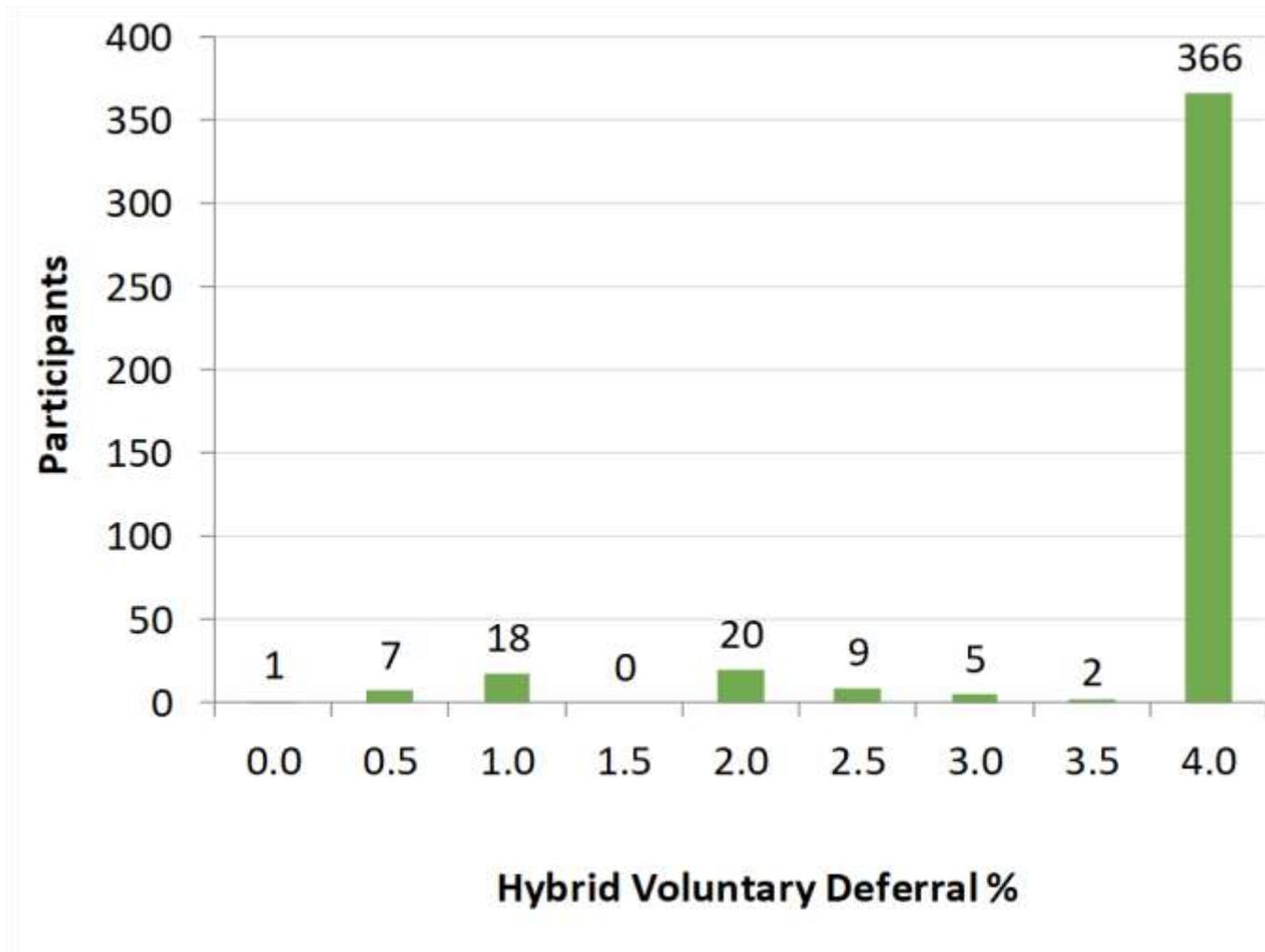
- 53 Financial Planning consultations
- 6 Financial Plans requested
- Common topics discussed with participants:
 - Retirement Savings
 - Retirement Income Strategies
 - Social Security
 - Budgeting
 - Mortgage
 - Student Loans
 - Debt Management
 - Asset Allocation
 - Diversification

Online Resources

Note: All data is as of 6/30/2021 unless otherwise stated.

Hybrid Voluntary Preset

Since Inception: June 2018

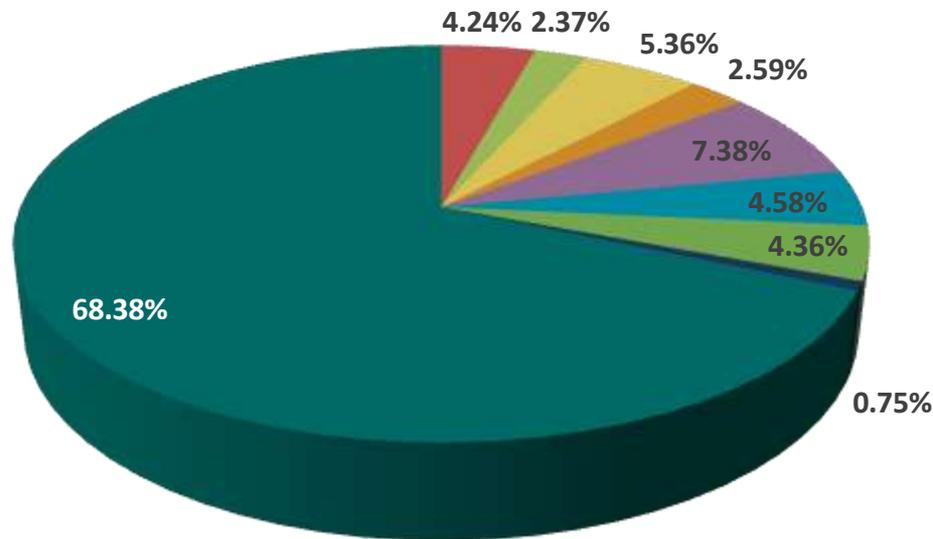


Members Who Saw the Splash Screen & Subsequent Action

Since Launch of Latest Campaign: December 17, 2019

Hybrid members who were not maxing out their contributions at 4% and saw the splash screen

Action	Button Options:		
	Save 4% Now	Choose an amount to save	Wait to Save
Increased Contributions	1,674	826	481
Decreased Contributions	6	53	147
Remained the Same	14	2	7

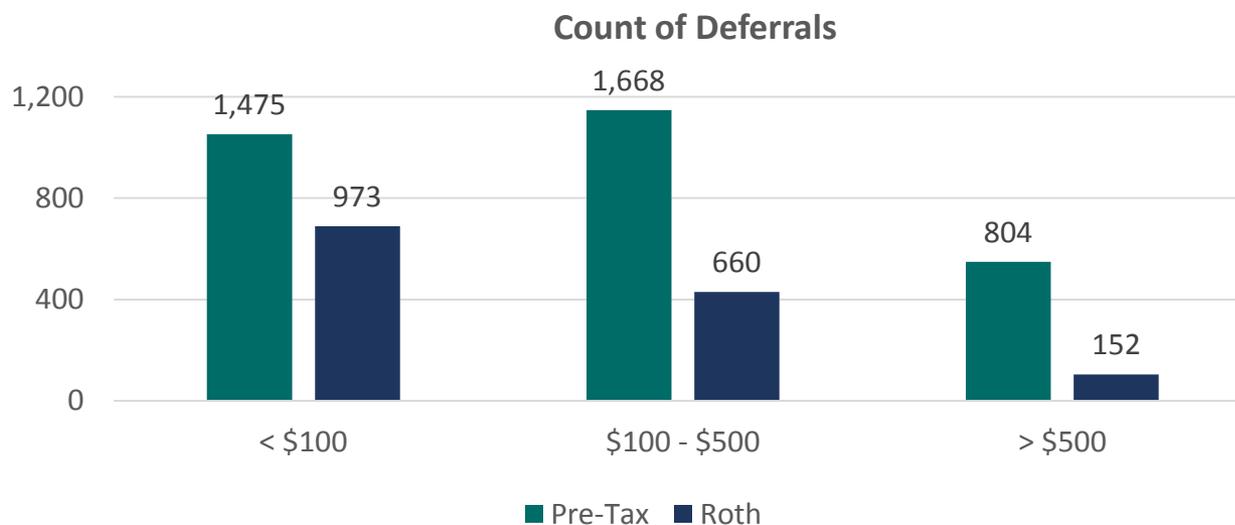


Members Who Saw the COV Splash Screen & Subsequent Action

Since Launch of Latest Campaign: February 26, 2021

COV participants who saw the splash screen, clicked a button, changed their deferral

	Save more now		Choose SmartStep		Wait to save	
	Pre-Tax	Roth	Pre-Tax	Roth	Pre-Tax	Roth
Increased Contributions	2,044	905	235	160	776	355
Decreased Contributions	388	191	63	34	441	140
Remained the Same	0	0	0	0	0	0



SmartStep – COV Plan

- Launched November 2018
 - 1,797 Participants have signed up
 - Average Pre-Tax SmartStep Election – \$59.61
 - Average Roth SmartStep Election – \$17.91

SmartStep – Hybrid Plan

- Launched October 2017
 - 2,685 Members have signed up
 - Average SmartStep Election – 1.08%
 - 51.84% of members elected 0.5%
 - 26.15% of members elected 1.0%

VRS Defined Contribution Plans ORPHE Quarterly Review

Reports for Quarter ending December 31, 2020

These reports are prepared by the providers and presented by DC Plans Administration.

- Financial Transactions Report – TIAA
- Participant Use of Funds – TIAA
 - All Funds
 - Selected Funds

ORPHE – TIAA Financial Transactions

Prepared by TIAA as of June 30, 2021 (Page 1 of 2)



Account Name	03/31/2021 Prior Closing Balances					Grand Total	Contributions	Incoming	Transfer to	
	GRA	RA	RC	Other**	Rollovers/ Transfers			Alternate Carrier	Net Transfers	
BlackRock Equity Index Fund J	\$ -	\$ -	\$ 31,063,189.20	\$ -	\$ 31,063,189.20	\$ 748,394.53	\$ 759.97	\$ -	\$ 519,855.15	
BlackRock LifePath Index 20250	\$ -	\$ -	\$ 20,754,540.47	\$ -	\$ 20,754,540.47	\$ 305,890.31	\$ -	\$ -	\$ (503,536.09)	
BlackRock LifePath Index 20300	\$ -	\$ -	\$ 27,448,941.66	\$ -	\$ 27,448,941.66	\$ 444,253.66	\$ 69,461.03	\$ -	\$ 513,419.02	
BlackRock LifePath Index 20350	\$ -	\$ -	\$ 21,704,991.34	\$ -	\$ 21,704,991.34	\$ 381,247.09	\$ -	\$ -	\$ (268,065.90)	
BlackRock LifePath Index 20400	\$ -	\$ -	\$ 23,681,359.33	\$ -	\$ 23,681,359.33	\$ 396,914.61	\$ -	\$ -	\$ (50,192.43)	
BlackRock LifePath Index 20450	\$ -	\$ -	\$ 20,285,872.23	\$ -	\$ 20,285,872.23	\$ 445,876.33	\$ -	\$ -	\$ 36,793.19	
BlackRock LifePath Index 20500	\$ -	\$ -	\$ 11,372,094.62	\$ -	\$ 11,372,094.62	\$ 375,398.35	\$ 61,128.09	\$ -	\$ (52,447.13)	
BlackRock LifePath Index 20550	\$ -	\$ -	\$ 4,936,032.75	\$ -	\$ 4,936,032.75	\$ 217,175.88	\$ -	\$ -	\$ (62,447.54)	
BlackRock LifePath Index 20600	\$ -	\$ -	\$ 959,021.98	\$ -	\$ 959,021.98	\$ 75,798.96	\$ -	\$ -	\$ 2,741.25	
BlackRock LifePath Index 20650	\$ -	\$ -	\$ 739,271.49	\$ -	\$ 739,271.49	\$ 26,360.51	\$ -	\$ -	\$ 38,870.31	
BlackRock LifePath Index Ret O	\$ -	\$ -	\$ 28,221,101.77	\$ -	\$ 28,221,101.77	\$ 314,976.58	\$ 52,832.28	\$ -	\$ (16,286.27)	
BlackRock MS AC IMI Idx NoLe M	\$ -	\$ -	\$ 40,768,404.02	\$ -	\$ 40,768,404.02	\$ 1,276,796.73	\$ 2,737.56	\$ -	\$ (157,711.53)	
BlackRock MSCIACWIexUSIMIIM	\$ -	\$ -	\$ 17,094,492.51	\$ -	\$ 17,094,492.51	\$ 203,455.76	\$ -	\$ -	\$ (105,163.83)	
BlackRock Russell 2500 Index M	\$ -	\$ -	\$ 8,774,412.53	\$ -	\$ 8,774,412.53	\$ 63,350.31	\$ -	\$ -	\$ 35,235.03	
BlackRock Sh Term Investment W	\$ -	\$ -	\$ 5,906,852.58	\$ 28,468.74	\$ 5,935,321.32	\$ 122,559.25	\$ 507,355.75	\$ -	\$ (342,609.54)	
BlackRock US Debt Ind M	\$ -	\$ -	\$ 8,817,168.97	\$ -	\$ 8,817,168.97	\$ 255,956.35	\$ 287.24	\$ -	\$ (63,386.11)	
BlackRock US Tre Inf Pro Sec M	\$ -	\$ -	\$ 4,759,910.92	\$ -	\$ 4,759,910.92	\$ 141,316.01	\$ 208.11	\$ -	\$ 23,645.07	
CREF Bond Market R3	\$ 27,350,216.99	\$ 1,583,398.94	\$ -	\$ -	\$ 28,933,615.93	\$ -	\$ -	\$ -	\$ 317,871.41	
CREF Equity Index R3	\$ 82,595,874.13	\$ 2,805,328.17	\$ -	\$ -	\$ 85,401,202.30	\$ -	\$ -	\$ -	\$ 1,203,074.88	
CREF Global Equities R3	\$ 50,895,701.63	\$ 1,999,544.98	\$ -	\$ -	\$ 52,895,246.61	\$ -	\$ -	\$ -	\$ 296,830.36	
CREF Inflation-Linked Bond R3	\$ 14,372,731.36	\$ 1,249,368.39	\$ -	\$ -	\$ 15,622,099.75	\$ -	\$ -	\$ -	\$ 134,469.49	
CREF Money Market R3	\$ 13,118,393.82	\$ 1,081,746.02	\$ -	\$ 11,109.05	\$ 14,211,248.89	\$ -	\$ -	\$ -	\$ (1,461,529.46)	
CREF Stock R3	\$ 202,836,960.33	\$ 29,050,741.48	\$ -	\$ -	\$ 231,887,701.81	\$ -	\$ -	\$ -	\$ (814,431.73)	
TIAA Real Estate	\$ 29,849,003.95	\$ 1,797,788.27	\$ 7,956,599.77	\$ -	\$ 39,603,391.99	\$ 301,908.31	\$ 373.66	\$ -	\$ 275,508.74	
TIAA Traditional	\$ 167,016,374.19	\$ 35,562,938.47	\$ 20,056,510.50	\$ 9,045,664.08	\$ 231,681,487.24	\$ 696,363.78	\$ 935.41	\$ (720.10)	\$ 265,873.57	
TIAA-CREF Self Directed Acct	\$ -	\$ -	\$ 4,559,972.30	\$ -	\$ 4,559,972.30	\$ -	\$ -	\$ -	\$ 255,573.94	
Total	\$ 588,035,256.40	\$ 75,130,854.72	\$ 309,860,740.94	\$ 9,085,241.87	\$ 982,112,093.93	\$ 6,793,993.31	\$ 696,079.10	\$ (720.10)	\$ 21,953.85	
CREF Growth R3	\$ 20,719,311.92	\$ 1,640,838.84	\$ -	\$ -	\$ 22,360,150.76	\$ -	\$ -	\$ -	\$ (16,100.42)	
CREF Social Choice R3	\$ 10,466,757.52	\$ 170,664.55	\$ -	\$ -	\$ 10,637,422.07	\$ -	\$ -	\$ -	\$ (5,853.43)	
Total	\$ 31,186,069.44	\$ 1,811,503.39	\$ -	\$ -	\$ 32,997,572.83	\$ -	\$ -	\$ -	\$ (21,953.85)	
Grand Total	\$ 619,221,325.84	\$ 76,942,358.11	\$ 309,860,740.94	\$ 9,085,241.87	\$ 1,015,109,666.76	\$ 6,793,993.31	\$ 696,079.10	\$ (720.10)	\$ (0.00)	

** Other - represent balances in TPA and Interest Only products under the TIAA Traditional fund and Forfeiture/Revenue Credit Account balances in the CREF Money Market fund and BlackRock Sh Term

** Other Activity - represent Plan Servicing Credits of \$12,410.22, Conversion In of \$23,438.71 and External Transfers of (\$31,394.38)

ORPHE – TIAA Financial Transactions

Prepared by TIAA as of June 30, 2021 (Page 2 of 2)

Account Name	Earnings -					6/30/2021 Closing Balances				
	Distribution	Fees	Dividends	Other Activity ~	Gains/Losses	GRA	RA	RC	Other**	Grand Total
BlackRock Equity Index Fund J	\$ (46,480.88)	\$ (7,300.33)	\$ -	\$ 2,272.67	\$ 2,701,993.35	\$ -	\$ -	\$ 34,982,683.66	\$ -	\$ 34,982,683.66
BlackRock LifePath Index 20250	\$ (205,212.07)	\$ (4,256.35)	\$ -	\$ 2,256.57	\$ 972,678.44	\$ -	\$ -	\$ 21,322,361.28	\$ -	\$ 21,322,361.28
BlackRock LifePath Index 20300	\$ (1,304.13)	\$ (5,561.81)	\$ -	\$ 2,542.91	\$ 1,501,870.80	\$ -	\$ -	\$ 29,973,623.14	\$ -	\$ 29,973,623.14
BlackRock LifePath Index 20350	\$ (76,587.23)	\$ (5,355.07)	\$ -	\$ 2,639.81	\$ 1,310,475.70	\$ -	\$ -	\$ 23,049,345.74	\$ -	\$ 23,049,345.74
BlackRock LifePath Index 20400	\$ (84,574.22)	\$ (6,103.72)	\$ -	\$ 3,114.95	\$ 1,565,101.14	\$ -	\$ -	\$ 25,505,619.66	\$ -	\$ 25,505,619.66
BlackRock LifePath Index 20450	\$ (15,978.30)	\$ (6,802.87)	\$ -	\$ 1,596.93	\$ 1,437,761.02	\$ -	\$ -	\$ 22,185,118.53	\$ -	\$ 22,185,118.53
BlackRock LifePath Index 20500	\$ (50,279.35)	\$ (5,688.00)	\$ -	\$ 753.16	\$ 837,744.98	\$ -	\$ -	\$ 12,538,704.72	\$ -	\$ 12,538,704.72
BlackRock LifePath Index 20550	\$ (65,087.17)	\$ (3,794.78)	\$ -	\$ 341.50	\$ 363,971.11	\$ -	\$ -	\$ 5,386,191.75	\$ -	\$ 5,386,191.75
BlackRock LifePath Index 20600	\$ (263.16)	\$ (1,652.22)	\$ -	\$ 39.00	\$ 71,944.70	\$ -	\$ -	\$ 1,107,630.51	\$ -	\$ 1,107,630.51
BlackRock LifePath Index 20650	\$ (5,333.11)	\$ (346.29)	\$ -	\$ -	\$ 55,062.51	\$ -	\$ -	\$ 853,885.42	\$ -	\$ 853,885.42
BlackRock LifePath Index Ret O	\$ (111,081.23)	\$ (5,868.86)	\$ -	\$ 3,287.14	\$ 1,178,507.30	\$ -	\$ -	\$ 29,637,468.71	\$ -	\$ 29,637,468.71
BlackRock MS AC IMI Idx NoLe M	\$ (274,596.27)	\$ (11,215.47)	\$ -	\$ 283.51	\$ 2,933,087.25	\$ -	\$ -	\$ 44,537,785.80	\$ -	\$ 44,537,785.80
BlackRock MSCIACWIexUSIMIIM	\$ (91,561.49)	\$ (6,358.03)	\$ -	\$ 794.28	\$ 975,296.87	\$ -	\$ -	\$ 18,070,956.07	\$ -	\$ 18,070,956.07
BlackRock Russell 2500 Index M	\$ (2,556.29)	\$ (1,041.52)	\$ -	\$ 2,197.73	\$ 474,075.59	\$ -	\$ -	\$ 9,345,673.38	\$ -	\$ 9,345,673.38
BlackRock Sh Term Investment W	\$ (18,796.97)	\$ (1,369.81)	\$ 2,198.78	\$ 867.99	\$ (0.02)	\$ -	\$ -	\$ 6,170,835.23	\$ 34,691.52	\$ 6,205,526.75
BlackRock US Debt Ind M	\$ (53,588.28)	\$ (1,998.73)	\$ -	\$ 380.32	\$ 164,099.14	\$ -	\$ -	\$ 9,118,918.90	\$ -	\$ 9,118,918.90
BlackRock US Tre Inf Pro Sec M	\$ (270.84)	\$ (1,116.97)	\$ -	\$ 109.18	\$ 156,158.91	\$ -	\$ -	\$ 5,079,960.39	\$ -	\$ 5,079,960.39
CREF Bond Market R3	\$ (597,182.12)	\$ -	\$ -	\$ (3,003.10)	\$ 564,965.33	\$ 27,616,140.94	\$ 1,600,126.51	\$ -	\$ -	\$ 29,216,267.45
CREF Equity Index R3	\$ (852,399.83)	\$ -	\$ -	\$ -	\$ 7,033,845.65	\$ 89,855,548.48	\$ 2,930,174.52	\$ -	\$ -	\$ 92,785,723.00
CREF Global Equities R3	\$ (404,769.56)	\$ -	\$ -	\$ (1,142.46)	\$ 3,894,905.19	\$ 54,559,269.59	\$ 2,121,800.55	\$ -	\$ -	\$ 56,681,070.14
CREF Inflation-Linked Bond R3	\$ (29,387.16)	\$ -	\$ -	\$ -	\$ 350,594.63	\$ 14,793,653.95	\$ 1,284,122.76	\$ -	\$ -	\$ 16,077,776.71
CREF Money Market R3	\$ (85,196.48)	\$ -	\$ -	\$ -	\$ (0.03)	\$ 11,630,799.55	\$ 1,022,614.32	\$ -	\$ 11,109.05	\$ 12,664,522.92
CREF Stock R3	\$ (1,940,058.76)	\$ -	\$ -	\$ (2,360.96)	\$ 17,362,416.82	\$ 215,668,291.35	\$ 30,824,975.83	\$ -	\$ -	\$ 246,493,267.18
TIAA Real Estate	\$ (372,913.62)	\$ (2,294.53)	\$ -	\$ 4,365.24	\$ 1,528,397.95	\$ 30,757,122.80	\$ 1,857,228.15	\$ 8,724,386.79	\$ -	\$ 41,338,737.74
TIAA Traditional	\$ (606,163.83)	\$ (7,308.18)	\$ -	\$ 6,585.38	\$ 1,979,548.85	\$ 168,292,073.68	\$ 35,619,232.79	\$ 20,940,381.64	\$ 9,164,914.01	\$ 234,016,602.12
TIAA-CREF Self Directed Acct	\$ -	\$ -	\$ -	\$ -	\$ 25,284.79	\$ -	\$ -	\$ 4,840,831.03	\$ -	\$ 4,840,831.03
Total	\$ (5,991,622.35)	\$ (85,433.54)	\$ 2,198.78	\$ 27,921.75	\$ 49,439,787.97	\$ 613,172,900.34	\$ 77,260,275.43	\$ 333,372,362.35	\$ 9,210,714.58	\$ 1,033,016,252.70
CREF Growth R3	\$ (279,098.05)	\$ -	\$ -	\$ (68.61)	\$ 2,515,541.40	\$ 22,758,797.67	\$ 1,821,627.41	\$ -	\$ -	\$ 24,580,425.08
CREF Social Choice R3	\$ (37,621.13)	\$ -	\$ -	\$ (23,398.59)	\$ 550,306.67	\$ 10,941,577.06	\$ 179,278.53	\$ -	\$ -	\$ 11,120,855.59
Total	\$ (316,719.18)	\$ -	\$ -	\$ (23,467.20)	\$ 3,065,848.07	\$ 33,700,374.73	\$ 2,000,905.94	\$ -	\$ -	\$ 35,701,280.67
Grand Total	\$ (6,308,341.53)	\$ (85,433.54)	\$ 2,198.78	\$ 4,454.55	\$ 52,505,636.04	\$ 646,873,275.07	\$ 79,261,181.37	\$ 333,372,362.35	\$ 9,210,714.58	\$ 1,068,717,533.37

** Other - represent balances in TPA and Interest Only products under the TIAA Traditional fund and Forfeiture Revenue Credit Account balances in the CREF Money Market fund and BlackRock Sh Term

** Other Activity - represent Plan Servicing Credits of \$12,410.22, Conversion In of \$23,438.71 and External Transfers of (\$31,394.38)

ORPHE – TIAA

Participant Use of Funds (All Funds)

Prepared by TIAA as of June 30, 2021 (Page 1 of 2)

VIRGINIA ORP
PARTICIPANT COUNT REPORT
AS OF JUNE 30, 2021
PLAN - 101850 & 500964
ALL LINES OF BUSINESS

FUND NAME	GRA CONTRACTS	INTEREST ONLY CONTRACTS	RA CONTRACTS	RETIREMENT CHOICE (84)	TPA CONTRACTS	RETIREMENT CHOICE TPA (84)	NUMBER OF PARTICIPANTS	Percentage of account holders.	Prior Quarter - 1ST QTR 2021	7/1/2004	% Change from 7/1/04 to Current Quarter
BlackRock Equity Index Fund J				1304			1304	15.9%	1295	0	N/A
BlackRock LifePath Index 20250				361			361	4.4%	361	0	N/A
BlackRock LifePath Index 20300				449			449	5.5%	445	0	N/A
BlackRock LifePath Index 20350				463			463	5.6%	463	0	N/A
BlackRock LifePath Index 20400				494			494	6.0%	488	0	N/A
BlackRock LifePath Index 20450				523			523	6.4%	519	0	N/A
BlackRock LifePath Index 20500				401			401	4.9%	404	0	N/A
BlackRock LifePath Index 20550				265			265	3.2%	267	0	N/A
BlackRock LifePath Index 20600				107			107	1.3%	104	0	N/A
BlackRock LifePath Index 20650				29			29	0.4%	25	0	N/A
BlackRock LifePath Index Ret O				502			502	6.1%	497	0	N/A
BlackRock MS AC IMI Idx NoLe M				1756			1756	21.4%	1767	0	N/A
BlackRock MSCIACWIexUSIMIIM				992			992	12.1%	995	0	N/A
BlackRock Russell 2500 Index M				220			220	2.7%	205	0	N/A
BlackRock Sh Term Investment W				417			417	5.1%	422	0	N/A
BlackRock US Debt Ind M				993			993	12.1%	999	0	N/A
BlackRock US Tre Inf Pro Sec M				671			671	8.2%	669	0	N/A
CREF Bond Market R3	1677		96				1717	20.9%	1721	971	76.83%
CREF Equity Index R3	1888		83				1921	23.4%	1901	1,049	83.13%
CREF Global Equities R3	2033		95				2078	25.3%	2080	1,799	15.51%
CREF Growth R3	796		41				817	10.0%	827	2,038	-59.91%
CREF Inflation-Linked Bond R3	1166		70				1191	14.5%	1193	379	214.25%
CREF Money Market R3	1079		111				1130	13.8%	1213	793	42.50%
CREF Social Choice R3	420		16				428	5.2%	432	1,004	-57.37%
CREF Stock R3	3234		491				3416	41.6%	3427	3,677	-7.10%
TIAA Real Estate	2482		119	1425			2786	33.9%	2806	1,396	99.57%
TIAA Traditional	3885	31	807	1508	254	19	4592	55.9%	4615	3,589	27.95%
TIAA-CREF Self Directed Acct				38			38	0.5%	37	0	N/A
TOTAL INACTIVE PARTICIPANTS							5139	62.6%	5116	3,168	62.22%
TOTAL ACTIVE PARTICIPANTS							3071	37.4%	3133	2,988	2.78%
TOTAL PARTICIPANTS							8210	100.0%	8249	6,156	33.37%

ORPHE – TIAA

Participant Use of Selected Funds

Prepared by TIAA as of June 30, 2021 (Page 2 of 2)



VIRGINIA ORP
PARTICIPANT COUNT REPORT
AS OF JUNE 30, 2021
PLAN - 101850 & 500964
ALL LINES OF BUSINESS

FUND NAME	CONTRACTS	INTEREST ONLY CONTRACTS	NET INVESTMENT CONTRACTS	RETIREMENT CHOICE	CONTRACTS	RETIREMENT CHOICE TPA (84)	NUMBER OF PARTICIPANTS	Percentage of account holders.	Prior Quarter - 1ST QTR 2021	7/1/2004	% Change from 7/1/04 to Current Quarter
BlackRock Equity Index Fund J				1304			1304	15.9%	1295	0	NA
BlackRock LifePath Index 20250				361			361	4.4%	361	0	NA
BlackRock LifePath Index 20300				449			449	5.5%	445	0	NA
BlackRock LifePath Index 20350				463			463	5.6%	463	0	NA
BlackRock LifePath Index 20400				494			494	6.0%	488	0	NA
BlackRock LifePath Index 20450				523			523	6.4%	519	0	NA
BlackRock LifePath Index 20500				401			401	4.9%	404	0	NA
BlackRock LifePath Index 20550				265			265	3.2%	267	0	NA
BlackRock LifePath Index 20600				107			107	1.3%	104	0	NA
BlackRock LifePath Index 20650				29			29	0.4%	25	0	NA
BlackRock LifePath Index Ret O				502			502	6.1%	497	0	NA
BlackRock MS AC IMI Idx NoLe M				1756			1756	21.4%	1767	0	NA
BlackRock MSCIACWTexUSIMIIM				992			992	12.1%	995	0	NA
BlackRock Russell 2500 Index M				220			220	2.7%	205	0	NA
BlackRock Sh Term Investment W				417			417	5.1%	422	0	NA
BlackRock US Debt Ind M				993			993	12.1%	999	0	NA
BlackRock US Tre Inf Pro Sec M				671			671	8.2%	669	0	NA
CREF Bond Market R3	1677		96				1717	20.9%	1721	971	76.83%
CREF Equity Index R3	1888		83				1921	23.4%	1901	1,049	83.13%
CREF Global Equities R3	2033		95				2078	25.3%	2080	1,799	15.51%
CREF Inflation-Linked Bond R3	1166		70				1191	14.5%	1193	379	214.25%
CREF Money Market R3	1079		111				1130	13.8%	1213	793	42.50%
CREF Stock R3	3234		491				3416	41.6%	3427	3,677	-7.10%
TIAA Real Estate	2482		119	1425			2786	33.9%	2806	1,396	99.57%
TIAA Traditional	3885	31	807	1508	254	19	4592	55.9%	4615	3,589	27.95%
TIAA-CREF Self Directed Acct				38			38	0.5%	37	0	NA
PARTICIPANTS							5139	62.6%	5116	3,168	62.22%
PARTICIPANTS							3071	37.4%	3133	2,988	2.78%
TOTAL PARTICIPANTS							8210	100.0%	8249	6,156	33.37%

*NOTE - Number of accounts will exceed participant numbers since a participant may invest in more than one fund

VRS Defined Contribution Plans End of Quarterly Review



VRS Defined Contribution Plans End of Quarterly Review





July 2021

401(K) RETIREMENT PLANS

Many Participants Do Not Understand Fee Information, but DOL Could Take Additional Steps to Help Them



GAO@100 Highlights

Highlights of [GAO-21-357](#), a report to congressional requesters

Why GAO Did This Study

DOL regulations require 401(k) plans to provide the more than 87 million plan participants with a comprehensive disclosure of the fees they pay. GAO was asked to examine how well participants can understand and use the fee disclosures.

This report (1) assesses the extent to which 401(k) plan participants can understand and use fee information in disclosures; (2) describes disclosure practices used by selected countries to help retirement plan participants; and (3) examines any additional steps that DOL could take to advance participant understanding and use of fee information. GAO conducted a nationally representative survey of 401(k) plan participants to assess their understanding of fee disclosure samples from among 10 large plans and of other fee information. To identify and describe disclosure practices used abroad, GAO interviewed stakeholders and reviewed fee disclosure documents from Australia, Italy, New Zealand, and the European Union, chosen because of their documented practices to improve participants' understanding of fee disclosures. To identify any additional steps DOL could take, GAO also reviewed disclosures from 10 large plans, as well as relevant federal laws and regulations, and interviewed stakeholders in the U.S.

What GAO Recommends

GAO is making five recommendations to DOL, including to require, in a manner deemed effective, that participants have investment options' fee benchmarks and available ticker information. DOL neither agreed nor disagreed with our recommendations.

View [GAO-21-357](#). For more information, contact Tranchau (Kris) T. Nguyen at (202) 512-7215 or nguyentt@gao.gov.

July 2021

401(K) RETIREMENT PLANS

Many Participants Do Not Understand Fee Information, but DOL Could Take Additional Steps to Help Them

What GAO Found

Almost 40 percent of 401(k) plan participants do not fully understand and have difficulty using the fee information that the Department of Labor (DOL) requires plans to provide to participants in fee disclosures, according to GAO's analysis of its generalizable survey (see figure). GAO assessed participants' understanding of samples from several large plans' fee disclosures and other information about fees, and asked general knowledge questions about fees. For example, GAO found that 45 percent of participants are not able to use the information given in disclosures to determine the cost of their investment fee. Additionally, 41 percent of participants incorrectly believe that they do not pay any 401(k) plan fees. Prior GAO work has shown that even seemingly small fees can significantly reduce participants' retirement savings over time.

GAO Estimates of 401(k) Plan Participants' Score Distribution on Survey's Fee-Related Assessment Questions



Source: GAO survey of 401(k) participants. | GAO-21-357

GAO's review of selected countries and the European Union (EU) found they have implemented practices to help retirement plan participants understand and use fee information from plan disclosures. For example, stakeholders in those locations said layering data, a technique where information is presented hierarchically, can help participants understand disclosures by providing them key plan information first. Stakeholders also said other tools can help participants understand fee information. In Italy, for example, the government provides a supplemental online tool so participants can compare and calculate fees across plans and investment options, according to stakeholders. This tool also includes a fee benchmark—which is generally an average fee among comparable funds—that helps participants judge the value of an individual investment option.

DOL could take additional steps to help 401(k) plan participants improve their understanding and use of fee information, based on GAO survey responses and analysis. DOL regulations require that disclosures present fee information in a format that helps participants compare investment options. However, disclosures are not required to include certain information, such as fee benchmarks and ticker information (unique identifying symbols used for many popular types of investments), that could be helpful for participants. Fee benchmarks can help participants to assess an investment option's value, not only relative to other in-plan options but to options outside the plan. Ticker information can help participants identify many plan investments online to evaluate and compare them to options outside the plan. By requiring such information in disclosures, DOL could help participants better understand and compare their 401(k) plan fees when making investment choices that affect their retirement security.

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Abbreviations

DOL	Department of Labor
EBSA	Employee Benefits Security Administration
ERISA	Employee Retirement Income Security Act of 1974, as amended
EU	European Union
FINRA	Financial Industry Regulatory Authority
ICI	Investment Company Institute
IRC	Internal Revenue Code
SCI	synthetic cost indicator
SEC	Securities and Exchange Commission

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July 27, 2021

The Honorable Patty Murray
Chair
Committee on Health, Education, Labor
and Pensions
United States Senate

The Honorable Robert C. "Bobby" Scott
Chairman
Committee on Education and Labor
House of Representatives

All 401(k) plan participants pay fees, but it can be challenging for them to identify, understand, and compare fees in their plan and across plans.¹ Even if participants understand that they are being charged fees, they may not fully understand the effect of fees on their retirement savings. For example, our prior work has shown that even seemingly small fees, such as a 1 percent annual charge can significantly reduce 401(k) plan participants' retirement savings, even as investment returns may grow the savings overall.² Recognizing the importance of 401(k) plan fees for participants' retirement savings, the Department of Labor (DOL) issued final regulations, effective in 2012, requiring plan sponsors to provide participants with a comprehensive fee disclosure. The disclosure requirements were meant to help participants make informed decisions about the management of their accounts.

DOL's fee disclosure regulation has been in place for over a decade. However, little is known about how helpful the fee information has been to participants. You asked us to assess the effectiveness of DOL's fee disclosure regulations. This report (1) assesses the extent to which 401(k) plan participants can understand and use fee information disclosed by plans; (2) describes practices used in selected countries that might help

¹Named after section 401(k) of the Internal Revenue Code, 401(k) plans are private, employer-sponsored pension plans that allow workers to save for retirement by diverting a portion of their pre-tax wages into an investment account that can grow tax-free until withdrawn in retirement.

²GAO, *Private Pensions: Changes Needed to Provide 401(k) Plan Participants and the Department of Labor Better Information on Fees*, [GAO-07-21](#) (Washington, D.C.: Nov. 16, 2006).

participants better understand and use fee information; and (3) examines additional steps, if any, that DOL could take to advance participant understanding and use of fee information.

To assess the extent to which 401(k) plan participants can understand and use fee information in disclosures, we surveyed 401(k) plan participants.³ The survey questions asked about participants' awareness of fees and tested their understanding of content pulled from annual disclosures from among 10 of the largest 401(k) plans, a sample quarterly disclosure, as well as other sources.⁴ We selected 10 plan disclosures because they were the largest plans for which we could obtain such information. The survey also asked participants about their preferences regarding plan disclosures. The survey results included information on participants' demographic and financial characteristics. We analyzed survey responses for 1,004 participants, which are generalizable to the population of all 401(k) participants in the U.S. The weighted cumulative response rate was 17 percent. See appendix I for more details about our objectives, scope, and methodology; appendix II for a full technical discussion of the survey methodology; and appendix III for a copy of the survey instrument.

To describe the disclosure practices used in selected countries to help retirement plan participants understand and use fee information, we identified three countries—Australia, Italy, and New Zealand—and the European Union (EU). We selected these locations because they have developed economies, account-based retirement plans in which participants make investment decisions, and documented practices to

³Our survey was administered by an independent research institution to a national panel of adults in summer 2020, as discussed in appendix II. The survey asked an eligibility question that identified individuals who are participants in a 401(k) plan. We developed questions that tested participants' understanding of excerpts from actual plan disclosures as well as related concepts and also asked about consumer preferences. All estimates from the survey are subject to sampling error. In terms of the margin of error at the 95 percent confidence level, the sampling error for estimates based on the total sample is plus or minus 4 percentage points and, for estimates based on subgroups of the sample, is plus or minus 6 percentage points, unless otherwise noted.

⁴Content we selected from individual plans' annual fee disclosures was comparable to content in the other disclosures. The quarterly disclosure sampled was from a large service provider and was the only such disclosure we had obtained at the time of our survey development. Other sources included DOL's Model Comparative Chart for annual disclosures and graphics developed by SEC's Office of Investor Education and Advocacy depicting the cumulative effect of fees, which DOL requires disclosures to describe.

improve participants' understanding of fee disclosures.⁵ We interviewed stakeholders in Australia, Italy, and New Zealand and the EU—including government officials and regulators, financial industry representatives, consumer advocates, and subject matter experts—to identify strategies and practices that they said help participants in account-based retirement plans understand and use information about fees associated with their retirement accounts and investments.⁶

To examine any additional steps DOL could take to advance participant understanding and use of fee information, we identified subject areas in which about half of our survey participants answered test questions incorrectly and we considered their preferences for receiving fee information. In addition, we reviewed participant disclosures from 10 of the largest 401(k) plans to describe their fee content. We did not evaluate the disclosures for compliance with DOL regulations. In total, those 10 plans had more than 4.5 million participants and more than \$181 billion in plan assets in 2019. The disclosures are not representative, but illustrative of what a participant might receive from their plan. We also interviewed DOL and Securities and Exchange Commission (SEC) officials, and U.S. stakeholders including individuals from industry groups, financial literacy experts, and consumer advocates, to understand the challenges and limitations of using a legal disclosure to help participants use fee information.

We conducted this performance audit from February 2019 through July 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

⁵Account-based retirement plans are pension plans that allow workers to save for retirement by investing a portion of their income in funds through their employer.

⁶We conducted 21 interviews and refer to representatives of these organizations and entities collectively as “stakeholders” in the report. Stakeholders' views are not generalizable but offer insights into what may be helpful or useful, based on their experience in their specific locations.

Background

401(k) Plan Investment Options and Fees

Investment options in 401(k) plans

401(k) plan investments can include mutual funds⁷, employer stock, annuities, and other investments.⁸ About 63 percent of 401(k) plan assets are invested in mutual funds.⁹ According to retirement industry survey data based on the 2019 plan year, mutual funds were the most common investment fund structure across most types of investment assets, including equities and bonds, in both large and small plans.¹⁰ Mutual funds can include different types of assets, such as stock or equity funds, bond funds, and money market funds.¹¹

Fees paid in 401(k) plans

401(k) plan participants pay multiple fees that generally fall under two categories: administrative fees and investment-related fees. These fees can be assessed as a flat dollar amount or as a percentage of assets, and can be paid by the plan participant, by the plan sponsor, or a combination of the two.

Administrative fees can cover services such as record-keeping for the plan and communications with participants, and individual fees, for example, for processing a participant loan or distribution. When

⁷SEC generally requires mutual funds to disclose fees in a *prospectus* and to inform investors of products' potential risks. A mutual fund is a pooled investment in a portfolio of securities, managed by a professional investment advisor. 401(k) plan participants buy shares in the fund through their contributions to a plan.

⁸Collective investment trusts are another type of investment option, which are increasingly used among large 401(k) plans. According to the Investment Company Institute, 25 percent of assets in large 401(k) plans were in these funds in 2019. Investment Company Institute, *2021 Investment Company Fact Book*, 61st Edition, (2021).

⁹Sarah Holden, James Duvall, and Elena Barone Chism, "The Economics of Providing 401(k) Plans: Services, Fees, and Expenses, 2019," *Investment Company Institute Research Perspective*, vol. 26, no. 5 (July 2020).

¹⁰Plan Sponsor Council of America, *63rd Annual Survey of Profit Sharing and 401(k) Plans*, (2020).

¹¹ICI reported that 63 percent of 401(k) plan assets, totaling \$3.3 trillion, were invested in mutual funds in 2018. Of those investments, 58 percent was invested in equity assets, 11 percent in bonds, 28 percent in a hybrid of equity and bonds, and 3 percent in money market assets. Holden, Duvall, and Chism, "The Economics of Providing 401(k) Plans: Services, Fees, and Expenses, 2018."

participants pay plan administrative fees, they may do so directly from their account, or indirectly through their investments' operating expenses.

Investment-related fees are associated with buying, selling, and managing investments, but they can also include embedded costs of plan administration. Sales fees, often called loads, are one type of investment fee and can apply when a participant buys or sells shares in an investment fund. Subsidies and waivers, if offered, can offset sales fees and other investment fees. Sometimes these subsidies and waivers are applied differently for different versions, or share classes, of the same fund. For example, a fund may waive the sales fee for participants investing in a fund's institutional share class through their retirement plan, but apply a sales fee to the purchases of retail shares in the same fund.

Asset-based investment fees (defined in the regulations as total annual operating expenses), a subset of investment-related fees, are typically the largest fees a participant will pay. Often called the expense ratio, this fee expresses the percentage of assets under management that is deducted each year for fund expenses. These expenses include management fees and all asset-based costs incurred by the fund. The expense ratio provides participants a measure of an investment's operating cost.¹² The DOL's fee disclosure regulation points to SEC regulations for formulas for calculating expense ratios for certain investment types.¹³ The asset-based investment fee, which is deducted from the fund's average net assets, is accrued on a daily basis. Participants pay for investment management through their investments' expense ratios, but plan sponsors may also pay some investment management fees (see fig. 1).

¹²Additional investment fees are reflected in measures of investments' returns. A fund's gross expense ratio is the percentage of fund assets paid for operating expenses and management fees, including administration, custodial fees, and distribution, but does not include brokerage costs or investor sales charges. The net expense ratio includes equivalent fees to the gross expense ratio, but is collected after fees are waived or reimbursed by an advisor.

¹³See 29 C.F.R. § 2550.404a-5(d)(1)(iv)(A)(2) & (h)(5).

Figure 1: Industry Survey Data Show Who Paid Investment Management Fees in 401(k) Plans



Source: Plan Sponsor Council of America (PSCA), 62nd Annual Survey of Profit Sharing and 401(K) Plans (2018 data). | GAO-21-357

Note: The 64 percent paid by participants may include some fees paid through participant forfeitures to the plans, such as when a participant separates from employment before meeting requirements for full vesting of employer contributions.

Oversight of 401(k) Plans

401(k) plans are subject to the requirements of the Employee Retirement Income Security Act of 1974, as amended (ERISA), which establishes minimum standards and requirements for employee benefit plans intended to protect the interests of plan participants and beneficiaries.¹⁴ DOL generally enforces Title I of ERISA, which establishes requirements that help protect participants, such as requiring plan fiduciaries to act solely in the interest of participants and beneficiaries and requiring plan sponsors to disclose to participants certain information concerning their plan.¹⁵ For example, ERISA requires that certain quarterly benefits statements provided to participants are written in a manner intended to be understandable by the average plan participant, and include account balance and investment information and a notice directing a participant to DOL’s website for information on individual investing.¹⁶ The Internal Revenue Code (IRC) also prescribes requirements for 401(k) plans, and the Internal Revenue Service administers and enforces the requirements in the IRC.¹⁷

Participant fee disclosures

DOL’s fee disclosure regulation, “Fiduciary Requirements for Disclosure in Participant-Directed Individual Account Plans,” became effective in

¹⁴See 29 U.S.C. §§ 1001 et seq.

¹⁵Within DOL, the Employee Benefits Security Administration is responsible for administering and enforcing the reporting, disclosure, and fiduciary responsibility provisions of Title I of ERISA.

¹⁶See 29 U.S.C. § 1025(a).

¹⁷See 26 U.S.C. § 401(k).

2012.¹⁸ The goal of the regulation, as stated in its preamble, is to ensure that all participants have the information they need to make informed decisions about managing their accounts and investing their retirement savings. According to the preamble, the regulation requires “the disclosure of certain plan and investment-related information, including fee information, to participants and beneficiaries in participant-directed individual account plans (e.g., 401(k) plans).”¹⁹ Specifically, it requires plan administrators (plans) to disclose both administrative and individual fees to 401(k) participants on or before the date they can make investment choices and on an ongoing basis. In addition, at least quarterly, plan administrators must inform participants of the administrative and individual fees actually charged to the participant’s account. To meet these requirements, plans may be able to include some of the required information, including fees, as part of a Summary Plan Description or as part of a quarterly benefits statement.²⁰

Plan administrators are also required to provide investment-related information to participants. According to the preamble to the fee disclosure regulation, investment-related information should be provided in a form that encourages and facilitates a comparative review among a plan’s investment alternatives. Investment-related information includes investments’ historical returns and return-benchmarks, which are measures participants can compare to individual funds’ performances. Plans are required to disclose this information on or before the date the participant can begin directing investments and annually thereafter.

¹⁸See Fiduciary Requirements for Disclosure in Participant-Directed Individual Account Plans, 75 Fed. Reg. 64,910 (Oct. 20, 2010) (codified as amended at 29 C.F.R. § 2550.404a-5) and Requirements for Fee Disclosure to Plan Fiduciaries and Participants—Applicability Dates, 76 Fed. Reg. 42,539 (July 19, 2011) (delaying the effective date of the rule until April 1, 2012).

¹⁹DOL’s requirements for fee disclosures pertain to both plan participants and beneficiaries of those plans. For ease of reporting, we will refer only to participants in this report. In addition, the regulation refers to fees and expenses in some instances and refers only to fees in other instances. We will use the term *fees* in this report.

²⁰As the required disclosure of plan and investment-related fees to participants is the focus of our report, we will refer to these requirements generally as fee disclosure regulations or fee disclosure requirements.

Many 401(k) Participants Do Not Understand Information in DOL-Required Fee Disclosures and Do Not Know They Pay Fees, Based on Our Survey

DOL-Required Administrative and Investment Fee Information on 401(k) Plans Is Not Fully Understood by Many Participants

Based on responses from our generalizable national survey, we estimate that many 401(k) plan participants do not fully understand the fee information they might receive from their 401(k) plans.²¹ We asked participants a series of questions based on actual disclosure content drawn from among 10 of the largest 401(k) plans, as well as questions about related concepts, to assess participants' understanding of administrative and investment fee information illustrative of what plans are required to provide to participants (test questions).²² For example, we tested participants' ability to identify their investment cost for a fund using

²¹Our nationally-representative survey of 401(k) plan account participants asked participants' opinion of how clear certain fee-related information was, tested their understanding of that information, and asked their preferences related to accessing fee information. The questions testing understanding were based on actual disclosure content drawn from among 10 large 401(k) plans, DOL and SEC documents, and other sources. NORC at the University of Chicago, an independent research institution, fielded our survey in summer 2020. The weighted cumulative response rate was 17 percent. Percentages reported are estimates weighted to the population of 74.6 million 401(k) participants in the U.S. All estimates from the survey are subject to sampling error. Specifically, in terms of the margin of error at the 95 percent confidence level, the sampling error for estimates based on the total sample is plus or minus 4 percentage points and, for estimates based on subgroups of the sample, is plus or minus 6 percentage points, unless otherwise noted. Our survey included both participants and beneficiaries who can make investment decisions for a 401(k) plan account, but we refer to participants for clarity. See appendix II for more detail on our survey methodology and appendix III for our survey instrument, including answer choices.

²²When needed, we provided calculations to better test participants' understanding of concepts rather than their mathematical ability, as shown in appendix III. We also asked participants several questions based on fee disclosure samples from other countries to test their understanding of them relative to U.S. disclosures. We asked participants' opinions of the clarity of these samples as well.

an asset-based investment fee (often called expense ratio) expressed in a dollar per \$1,000 format, identify an expense ratio when labeled differently, and understand the cumulative effect of fees over time. We found that about a quarter of survey respondents answered 80 percent or more of our survey's fee-related test questions correctly, while about 40 percent of survey respondents answered fewer than 50 percent of the questions correctly (see fig. 2).²³

Figure 2: GAO Estimates of 401(k) Plan Participants' Score Distribution on Survey's Fee-Related Test Questions



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 5 percentage points.

To understand whether participants' ability to answer the survey's fee-related test questions differed by their demographic characteristics, we analyzed the percent of participants who answered at least half the test questions incorrectly by their education level, gender, race and ethnicity, total amount of savings and investments, and age group.²⁴ Based on our survey, we estimate that groups of participants with certain demographic characteristics understand fee information less well than their counterparts.²⁵ For example, participants with a high school education or less understand fee information less well than participants with a master's/professional degree or higher. In addition, women understand fee information less well than men, and participants with less than \$100,000 in savings and investments understand fee information less well

²³Many questions in the survey are about 401(k) participants' opinions of different disclosures' clarity as well as their consumer preferences related to fee disclosure. Those questions are excluded from the test score. We also excluded participants' responses to questions on disclosure content from other countries from the test score. Each participant generally answered 10 test questions. The average participant's score was 53 and the median score was 50. Research shows that many 401(k) plan participants struggle with math, which may also affect their ability to understand fee information. See Jill E. Fisch, Annamaria Lusardi, and Andrea Hasler, "Defined Contribution Plans and the Challenge of Financial Illiteracy." *Cornell Law Review*, vol. 105, issue 3 (March 2020).

²⁴We focused our analysis on what participants did not understand well because these areas reflect where they may need additional help. We found no statistically significant differences by age group at the 95 percent confidence level.

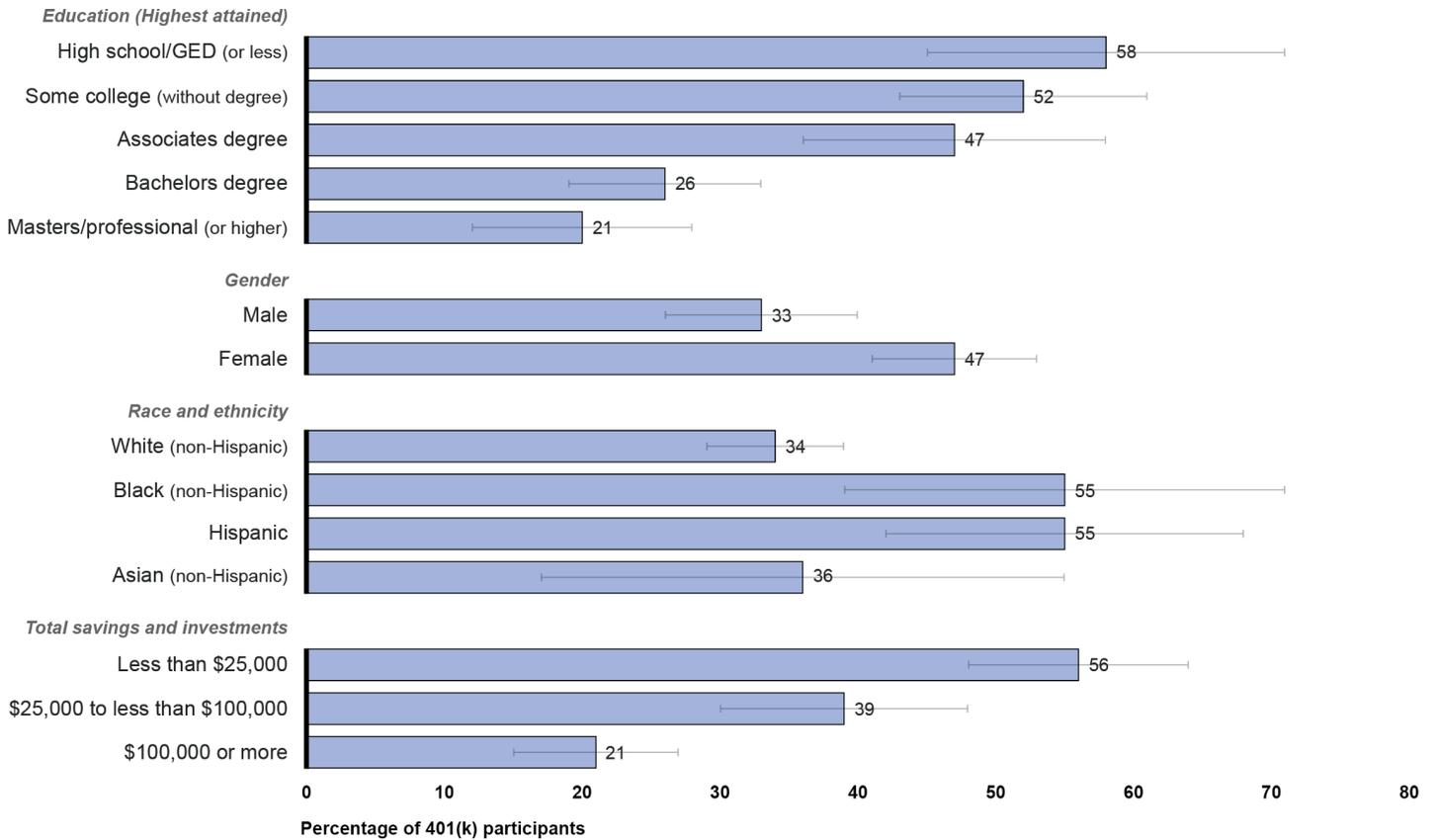
²⁵All comparisons of survey estimates are significant at the 95 percent confidence level.

than those with savings of \$100,000 or more. These differences and others remain when we control for the influence of demographic and other variables.²⁶ (See fig. 3.) However, the difference by gender was not statistically significant after controlling for demographic and other variables.²⁷

²⁶We developed a logistic regression model to control for multiple demographic variables simultaneously. The model's dependent variable shows whether a respondent got at least half of the test questions incorrect, and the model's independent variables include the respondent's education level, gender, race and ethnicity, total amount of savings and investments, age group, and response to our survey question asking whether they believe they pay fees for their plan. For more information about our regression model, see appendix II.

²⁷In addition, the difference between the Asian non-Hispanic and White non-Hispanic groups was significant at the 95 percent confidence level in the model, but not in figure 3.

Figure 3: Estimated Percent of 401(k) Participants Who Incorrectly Answered at Least Half of Survey’s Fee-Related Test Questions, by Selected Participant Characteristics



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: Demographic data are self-reported and were collected separately from our survey by the panel administrator. All percentage estimates from GAO’s survey are subject to sampling error. For these estimates, the margins of error at the 95 percent confidence level are shown (the lines overlapping the bars). Lines that do not overlap indicate a statistically significant difference. Regarding race and ethnicity, the percent of Black and White participants who answered at least half the test questions incorrectly are significantly different at the 90 percent confidence level. Because of our sample size, the confidence interval for Asian participants’ test scores is not significantly different from other groups. Regarding total savings and investments, participants were asked to include savings, certificates of deposit, stocks, bonds, mutual funds, employer-sponsored savings plans—including 401(k) plans—and other investments, but not the value of defined benefit plans (pensions).

Overall, our assessment—based on testing of the DOL-required disclosure information and related concepts we presented in our survey—found that 401(k) plan participants have difficulty understanding the effects of many types of fees on account balances. Specifically, we asked about identifying and using asset-based investment fees, formats for asset-based fee information, investment fee subsidies and waivers,

Identifying and Using Asset-based Investment Fees

investment sales fees, explanation of administrative fees combined with investment fees, loan fees, investment advice fees, and cumulative cost of fees.

Many 401(k) plan participants do not fully understand DOL-required information about asset-based investment fees, we estimate based on our survey.²⁸ Asset-based fees are often called expense ratios, and a participant may want to identify their investments' expense ratios to compare them to options outside the plan. However, we found that participants have a difficult time identifying an investment's expense ratio when the fee is labeled differently, which DOL's regulation does not prohibit. We showed participants a segment of the "investment-related information" section of an annual disclosure, including a table with fee information for one investment fund (see fig. 4). The table labeled the asset-based investment fee as the "total asset-based fee," but explained in a table note that the total asset-based fee is often called the expense ratio. Fifty-three percent of participants find the disclosure segment unclear and 57 percent cannot identify the expense ratio for the one investment fund listed in the disclosure's table.²⁹ Forty-seven percent find the disclosure clear or moderately clear and 43 percent can identify the expense ratio as 0.16 percent. We also showed participants a disclosure segment with information for four investment funds, and their responses were similar.

²⁸DOL's fee disclosure regulation uses the term "total annual operating expenses," but for reporting purposes we use the terms asset-based investment fee and investment fee.

²⁹Our questions about perceived clarity presented a five-point scale: completely clear, very clear, moderately clear, somewhat clear, and not at all clear. For readability, when we report that participants found fee information to be clear, we include completely and very clear and when we report that they found it unclear, we include somewhat clear and not at all clear. We report participants who found information to be moderately clear separately. In reporting results for our questions about understanding, we combine incorrect responses and don't know responses as responses indicating the participants did not understand.

Figure 4: GAO Estimates of 401(k) Participants' Ability to Identify the Expense Ratio When Labeled As Something Else in Disclosure Information

Investment-Related Information
 The following table shows the plan's investment options, including:

1. General information about the type of investment
2. Fee information, including asset-based fees (often called the expense ratio), plus other stakeholder-type fees or investment restrictions
3. Historical fund performance and an appropriate benchmark for the same period of time

General information			Fee information			Historical performance				
Fund Name/ Benchmark	Investment Manager	Asset Class	Total Asset- Based Fees ¹	Annual Cost per \$1,000 of Investment	Shareholder- Type Fees and Investment Restrictions ²	Average Annual Total Return as of 12/31/2018 ³				Fund Inception Date
Target date Funds						1 yr.	5 yr.	10 yr.	Since Inception	
Target Date Retirement Fund	Financial Company	Pre- mixed	0.16%	\$1.60	N/A	-3.60%	3.10%	6.03%	4.60%	8/1/2005

¹Total asset-based fees are investment management company fees and other plan administrative costs charged to participants provided by the investment management company to cover plan administrative and other costs. Administrative costs make up approximately 0.05% of the total asset-based fee for each fund.
²Shareholder-type fees and investment restrictions outline any fees paid directly from your investment in this option and any restrictions on trading that might exist for a specific investment option.
³In general, 1-year, 5-year, 10-year, and since inception performance is shown. If a full history is not available, simulated returns are shown. Each fund's returns have been reduced by that fund's total asset-based fees.

Based on this information, what is the expense ratio for the Target Date Retirement Fund?



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: Disclosure content shown is an excerpt from a large 401(k) plan's annual disclosure. All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 6 percentage points.

Participants also have a difficult time understanding the effect of asset-based investment fees on their returns, based on our survey. The survey asked participants to read a table note in a disclosure explaining that asset-based fees reduce returns. Survey results show that an estimated 63 percent of participants do not understand that the information in the note means that the fund's returns are higher before asset-based investment fees (see fig. 5). However, 37 percent of participants understand that the fees will reduce their returns, which is an important concept to understand because these fees can have a negative effect on returns over time.

Figure 5: GAO Estimates of 401(k) Participants' Understanding that Asset-based Investment Fees Reduce Returns

³In general, 1-year, 5-year, 10-year and since inception performance is shown. If a full history is not available, simulated returns are shown. Each fund's returns have been reduced by that fund's total asset-based fees.

Participants were asked to choose the correct observation about the effect of fees on returns, based on the information above



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: Disclosure content shown is an excerpt from a large 401(k) plan's annual disclosure. All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 6 percentage points.

Formats for Asset-based Fee Information

More participants understand similar asset-based investment fee information when presented in a narrative format rather than a table format, and most participants prefer to see the actual cost of their asset-based investment fees, based on our survey. DOL's fee disclosure regulation requires plans to provide participants with asset-based investment fee information, both as a percentage and as a dollar per \$1,000 investment balance, presented in a chart or similar format designed to facilitate a comparison of plan investment options. To assess whether participants understand and can use this information, our survey asked about asset-based investment fees expressed as a dollar per \$1,000 (rather than as a percentage or expense ratio), presented (1) in a table from an annual fee disclosure, similar to the format of DOL's model disclosure template, and (2) in a narrative description. When asked to calculate the cost of asset-based investment fees for a \$10,000 investment using a table format, an estimated 55 percent of participants understand what to do (see fig. 6).³⁰ The correct answer reflected a \$10 fee for a \$10,000 investment.

³⁰Asset-based investment fees are actually deducted from a fund's average net assets on daily basis, so this type of calculation provides just a rough estimate of the actual cost of asset-based investment fees effectively paid by a participant.

Figure 6: GAO Estimates of 401(k) Participants' Understanding of the Cost of Asset-based Investment Fees When Given as a Percentage and Dollar Per \$1,000 Invested, in a Table Format

Variable return investments	Average annual total return as of 03/31/2018			Fees and expenses		Additional fees, restrictions and notes
	1 year	5 year	10 year (since inception)	Total annual operating expense As a %	Per \$1,000	
USD*						
Target Date 2020 Fund (inception date 01/31/2011)	7.46%	6.52%	(6.86%)	0.10%	\$1.00	

Based on this information, if you have \$10,000 invested in the Target Date 2020 Fund, how much did you spend for Total Annual Operating expenses this year, in dollars?



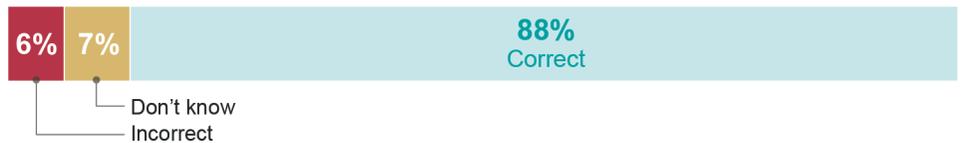
Source: GAO survey of 401(k) participants. | GAO-21-357

Note: Disclosure content shown is an excerpt from a large 401(k) plan's annual disclosure. All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 6 percentage points.

However, the percentage of participants who answered correctly was significantly higher when they were asked to calculate the cost of asset-based investment fees for a \$15,000 investment fund balance given fees of \$4 each quarter per \$1,000 invested, when shown in a narrative format not required by DOL's fee disclosure regulation. Specifically, we estimate that 88 percent of participants can correctly identify the quarterly \$60 investment cost with the fee information presented this way (see fig. 7). Providing narrative fee descriptions for each investment offered in a plan with multiple investment options may not be feasible or conducive to a comparative table format, but plans and providers may have other opportunities to explain fee information in a narrative format.

Figure 7: GAO Estimates of 401(k) Participants' Understanding of the Cost of Their Asset-based Investment Fees When Given Fee Information in a Narrative Format

If your investment fund's expenses are \$4 each quarter per \$1,000 invested, how much are your expenses for a \$15,000 investment in that quarter, assuming that the amount of the investment doesn't change?



Source: GAO survey of 401(k) participants. | GAO-21-357

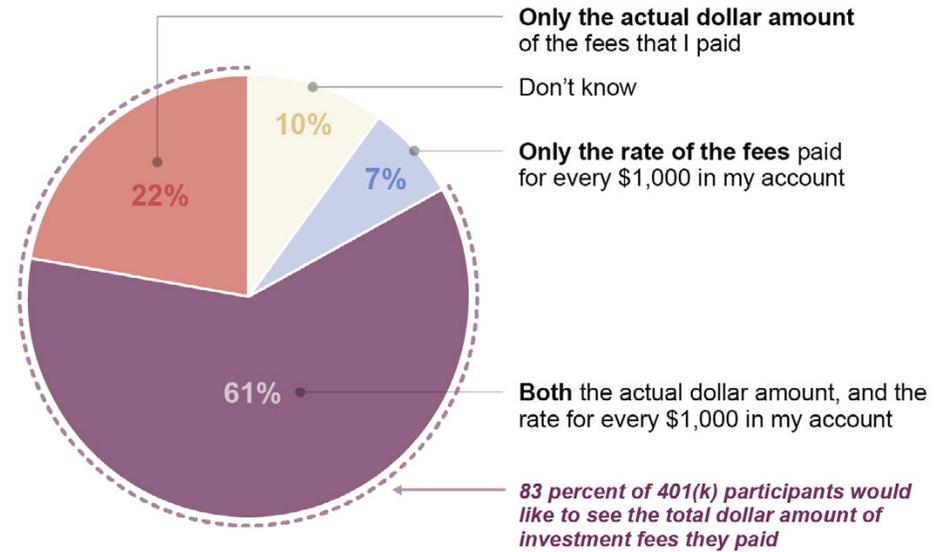
Note: All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 5 percentage points. Percentages may not add to 100 due to rounding.

In addition, most participants—83 percent—would prefer for plans to provide the actual cost of their asset-based investment fees, we estimate based on our survey, which DOL's fee disclosure regulation does not require. Specifically, 61 percent of participants prefer to see both the actual cost and the dollar amount per \$1,000, while 22 percent prefer to see only the actual cost (see fig. 8). As our survey results show, many participants do not understand how to apply an expense ratio to identify their investment cost, even when the calculations are provided.³¹

³¹Financial literacy experts told us that many people have difficulty understanding percentages.

Figure 8: GAO Estimates of 401(k) Participants' Preference for Seeing Their Asset-based Investment Fees

In a disclosure from your 401(k) plan, would you rather see: the total investment fees that you paid that year; the fees you paid per \$1,000 in your account that year; or see both?



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 5 percentage points.

Investment Fee Subsidies and Waivers

Many participants do not understand investment fee subsidies and waivers, we estimate, based on our survey.³² DOL's fee regulation requires plans to calculate the total annual operating expense before factoring in investment fee subsidies and waivers. In addition, DOL's fee regulation permits plans to apply subsidies and waivers in the calculation of an investment's average annual total returns. Our survey assessed participants' understanding of subsidies and waivers in both a narrative description and an illustrative calculation.

When presented with a disclosure's narrative explanation of the effect of subsidies and waivers, 65 percent of participants find the information unclear and 35 percent find it clear or moderately clear; 64 percent do not understand that subsidies and waivers increase their net investment return by reducing fees that would otherwise apply (see fig. 9). In

³²Subsidies and waivers apply to investment fees other than asset-based investment fees, such as sales fees (also known as loads).

addition, 51 percent of participants do not understand that because the investment fee subsidies and waivers can change, their effect on a fund's returns can change. Investment fee subsidies and waivers are important for participants to consider, for example, when weighing an investment fund's history of returns against its fees, because even if its returns continue to perform at the same level, the participants' returns could be reduced if subsidies and waivers that had offset certain fees in the past are not renewed.

Figure 9: GAO Estimates of 401(k) Plan Participants' Understanding of Investment Fee Subsidies and Waivers

For certain investment options, the returns reflect subsidies and waivers, without which the results would have been lower than noted. These subsidies and waivers may not continue to remain in effect. Please consult the prospectus for more information.

Based on this information, how can subsidies and waivers affect your return?



Based on this same information, participants were asked to choose the correct statement about the effect of subsidies and waivers on their returns



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: Disclosure content shown is an excerpt from a sample quarterly disclosure used by a large service provider. All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 6 percentage points. Percentages may not add to 100 due to rounding.

Moreover, because investment fee subsidies and waivers may be applied differently to different share classes within the same fund, it is important for participants to be aware of them when considering rolling over retirement savings from a plan where the subsidies and waivers may apply to another plan or retail option where they do not, resulting in higher fees for the same investment. Most 401(k) plan assets invested in mutual funds are not subject to sales fees: The Investment Company Institute reports 93 percent of 401(k) plan mutual fund assets were invested in

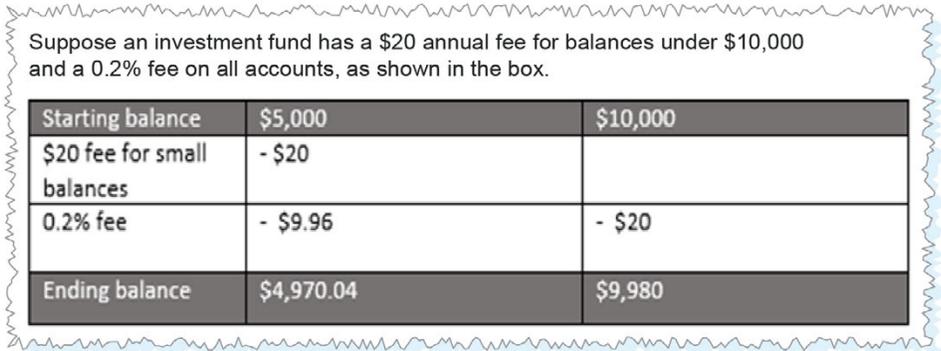
shares with no sales fees in 2018, including both institutional shares and retail shares for which sales fees were waived.³³

Based on our survey, participants generally understand that they may pay higher fees for an investment fund with a lower account balance than they would with a larger balance for which the annual fee is waived. DOL's fee disclosure regulation requires plans to disclose fund-level shareholder fees and other investment fees not otherwise included in a fund's asset-based fee. To assess whether participants can understand the application of an investment fee waiver based on a fund's account size, we asked participants to identify whether a higher or lower account balance paid more in fees, when an annual fee was waived for a higher balance. In our test question, this added fund-level fee was called an annual fee. Fifty-nine percent of participants understand that they would pay more (both an annual and asset-based fee) to invest the smaller balance (see fig. 10). However, 41 percent of participants do not understand they can pay additional fees on smaller account balances that would be waived for higher account balances.³⁴

³³Holden, Duvall, and Chism, "The Economics of Providing 401(k) Plans: Services, Fees, and Expenses, 2018."

³⁴In addition, investment fees that are assessed upon small balances and waived for larger balances affect certain workers more; women, younger workers, newer workers, and lower-income workers had lower median balances than men, older workers, more tenured workers, and higher-income workers, according to Vanguard's defined contribution plan data as of December 2019. Brian T. Alling, Jeffrey W. Clark, and David Stinnett, "How America Saves: 2020," Vanguard, June 2020.

Figure 10: GAO Estimates of 401(k) Participants' Understanding of How Fees Can Vary by Account Balance



Based on this information, which of the following is correct about how much you would pay in fees?



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 6 percentage points.

Investment Sales Fees

Investment sales fees were also unclear to many 401(k) plan participants.³⁵ Specifically, 61 percent of participants find the disclosure information we presented in our survey about sales fees unclear. Further, 72 percent of participants do not understand that when sales fees do not apply to their plan, investing in the same funds outside the plan could be more expensive (see fig. 11). This is an important factor when considering a rollover from a 401(k) plan to a retail individual retirement account, as industry research has found that investment costs are lower, on average, in 401(k) plans.³⁶

³⁵We refer to sale charges as sales fees. These fees may apply to the initial purchase of an investment fund's shares or to the sale of those shares, particularly if sold within a certain timeframe. An investment fund may waive sales fees for fund shares purchased and sold by retirement plan participants.

³⁶Holden, Duvall, and Chism, "The Economics of Providing 401(k) Plans: Services, Fees, and Expenses, 2018." Individual retirement accounts are generally not subject to the requirements of ERISA.

Figure 11: GAO Estimates of 401(k) Participants' Understanding that Investment Fees Can Vary Outside the Plan

All total returns assume the reinvestment of all dividend and capital gain distributions at net asset value when paid and do not reflect the deduction of any sales charge, as these charges are not applicable to eligible retirement plans. Had the sales charge been deducted, results would have been lower than shown.

Based on this information, if those same funds were offered outside the 401(k) plan, would your returns be higher if you invested in them inside or outside of your plan?



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: Disclosure content shown is an excerpt from a sample quarterly disclosure used by a large service provider. All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 6 percentage points.

Explanation of Administrative Fees Combined With Investment Fees

Our survey found that about a third of participants understand they could be paying administrative expenses that are disclosed as investment fees. DOL's fee disclosure regulation requires 401(k) plans to disclose plan-wide administrative fees to participants quarterly. To assess whether participants can identify how much they pay in plan administrative fees, we asked whether they understand a disclosure's explanation that some administrative fees can actually be disclosed elsewhere, as investment fees, as permitted by DOL. Many participants do not understand that they could be paying administrative fees in addition to plan-wide administrative fees, we estimate based on our survey. Although 71 percent of participants find a paragraph explaining plan-wide administrative expenses clear or moderately clear, we estimate that 68 percent of participants reviewing this sample paragraph do not understand that they could be paying administrative expenses as part of an investment option's total operating expenses or individual expenses, in addition to the plan-wide administrative expenses (see fig. 12).³⁷ Notably, survey results show

³⁷Participants understand a table of administrative and investment fees used by plans in Australia better than the disclosure content shown in figure 12. Specifically, 48 percent of participants understand that the fees shown in the table from Australia are not complete, and that other fees can be shown in another part of the disclosure document.

that participants who feel the information is clear are more likely to choose the wrong answer to the test question.

Figure 12: GAO Estimates of 401(k) Participants' Understanding of Where They May Pay Administrative Fees

Plan-wide administrative expenses are expenses for Plan administrative services that are charged to your Plan accounts and which are: (1) not reflected in the total operating expenses of any investment options and (2) not individual expenses. Plan administrative expenses include charges for the Plan's day-to-day operation, such as legal, accounting, recordkeeping, communication, investment advisory services and other administrative expenses associated with maintaining account records, processing investment menu changes, and providing customer service.

As of the date of this notice, the Plan expects to incur the following Plan-wide administrative expenses over the next year:

- Fees for recordkeeping services of approximately \$11.14 per participant per year, paid in four quarterly installments.
- Fees for investment advisory and consulting services of approximately \$0.06 per participant per quarter (\$0.24 per participant per year).

How clear is the information in the box?



Based on this information, how much will you pay this year for TOTAL administrative expenses— not just for plan-wide administrative expenses?



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: Disclosure content shown is an excerpt from a large 401(k) plan's annual disclosure. All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 6 percentage points. Percentages may not add to 100 due to rounding.

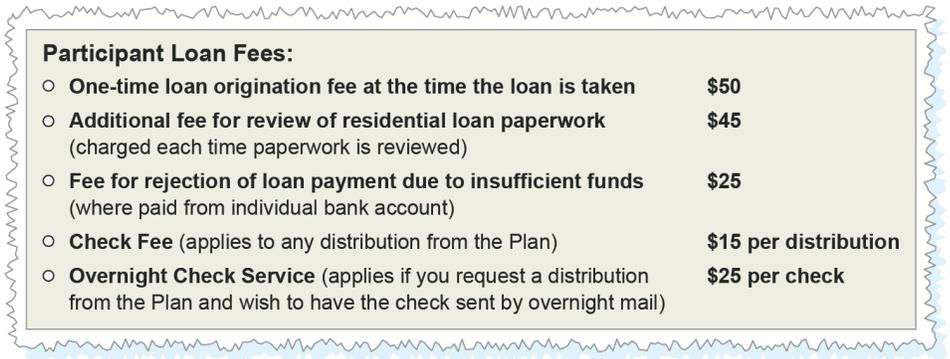
We also presented participants with a similarly-worded but shorter disclosure and found that participants' understanding is similar to that of the longer disclosure. It is important for participants to know that they could be paying administrative fees disclosed elsewhere, in their investment fees, otherwise they may not understand the actual cost of

their plan administration and compare it in an apples to apples manner with that of another plan when considering a rollover.

Loan Fees

Participants generally find DOL-required information about administrative, loan-related fees to be clear; however, about half understand how to calculate what their fees would be for a loan, we estimate based on our survey. Some plans permit participants to borrow from their 401(k) account, including cash in the short-term or to purchase a home. We found 74 percent of participants find the information on potential loan fees in our survey clear or moderately clear, but 51 percent cannot identify the minimum cost of a residential loan (\$110), given the fees listed (see fig. 13). A lack of understanding can limit participants' ability to compare costs for various loan options.

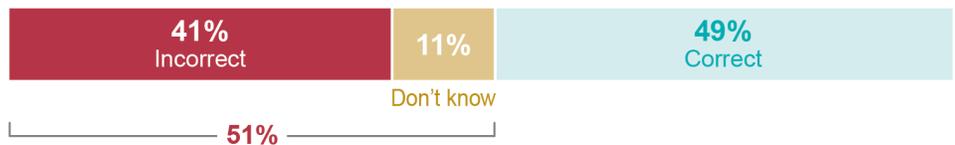
Figure 13: GAO Estimates of 401(k) Participants' Ability to Identify the Minimum Cost of Taking a Loan



How clear is the information in the box?



Based on this information, what were your minimum individual expenses for taking a residential loan from your plan?



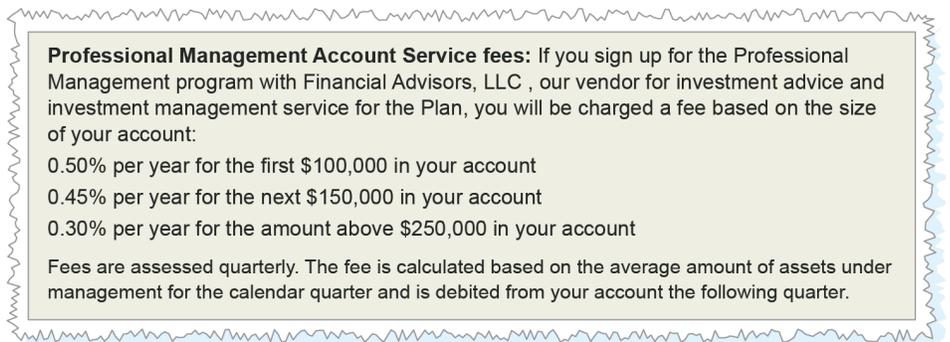
Source: GAO survey of 401(k) participants. | GAO-21-357

Note: Disclosure content shown is an excerpt from a large 401(k) plan's annual disclosure. All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 6 percentage points. Percentages may not add to 100 due to rounding.

Investment Advice Fees

Participants generally understand the cost of investment advice, but fewer participants understand these programs are optional, we estimate based on our survey. DOL's fee disclosure regulation requires plans to disclose investment advice fees in addition to other administrative fees. Our survey presented participants with a description of fees charged for an optional investment advice program. We estimate that 64 percent of participants find this information clear or moderately clear, and 69 percent understand that the cost of using the program would vary depending on their account balance. Fewer participants (57 percent) understand that the program is optional (see fig. 14).

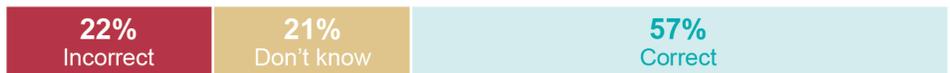
Figure 14: GAO Estimates of 401(k) Participants' Understanding of the Cost of Investment Advice and Whether the Advice Program is Optional



Based on this information, if you use the investment advice and management services program, what will you pay?



Based on this information, are you required to use investment advice and management services?



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: Disclosure content shown is an excerpt from a large 401(k) plan's annual disclosure. All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 6 percentage points.

Our survey shows that some participants (43 percent) do not understand the opt-in arrangement described and falsely assumed they had to purchase advice services. In a plan where the reverse is true and all participants share the cost, participants who are unclear about the fee

arrangement could miss the opportunity to obtain advice services for which they unknowingly pay.³⁸

Cumulative Cost of Fees

Department of Labor-required Statement About the Cumulative Effect of Fees

The cumulative effect of fees and expenses can substantially reduce the growth of your retirement savings.

Source: DOL Model Comparative Chart, 29 C.F.R. § 2550.404a-5 app. | GAO-21-357

While participants generally understand the concept that fees can reduce their returns over time, they have a more difficult time understanding the effect of fees on their returns over 5 to 20 years, we estimate based on our survey. DOL's fee disclosure regulation requires plans to include a statement (effectively a consumer warning) about the cumulative effect of fees in fee disclosures, along with other investment-related information (see sidebar). We estimate based on our survey that 74 percent of participants find DOL's consumer warning to be clear or moderately clear, while 26 percent find it unclear (see fig. 15).

In addition, our survey found that 74 percent of participants correctly understand DOL's warning to mean that even if their balance is growing, it will grow less because of fees and expenses (see fig. 15).³⁹ As expected, participants who find the warning about the cumulative effect of fees clear also understand it significantly better than those who find it unclear.

³⁸According to the Plan Sponsor Council of America Survey of Profit Sharing and 401(k) Plans for 2018, the cost of investment advice is shared by the employer and participants in 15 percent of plans, while the cost is paid by participants alone in 31 percent of plans and employers alone in 55 percent of plans.

³⁹The DOL statement was better understood by participants than a similar statement from Australia, which states "small differences in both investment performance and fees and costs can have a substantial impact on your long term returns." An estimated 57 percent feel the statement from Australia is clear or moderately clear and understand it means that even a growing balance will not grow by as much due to fees, based on our survey. Participants' overall test scores, reported earlier, are based on understanding of U.S. disclosure content only.

Figure 15: GAO Estimates of 401(k) Participants' Understanding of Department of Labor's (DOL) Consumer Warning About the Cumulative Effect of Fees

How clear is the information?



Based on DOL's statement, participants were asked to choose the correct statement about the effect of fees on their returns



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 6 percentage points. Percentages may not add to 100 due to rounding.

Based on our survey, we estimate that more participants understand that fees reduce investment returns over 1 year than understand the cumulative effect of fees on their returns over 5 years. We asked participants to identify the value of a given balance over 1 year and 5 years, given annual growth and a flat annual fee. We found 81 percent of participants understand that \$100 earning an annual 5 percent return would be worth less than \$105 after 1 year, if there was an annual fee (see fig. 16). However, half of participants understand that over 5 years, a balance with returns was reduced by more than 5 years of fees because of the compounding value of returns not earned on the fees deducted from an account, our survey found.⁴⁰

⁴⁰Research shows that the concept of compound interest—by which a balance can grow by increasing amounts when the same rate of growth applies to a larger and larger amount—is not well understood. Judy T. Lin, Christopher Bumcrot, Tippy Ulicny, Gary Mottola, Gerri Walsh, Robert Ganem, Christine Kieffer, Annamaria Lusardi, “The State of Financial Capability: The 2018 National Financial Capability Survey” (June 2019).

Figure 16: GAO Estimates of 401(k) Participants' Understanding of the Effect of Fees on Their Returns After 1 Year and 5 Years

Suppose you have \$100 in a retirement account earning a 5 percent return a year. You also pay a \$1 annual fee. After 1 year, how much would you have?



Suppose you have \$100 in a retirement account earning a 5 percent return a year. You also pay a \$10 annual fee. After 5 years, how much more would you have had in your account if \$50 in fees had not been taken out?

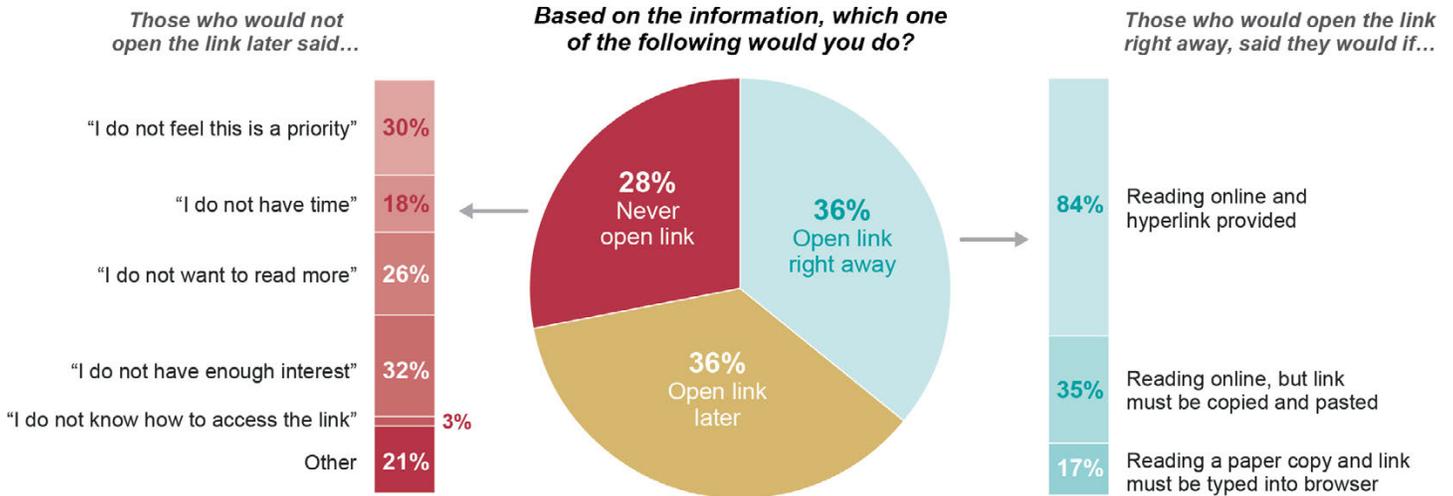


Source: GAO survey of 401(k) participants. | GAO-21-357

Note: All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 6 percentage points. Percentages may not add to 100 due to rounding.

Our survey also found strong participant interest in seeing additional DOL information related to the cumulative effect of fees. Specifically, when participants view DOL's consumer warning about the cumulative effect of fees with a website address for accessing more information, 72 percent of participants report they would open that link to learn more, either right away or later, we estimate based on our survey (see fig. 17).

Figure 17: GAO Estimates of 401(k) Participants' Interest in Seeing Department of Labor (DOL) Information on the Cumulative Effect of Fees



Source: GAO survey of 401(k) participants. | GAO-21-357

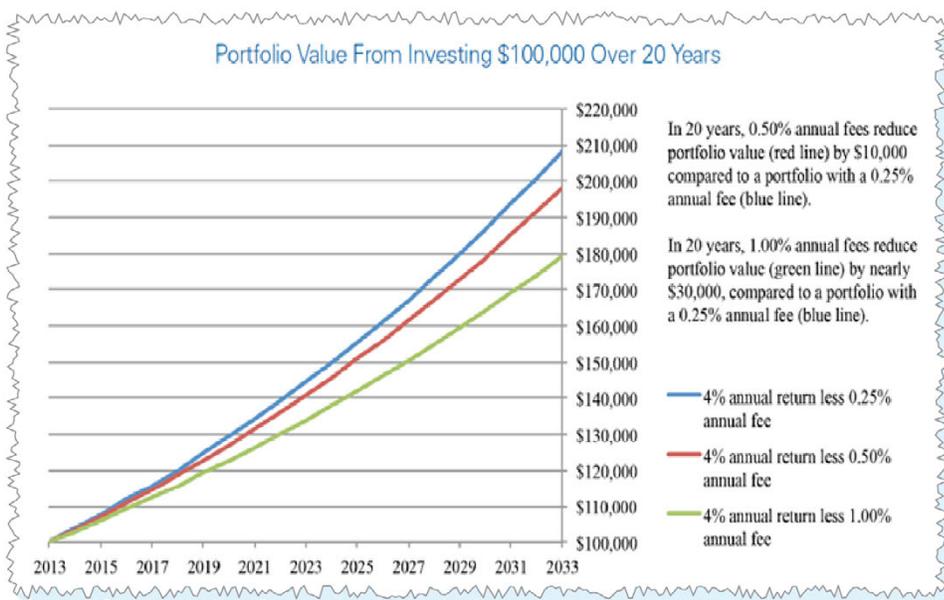
Note: All percentage estimates from GAO's survey are subject to sampling error. For pie chart estimates, the margin of error at the 95 percent confidence level is plus or minus 4 percentage points, while for bar charts, the margin of error at that level is plus or minus 7 percentage points (right) and plus or minus 11 percentage points (left). For both bar chart questions, participants were asked to choose all answers that apply, so percentages do not add to 100.

Notably, among participants who are motivated by the DOL consumer warning to seek out more fee information, 84 percent report they would do so right away if they were reading the disclosure online and there was a hyperlink to use. Reported likeliness to seek out more information drops if participants must copy and paste the link into another window (35 percent) or type the link into a browser (17 percent).

We also found that participants' understanding of the effect of fees on their returns over 20 years was mixed. Because participant fee disclosures refer them to SEC documents for more information about investments, our survey asked participants a few questions about a graphic developed by SEC's Office of Investor Education and Advocacy illustrating the cumulative effect of fees over time to assess whether they understood it. When participants view a figure showing portfolio values over 20 years, with a constant return and varying fee levels, 69 percent find the figure clear or moderately clear (see fig. 18). However, 53 percent of participants do not understand that the balance of an account with higher annual fees was not just lower but lower by a greater proportion over time. Significantly more participants—63 percent—do understand

that they should choose investments with lower fees to maximize the growth of their savings, based on the same figure.

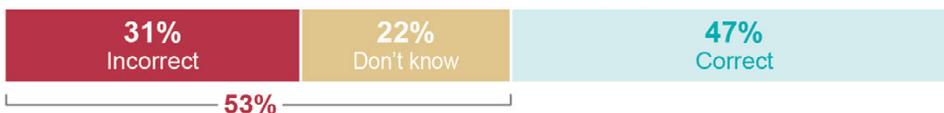
Figure 18: GAO Estimates of 401(k) Participants' Understanding of Graphic Showing the Cumulative Effect of Fees Over Time



How clear is the information?



Based on the information in the chart, an account paying a higher annual fee (green line) is less than an account paying a lower fee (red, blue lines) by: the same proportion; a smaller proportion; or a greater proportion over time?



Based on the information, what should you do to maximize the growth of your savings over 20 years?



Source: Securities and Exchange Commission's Office of Investor Education and Advocacy; GAO survey of 401(k) participants. | GAO-21-357

Note: All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 6 percentage points.

We also showed participants a figure developed by the SEC’s Office of Investor Education and Advocacy showing the effect of fees over 20 years. While the graphic above (fig. 18) compares the difference between three balances with three different fees—0.25, 0.5 and 1.0 percent—this graphic compares a balance if no fee were applied to a balance from which an annual fee is subtracted. Fifty-six percent of participants understand that, because of fees, they have a smaller amount invested that is earning a return—a key concept shown in the chart.

Many Participants Do Not Know They Pay Any Fees in their 401(k) Plan, Based on Our Survey

While our fee-related test questions gauged 401(k) participants’ understanding of specific fee information, our survey also asked participants whether they believe they pay fees for their plan (everyone does), whether they know about how much they pay in fees, and how confident they are in their ability to understand the effect of fees on their retirement savings. Based on responses from our survey, we estimate that 64 percent of participants believe they are either not paying any 401(k) fees—administrative or investment fees—or do not know if they are paying these fees (see fig. 19).

Figure 19: GAO Estimates of 401(k) Plan Participants’ Understanding of Whether They Pay Fees for Their Plan

Do you pay any fees for your 401(k) plan?

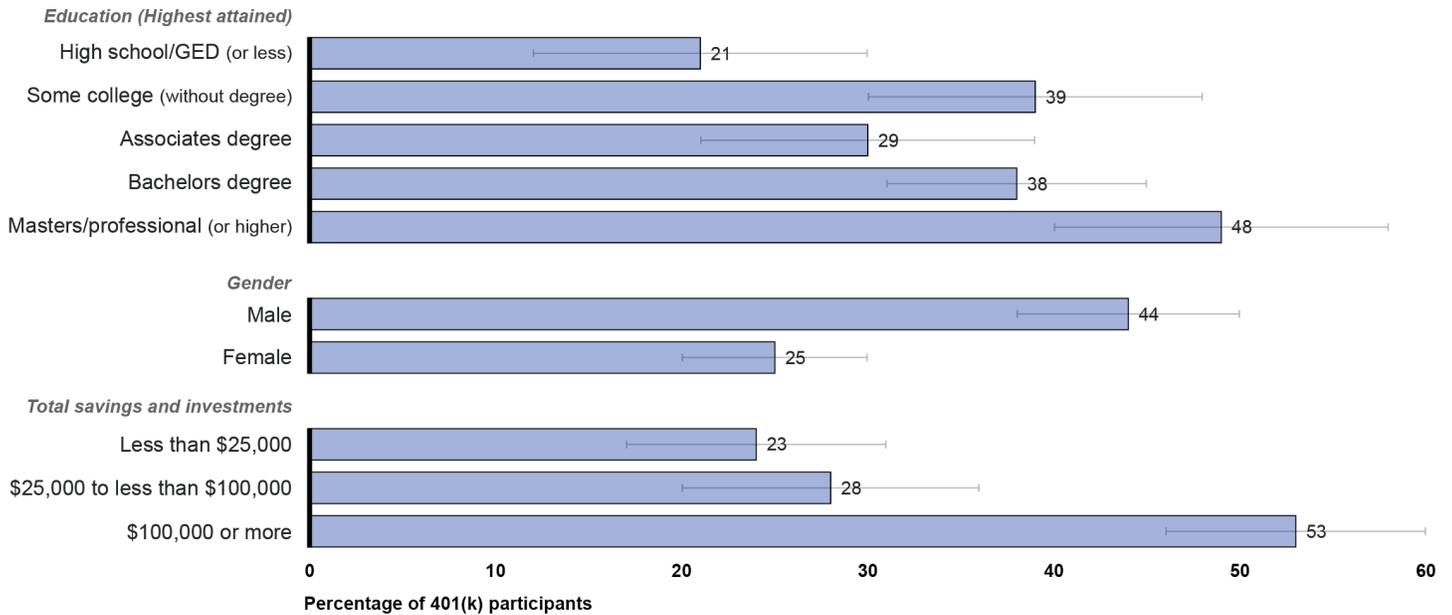


Source: GAO survey of 401(k) participants. | GAO-21-357

Note: All percentage estimates from GAO’s survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 5 percentage points.

Participants’ knowledge that they pay fees varies by their level of education, gender, and amount of savings and investments. Specifically, we estimate that men and those with savings amounts of \$100,000 or more know at higher rates that they pay fees than their counterparts (see fig. 20). In addition, we estimate that those with master’s/professional degrees or higher and those with bachelor’s degrees know at higher rates that they pay fees than those with a high school education or less.

Figure 20: Estimated Percent of 401(k) Participants Who Know They Pay Fees, by Participant Characteristics



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: All percentage estimates from GAO’s survey are subject to sampling error. For these estimates, the margins of error at the 95 percent confidence level are shown (the lines overlapping the bars). Lines that do not overlap indicate a statistically significant difference. Regarding total savings and investments, participants were asked to include savings, certificates of deposit, stocks, bonds, mutual funds, employer-sponsored savings plans—including 401(k) plans—and other investments, but not the value of defined benefit plans (pensions).

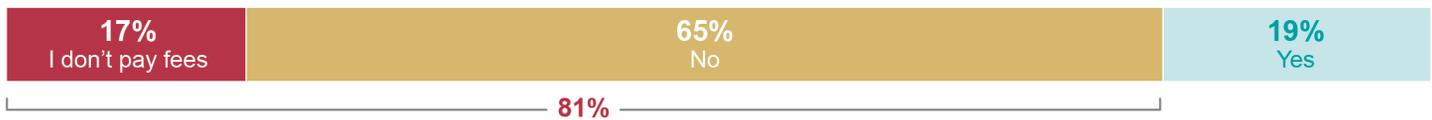
We also analyzed the percent of participants who answered at least half of our survey’s fee-related test questions incorrectly by whether they know they pay fees for their plan, and estimate that participants who do not know they pay fees score less well than those who do. Specifically, of participants who know they pay 401(k) fees, 26 percent answered more than half the test questions incorrectly, compared with 47 percent of participants who believe incorrectly that they are not paying fees or do not know if they are paying fees.

Participants also do not know approximately how much they pay in fees for their 401(k) plans (see fig. 21). Based on our survey, we estimate that 81 percent of participants do not know approximately how much they pay in fees or incorrectly believe that they do not pay fees at all. Notably, 17 percent of participants do not believe they pay any fees, even after viewing a description of fees charged in 401(k) plans, as shown below.

Figure 21: GAO Estimates of 401(k) Participants' Awareness of About How Much They Pay in Plan Fees

Financial service companies that manage 401(k) plans charge fees for administering and managing those plans. The fees are paid by the employer and/or the employees that participate in the plan. Often, the company that manages the 401(k) plan simply deducts the fees from each participants' 401(k) plan balance, so you rarely receive a bill for the fees.

In general, do you know about how much in fees you are paying for your 401(k) plan(s)?



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: The description of fees charged in 401(k) plans is excerpted from a consumer advocate's national survey. All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 4 percentage points. Percentages may not add to 100 due to rounding.

Participants' self-assessed knowledge of how much they pay in fees also varied by gender—12 percent of women believe they know approximately how much they pay in fees, while 24 percent of men believe they do.

We also analyzed the percent of participants who answered at least half of our survey's fee-related test questions incorrectly by whether they believe they know approximately how much in fees they pay for their 401(k) plan, and estimate that participants who do not know score less well than those who do. Specifically, of participants who believe they know approximately how much they pay in fees, 21 percent answered more than half the test questions incorrectly, compared to 41 percent of participants who do not know approximately how much they pay in fees and 56 percent of participants who incorrectly believe they do not pay fees at all.

Our survey found participants also lack confidence in their ability to understand the effect of 401(k) fees on their retirement savings. Specifically, 58 percent of participants believe that they are not knowledgeable about the impact fees can have on their total retirement savings, we estimate based on our survey (see fig. 22).⁴¹

⁴¹The category "not knowledgeable" includes participants who reported they are not at all or slightly knowledgeable and "knowledgeable" includes participants who reported they are very or extremely knowledgeable.

Figure 22: GAO Estimates of 401(k) Plan Participants' Confidence in their Knowledge of Fees' Impact on Their Savings

How knowledgeable are you about the impact that fees can have on your total retirement savings?



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: All percentage estimates from GAO's survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 4 percentage points.

Participants' confidence that they understand the effect of fees varied by their level of education and their gender. For example, 6 percent of those with a high school diploma or less and 11 percent with some college feel they are knowledgeable about the impact of fees on their retirement savings, while 25 percent of those with a bachelor's degree feel that way. In addition, women's confidence in their understanding of the effect of fees was much lower than that of men. Specifically, 7 percent of women feel knowledgeable about the impact fees can have on their retirement savings compared to 23 percent of men.

In addition, we analyzed the percent of participants who answered at least half of our survey's fee-related test questions incorrectly by their confidence that they understand the effect of fees. We estimate that participants confident in their knowledge of the impact of plan fees generally perform better on our test questions than participants who say they are not knowledgeable. Specifically, of participants who rate themselves as knowledgeable about the impact of fees on their total retirement savings, 20 percent answered more than half the questions incorrectly, compared to 47 percent of participants who rate themselves as not knowledgeable.

Many Participants Report They Are Unlikely to Review Additional Information but Prefer Accessing Information Electronically

Participants' Preferences for Accessing Fee Information

Our survey asked participants about their willingness to obtain and review more information about their investments and how they prefer to receive fee information. Many participants report they are unlikely to read additional detailed information about their investments, but that

willingness also depends on how easily they can access the additional information. Directing participants to read additional detailed information about their investments is an approach called “layering.” DOL’s fee disclosure regulation permits plans to use layering in fee disclosures, which can reduce disclosure length and limit the information that plan sponsors provide directly to participants. Participants who we surveyed viewed a paragraph—drawn from a sample quarterly disclosure—explaining that they should consult investment prospectuses and comparable documents to learn more about their investment options, including fee information (see fig. 23). An estimated 80 percent of participants report they are unlikely or moderately likely to obtain and review such documents after reading the statement.⁴²

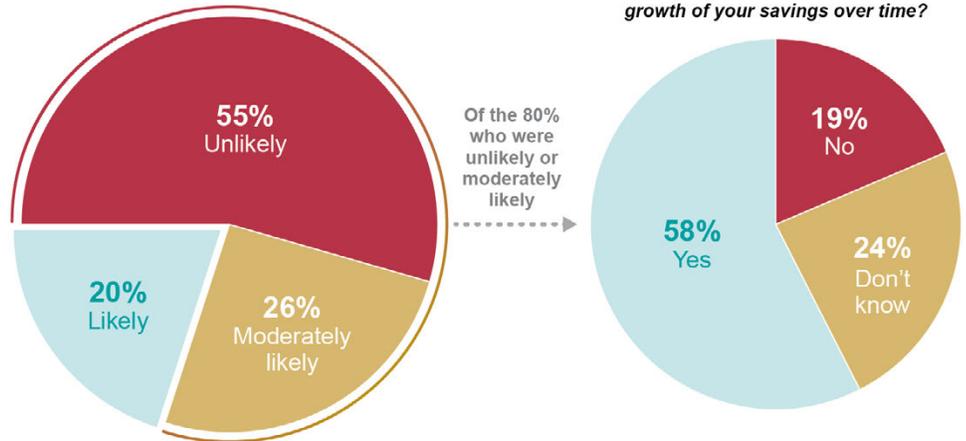
⁴²Responses of “not at all likely” and “somewhat likely” are combined and described as “unlikely.”

Figure 23: GAO Estimates of 401(k) Participants' Willingness to Obtain and Review Additional Information about Their Investments After Reading Disclosure Excerpt Encouraging Them to Do So

For more complete information on the investment options that are mutual funds, including their management fees and other charges and expenses, please consult the prospectuses and other comparable documents. Investors should consider the investment objectives, risks, charges and expenses of investment options carefully before investing. This, and additional information about the investment options, can be found in the prospectuses and, if available, the summary prospectuses which can be obtained on SeeMyBenefits at www.benefits.company.com or by calling Company Name at 800.866.401K. Investors should read the prospectuses and, if available, the summary prospectuses carefully before investing.

Based on this information, how likely are you to obtain and review additional, detailed investment documents outside what is provided in your plan documents?

Would you be more likely to obtain and review additional, detailed investment documents if you were also told that they described fees and expenses that could reduce the growth of your savings over time?



Source: GAO survey of 401(k) participants. | GAO-21-357

Note: Disclosure content shown in the box is an excerpt from a sample quarterly disclosure used by a large service provider. All percentage estimates from GAO's survey are subject to sampling error. For estimates in the pie chart on the left, the margin of error at the 95 percent confidence level is plus or minus 4 percentage points, while the margin of error at that level for the pie chart on the right is plus or minus 5 percentage points. Percentages may not add to 100 due to rounding. The "unlikely" and "moderately likely" percentages in the pie chart on the left add to 80 percent rather than 81 percent due to rounding.

Of the 80 percent of participants who report they are unlikely or moderately likely to obtain and review additional detailed investment documents, 58 percent indicate they would be more likely to do so if told that the documents describe fees and expenses that could reduce the growth of their savings over time. Among the 20 percent of participants who report they are likely to obtain and review additional investment

Participants' Preferences for
When to Access Fee
Information

documents, 26 percent report they would obtain and review just one document and 58 percent report they would obtain and review two to three documents.⁴³ In addition, participants who are motivated to obtain and review additional fee information still want access to be easy. While most participants would access more information if it was available through a hyperlink, 17 percent would type the web address into a web browser if they were otherwise reading their disclosure on paper.

To understand how participants prefer to receive fee disclosure information, we asked them to identify their preferred distribution methods. We estimate that 51 percent of participants prefer to receive information about fees by email, while 48 percent prefer to receive it by mail, and 40 percent prefer it to be available online.⁴⁴

Although many participants report being unwilling to research additional investment-related documents, those willing to do so indicate that they would make the effort when making investment choices. Of the 20 percent of participants who report they are likely to obtain and review additional investment documents, 65 percent report they would do so to compare investment options before making their selection and 58 percent would do so to learn more after selecting investment options, based on our survey.⁴⁵

To assess whether current fee disclosure schedules meet participants' needs, we asked participants at what times they would want to review administrative and investment fee information. About half of participants report they want administrative and investment fee information when comparing investment options (see table 1). In addition, many report they want to know about fees when they open a 401(k) account, at which time DOL generally requires plans to provide fee disclosure information. In addition, about a third want to have administrative and investment fee information when they change their contribution levels or when leaving

⁴³Responses of "very likely" and "extremely likely" are combined and reported as "likely." According to the Plan Sponsor Council of America Survey of Profit Sharing and 401(k) Plans for 2018, 83 percent of plans offer 10 or more investment options and 32 percent offer 21 options or more.

⁴⁴Participants were asked to choose all answers that apply. We did not ask about administrative and investment fees separately, but asked about plan fees generally.

⁴⁵Participants were asked to choose all answers that apply.

their job.⁴⁶ On-demand access to certain investment information is facilitated by DOL’s fee disclosure regulation, in addition to information provided on prescribed intervals and occasions.⁴⁷

Table 1: GAO Estimates of 401(k) Participants’ Reported Preferences for When to Receive Administrative and Investment Fee Information

Participants reported it would be helpful to have administrative and investment-related fee information at this time:	Percentage of participants
When I start a job	55%
When I open a 401(k) account	65%
When I compare investment options available to me	49%
When I consider rolling over savings from another plan	47%
When I change my contribution level	36%
When I leave my job	33%
None of these times	2%
Other	2%

Source: GAO survey of 401(k) participants. | GAO-21-357

Note: Participants were asked to choose all answers that apply. Choices are listed chronologically, in the order in which they might occur. All percentage estimates from GAO’s survey are subject to sampling error. For these estimates, the margin of error at the 95 percent confidence level is plus or minus 5 percentage points. The table shows percentages for investment-related fee information. Percentages for administrative and investment fee information were similar.

In addition, of participants who report that they want investment fee information for comparing investment options, 61 percent would like the information annually and 34 percent prefer it quarterly, our survey found.⁴⁸ DOL requires plans to disclose investment menus with fees before participants make investment choices, and annually thereafter. Investment fees are not required to be disclosed quarterly.

⁴⁶These percentages were similar for administrative fees and expenses information.

⁴⁷See 29 C.F.R. § 2550.404a-5(c) & (d).

⁴⁸The remaining 5 percent of participants selected “Other.”

Selected Countries Use Various Strategies and Tools to Help Retirement Plan Participants Understand and Use Fee Information

Selected Countries Test Consumer Understanding, Simplify Language, Convey Importance of Fees, and Leverage Additional Practices to Help Plan Participants

Consumer Testing

Stakeholders in Australia, New Zealand, and the EU stated that consumer testing is important to ensure that plan participants understand and can use fee disclosures to make investment decisions and they have conducted such testing on disclosure contents.⁴⁹ For example, an official said that the EU's rules for retirement savings accounts require that pension benefit statements are easy to read and written clearly, but there are no guidelines or metrics to measure this, so the EU uses consumer testing to gauge if this principle is being met.

Stakeholders in Australia and the EU said that consumer testing can help them assess participants' preferences to improve disclosures. For example, during our review, an Australian regulatory agency was working on a project to assess participants' preferences, how they make investment decisions, and the effect of disclosures on those decisions. The officials were gathering information and wanted to conduct consumer testing. However, subject matter experts in Australia said that asking participants about their preferences and what seems clear is very

⁴⁹Consumer testing, also known as product testing, is a process of measuring the properties or performance of products, according to a global research firm.

different from measuring their ability to understand and use fee disclosures.

Consumer testing can also help regulators develop better templates so more participants can benefit from tested content and format. According to an official, it is important that the EU's financial regulatory agency develops disclosure templates so that member states—including those that have not conducted consumer testing due to resource constraints—can use tools that have been partially tested. During our review, the EU's financial regulatory agency was testing two model pension benefit statements for retirement savings accounts to determine which one was preferred by plan participants, holding one-hour interviews with small groups in four EU member states.⁵⁰ The first model statement breaks down fees paid by type or purpose (including, but not limited to, administrative, investment, and transaction costs) and the second breaks down fees by who pays (including participants and employers). In New Zealand, officials with a regulatory agency said that after extensive consumer research and testing, they developed a much shorter disclosure format that was more useful for comparing investment funds.

Simplify Language

Stakeholders in Australia and the EU said that complex language, such as legal jargon, could limit participants' understanding or use of disclosure documents. To simplify the language, these stakeholders recommended explaining uncommon terms, avoiding jargon by using simple terms, and providing everyday examples to help individuals relate to the information. According to a subject matter expert in Australia, regulators should define the financial terms used in disclosures—including *investment fees or administrative costs*. While some participants may understand these terms, this expert said, most would find it more helpful to indicate *what they should do with them*, such as how to compare a fee for a plan to that of another plan or investment product. Additionally, a consumer advocacy group representative in Australia said that disclosure language should be at a lower reading level than typically used. To illustrate this, the representative suggested revisions to terms and statements in Australian disclosures that participants may not understand (see table 2).

⁵⁰The agency published the two model pension benefit statements in March 2020. We use the broader term *retirement savings accounts*, instead of the European term *pension* or Australian and New Zealand term *superannuation fund*, to avoid confusion. This report is about defined contribution plans and not defined benefit plans, which are more commonly referred to as pensions in the U.S.

Table 2: Examples of Stakeholder Suggestions to Simplify Fee Disclosure Language for Retirement Plans, as Suggested by Australian Consumer Group

Term or statement in Australian disclosures	Stakeholder suggested revisions to improve understanding
You should consider whether features such as superior investment performance or the provision of better member services justify higher fees and costs.	Your fund may put more money into your superannuation fund than another fund, and that might cost you more, so you should think about whether the extra cost is balanced by the extra income.
Small differences in both investment performance and fees and costs can have a substantial impact on your long term returns.	Fees might have a big impact on how much money you will have when you retire.
Investment fees	What we charge you for managing your money
Administrative fees	What we charge you to set up and maintain your account

Source: GAO presentation of information from an interview with a consumer advocacy group in Australia. | GAO-21-357

According to stakeholders in Australia and the EU, the legal nature of fee disclosures creates a challenge to simplifying their language and making them more readable, but layering data—a technique where information is presented hierarchically—can help participants understand disclosures. Through layering, participants access key information first and have the option to obtain more detailed information. For example, EU officials said for retirement plan investment products participants may first receive a short, standardized, and simplified information document that refers to other sources for more detailed information. Ideally, this first layer of information is a maximum of 2 to 3 pages. This approach can prevent participants from being overwhelmed with information.⁵¹

Stakeholders in Italy, Australia, and the EU said layering can be used with either paper or electronic disclosures, but some cited benefits of layered electronic disclosures that would not be possible with paper. In Italy, plan participants have the option to access layered disclosures electronically or in paper format. For the pre-contractual documentation, potential participants receive a short disclosure of key information (including fees) and a document containing information on the fund’s investments. Additionally, plan participants can request and receive more detailed technical information either online or by mail. They also receive their pension benefit statement—either electronically or in paper format—annually. Stakeholders in Australia and the EU said that layered electronic disclosures can include visual elements to provide key information. For example, the stakeholders suggested layering through

⁵¹As previously discussed, DOL permits plans to use layering in fee disclosures to reduce length and limit the information required from plan sponsors.

pop-up boxes, which can help educate participants by explaining financial terms when they scroll over them.

Convey Importance of Fees

Stakeholders in Australia, Italy, and the EU said that disclosures should convey the importance of fees by providing examples of their cumulative impact on the growth of retirement savings over time. For example, EU officials said that disclosures should show consumers the total compounded amount of their costs over time, rather than just costs as a percentage of assets. According to a subject matter expert in Australia, examples that show participants the impact of fees and costs on a hypothetical \$50,000 account balance over a period of time are probably helpful for some participants (see fig. 24.) However, this subject matter expert said that these calculations would be more useful if they were based on a participant’s actual balance instead of a hypothetical \$50,000 account balance.

Figure 24: Example of Annual Fees and Costs Summary in Australian Retirement Product Disclosure Statement

This table gives an example of how the ongoing annual fees and costs for the *[insert name of generic MySuper product or other investment option as required by subclause 220(1)]* for this superannuation product can affect your superannuation investment over a 1-year period. You should use this table to compare this superannuation product with other superannuation products.

EXAMPLE— <i>[insert name of generic MySuper product or other investment option as required by subclause 220(1)]</i>		BALANCE OF \$50,000
Administration fees and costs	[]	For every \$50,000 you have in the superannuation product, you will be charged or have deducted from your investment \$[] in administration fees and costs
PLUS Investment fees and costs	[]	And, you will be charged or have deducted from your investment \$[] in investment fees and costs
PLUS Transaction costs	[]	And, you will be charged or have deducted from your investment \$[] in transaction costs
EQUALS Cost of product		If your balance was \$50,000, at the beginning of the year, then for that year you will be charged fees and costs of \$[] for the superannuation product.

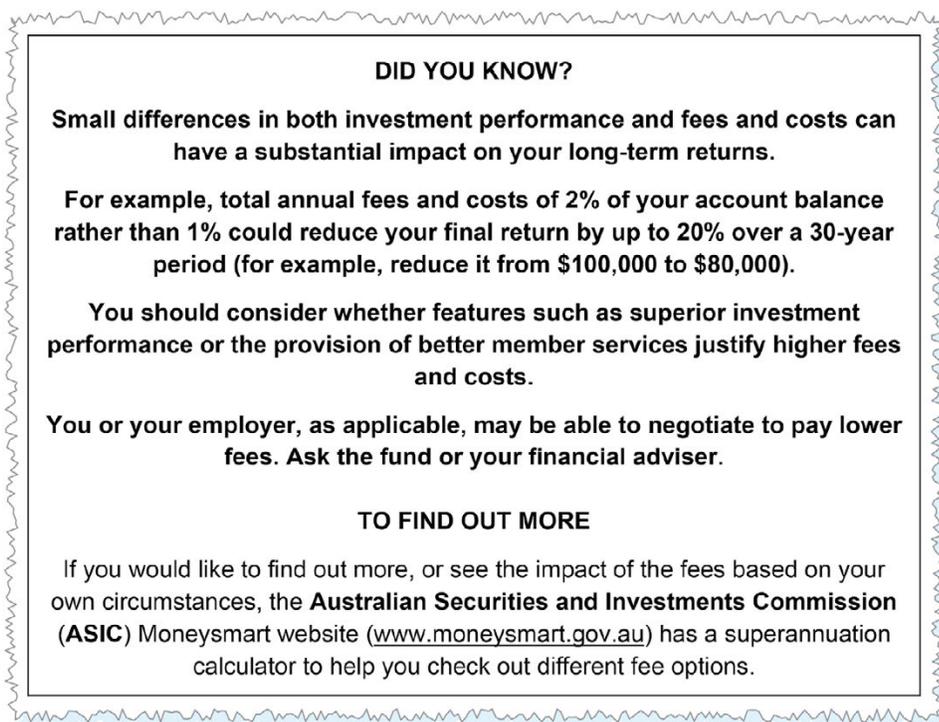
Note: * Additional fees may apply.

Source: Australian Securities and Investments Commission Regulatory Guide 97. | GAO-21-357

According to officials with an Australian regulatory agency, Product Disclosure Statements are required to include a “consumer advisory warning” box, which contains an illustrative example of the effect of fees and expenses on a participant’s account (see fig. 25). According to the

officials, they decided to require the consumer advisory warning because it is important that participants understand the long-term impact of fees.⁵²

Figure 25: Consumer Advisory Warning Box in Australian Retirement Product Disclosure Statement



Source: Australian Securities and Investments Commission Regulatory Guide 97. | GAO-21-357

Additionally, officials in Italy and New Zealand said that consumers do not usually understand investment fees shown as a percentage, and showing the fees in monetary terms is more helpful. According to officials with a New Zealand regulatory agency, the most successful element of the country's disclosure requirements is providing the fee amount in dollars. Furthermore, allowing participants to see the fee amount in dollars was a significant improvement to help them understand the consequences of fees.

⁵²In our participant survey, we asked participants to review this "consumer advisory warning" to assess whether they can understand it. We estimate that 28 percent of participants find the information clear and 57 percent understand, if an account balance is growing, it will not grow as much because of fees and costs.

According to stakeholders in Australia, New Zealand, and the EU, cost information in disclosures should be individualized to the recipient. Individualized cost information, including contributions made and fees deducted, can help participants understand the rate of growth of their retirement savings. One reason for this is that fixed costs are more significant for lower balances, so a hypothetical projection could be misleading for a participant investing a significantly different balance. For example, a flat fee has a much bigger negative effect on a small balance than a larger balance, while a percentage-based fee is much more costly over time for a larger balance. As part of its testing of two model pension benefit statements for retirement savings accounts, the EU's financial regulatory agency included a table in one model showing contributions to and deductions from an individual's account balance during the year (in actual dollar amounts).⁵³ (See fig. 26.)

⁵³To determine whether participants understand how to use a table where individualized fees are disaggregated and separate from investment returns, our survey asked participants to consider an EU pension benefit statement excerpt showing contributions to and deductions from an individual's account balance during the year (in actual dollar amounts), as shown in figure 26. The fees shown are comprehensive, including both administrative and investment fees. We estimate that 45 percent of participants find this disclosure format clear; and 68 percent understand how to use the information presented, based on our question. Specifically, participants understand—with calculations provided in the survey—that the investment return is greater than the total costs for the year shown.

Figure 26: Model Pension Benefit Statement Tested in the European Union Shows Dollar (Euro) Value of Fees

4. HOW YOUR PENSION POT HAS CHANGED IN 2018

Value at the beginning of 2018	(+)		EUR 16 138
Contributions by you	(+)	EUR 600	
Contribution by your employer	(+)	EUR 900	
Return on your investment	(+)	EUR 204	
Administrative costs	(-)	EUR 38	
Investment and transaction fee	(-)	EUR 20	
Taxes	(-)	EUR 44	
Death coverage premium	(-)	EUR 30	
TOTAL SUM in 2018	(+)	EUR 1 572	
Your pension pot on 31/12/2018			EUR 17 710

Source: European Insurance and Occupational Pensions Authority. | GAO-21-357

Australian retirement plan participants receive periodic statements that provide the dollar amount of fees deducted from their account and investments. However, a subject matter expert in Australia cautioned that showing participants the amounts they paid in the past—such as in the previous year or quarter—could confuse them. Additionally, the subject matter expert stated that participants probably would not understand that this money did not come directly out of their accounts, but typically reduced the investment income before it was added to their balance. However, such individualized information could trigger participants to consider switching to an investment option with lower fees.

Additional Practices

Stakeholders discussed additional practices that could improve disclosures and help participants use and understand fee information (see table 3). For example, the annual fees and cost summary table in Australian Product Disclosure Statements include a breakdown of administrative and investment fees and costs, which could help individuals compare investment options. According to officials in Australia,

they conducted consumer testing to assess individuals' preferences regarding the format of the summary table.⁵⁴

Table 3: Additional Practices that Could Improve Disclosures and Help Participants, as Described by Stakeholders in Australia, Italy, New Zealand, and the EU

Practice	Description
Financial literacy education	Provide education on basic financial math and concepts, such as compound interest, to help individuals better understand their retirement plan information. For example, Italy has a government committee on financial education that works on improving financial literacy in the country.
Visual elements	Use visual elements such as histograms and icons to convey cost information to help individuals understand fee information. For example, an EU regulator conducted consumer testing and found that simple icons facilitate individuals' understanding and retention of cost information.
Breakdown costs	Provide a breakdown of costs (e.g., administrative, investment) in disclosures rather than just one consolidated cost figure to help individuals compare investment options. For example, Australian Product Disclosure Statements include a summary table that shows administrative and investment costs separately.
Performance and fee information	Provide information on potential performance (returns) of the funds in individuals' retirement plans. For example, an EU regulator was examining whether individuals were not investing because they thought it was too costly and did not consider the returns. According to an EU official with a regulatory agency, disclosures should show fee information and returns together to enable better comparisons.
Page limits	Clarify disclosures by limiting the number of pages so that they do not overload individuals with information. For example, in Australia, most retirement product providers are required to use a shorter Product Disclosure Statement that cannot exceed eight pages.
Standardized format	Standardize information about retirement plans and products to help individuals compare investment options. For example, the EU's key information documents are standardized to only include required information.
Promote fee awareness	Increase individuals' awareness of fees through advertisements on social media and television, among others. For example, a marketing and lobbying group of the largest industry funds in Australia aired a series of advertisements titled, Compare the Pair, that included information about fees.

Source: GAO analysis of interviews with stakeholders in Australia, Italy, New Zealand and the EU. | GAO-21-357

⁵⁴In our survey, we asked 401(k) participants to review a version of Australia's annual fees and cost summary table that did not include fee values. We estimate that 22 percent of participants find the information on annual fees and costs clear and 57 percent understand that administrative fees and transaction costs increase the cost of an investment product.

Stakeholders in Selected Countries Stated that Online Tools and Fee Benchmarks Can Help Participants Compare Investment Options

Comparison Tools

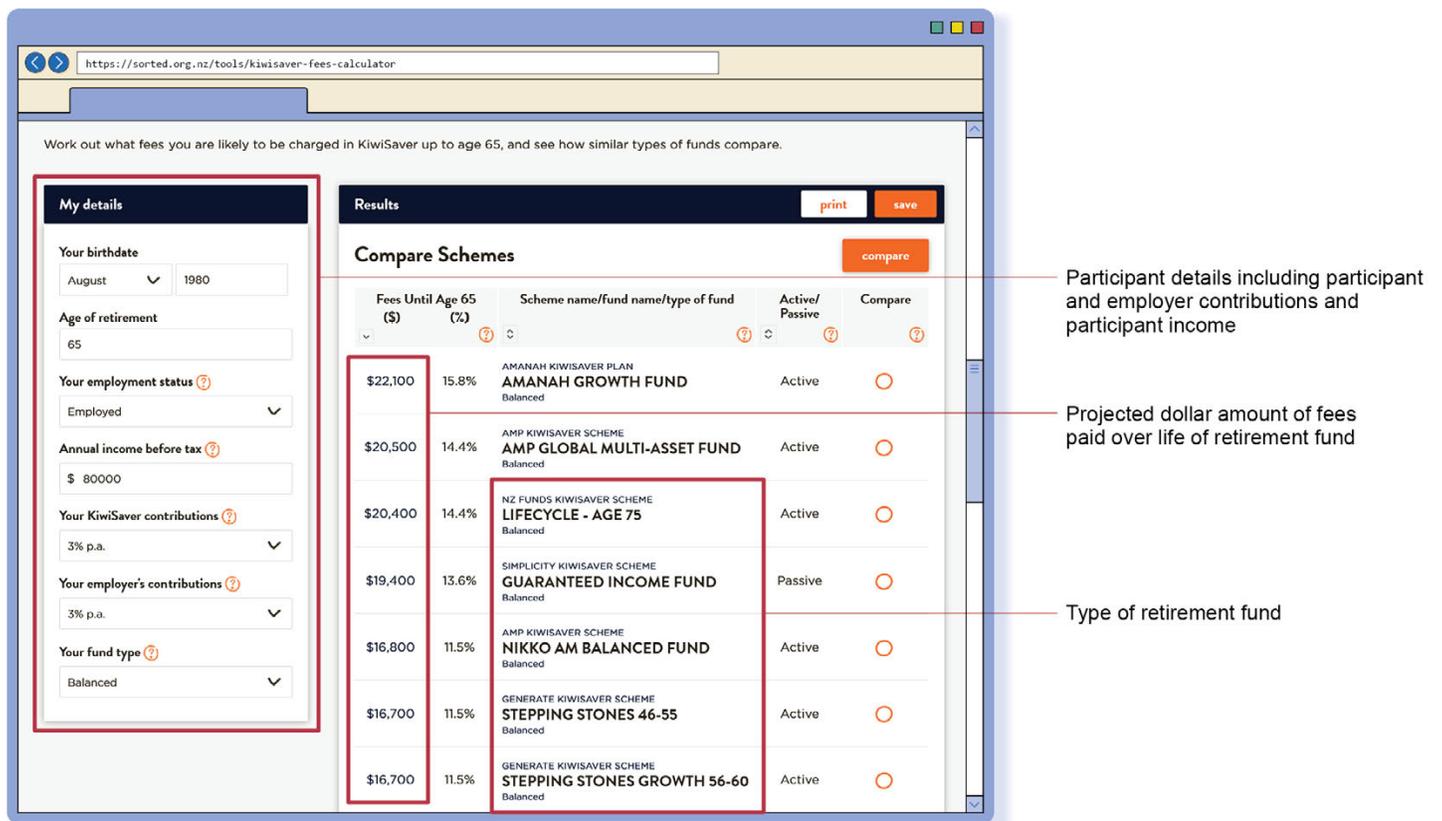
Stakeholders in Australia, Italy, New Zealand, and the EU stated that a centralized, government-provided, tool can help participants compare fees to make more informed investment decisions. According to government officials in Australia, a fund comparison tool could help individuals overcome the effects of complex situations on their decision making. For example, officials said that most individuals will not compare fee information if it is presented in multiple locations because they will not be able to find all the information they need. To help participants more easily access key information—including fees and costs—on retirement products online, officials with an Australian regulatory agency said that previously proposed draft legislation for certain retirement products would have limited the number of clicks needed to access that information from individual fund websites.⁵⁵ Furthermore, a subject matter expert in Australia suggested that the government could use centralized data to create efficiency, so participants do not have to enter their own account information or go to multiple sources to compare fee information.

According to officials in Italy and New Zealand, their respective governments provide fund comparison tools. In Italy, the Pension Funds' Supervisory Commission provides a comparative cost data tool, according to officials. The Commission collects a custom fee benchmark—called a synthetic cost indicator (SCI)—for all plan investment lines. The SCI-benchmark provides a cost comparison for each investment line by showing returns for an investment without fees, which can be compared to the investment's returns with fees. To compile these comparative fees for the benchmark, the Commission uses standardized reporting data it collects from retirement plans. According to officials, the cost retirement plan data are organized according to investment type and aggregated—over 2-, 5-, 10-, and 35-year time periods—and consolidated in an interactive spreadsheet of SCIs for all pension plans (about 200) and each of their investment lines.

⁵⁵According to the officials, this requirement in the draft legislation did not advance.

According to an official, New Zealand's government provides fund comparison tools and a fee calculator through a public educational web platform. Individuals can use this suite of tools to obtain independent information to compare plans and funds across the market and select the plan that best fits their needs. One tool allows participants to compare fund fee information and other important characteristics to help them choose funds and service providers. Additionally, a fee calculator enables participants to determine the amount they will pay in fees over their working life (see fig. 27). According to officials, a New Zealand regulatory agency collects information from disclosure documents, among others, submitted by investment product providers through a national database called the Disclose Register to populate the suite of tools.

Figure 27: Example of New Zealand Fees Calculator for a Retirement Plan

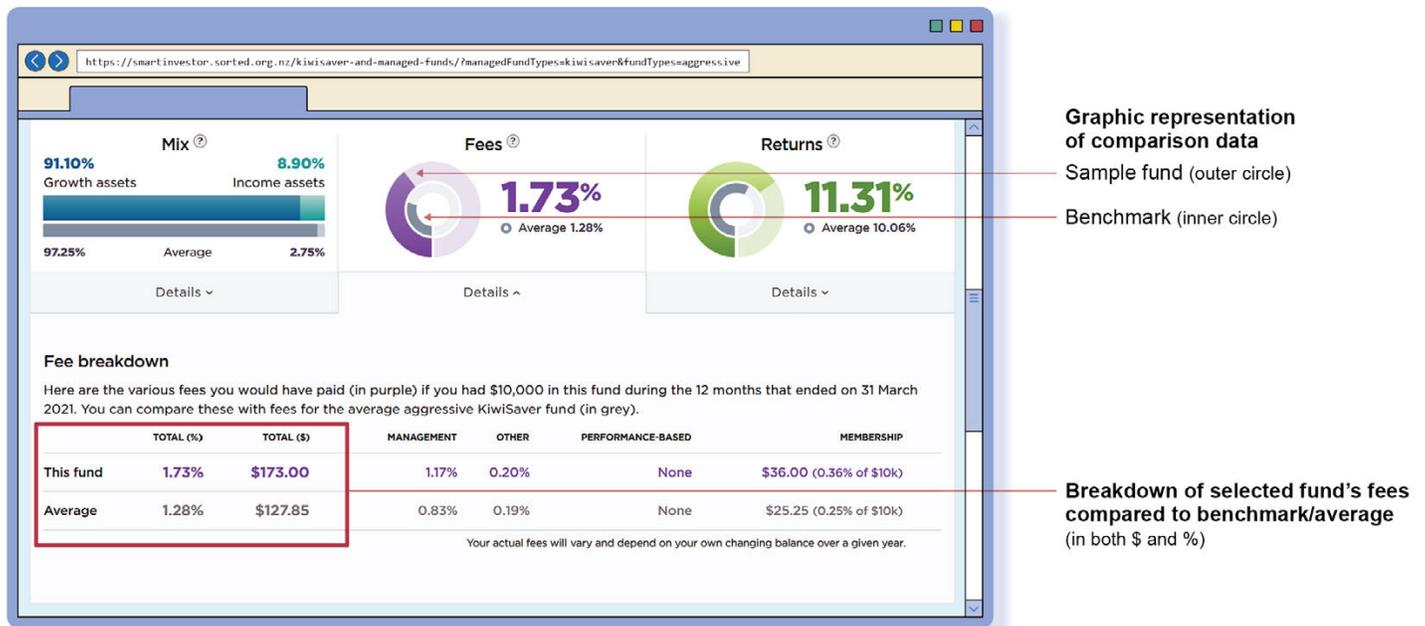


Source: GAO presentation of New Zealand's KiwiSaver fees calculator. | GAO-21-357

Fee Benchmarks

Stakeholders in Australia, Italy, New Zealand, and the EU stated that fee benchmarks help participants compare investment options. A subject matter expert in Australia noted that any tool that helps participants compare investment options should include fee benchmarks, in addition to performance benchmarks for returns. For example, New Zealand’s government calculates fee benchmarks for different fund categories that reflect a range of investment strategies, from defensive to aggressive, which it categorizes based on their percentage of growth assets. New Zealand’s tool is designed to help participants compare retirement plan fees and returns for a given fund category. The tool presents both actual and average fees as a percentage and a dollar figure. In addition, the tool uses doughnut-shaped graphics that are designed to help participants quickly compare a specific fund’s fees to the average for that fund category, and a specific fund’s returns to average returns in the respective fund category (see fig. 28).

Figure 28: Example of New Zealand’s Online Investment Comparison Tool for Retirement Plans



Source: GAO presentation of New Zealand’s Sorted Smart Investor comparison tool. | GAO-21-357

In Italy, a private organization with membership that includes all private pension funds created a tool to develop a different fee benchmark. Subscribing retirement plans can provide the tool to their participants for comparing plans’ investment options. The organization’s tool uses information collected from the government’s standardized key information

document to calculate a fee benchmark. The tool reports the dollar (Euro) value of the average investment fee by applying it to a certain balance, for illustrative purposes. With this benchmark, both plan providers and participants can compare a plans' investment fees to the market average.

According to a representative from an investment management industry association in the EU, it is not currently possible to create fee benchmarks across EU member states because complete fee information is not aggregated. Though some fee information is aggregated by third-party companies, it is expensive for participants to access. The representative also said that the industry association has recommended that the European Commission create and maintain a public database of all financial products that includes fee information to help calculate fee benchmarks.

DOL Can Help 401(k) Participants Better Understand and Use Fee Information by Adding Specific Information to Disclosure Requirements

DOL Regulations Do Not Specify How to Label Investment Fees, Which Can Make it Difficult for Participants to Identify and Compare Costs

DOL's fee disclosure regulation requires 401(k) plans to disclose investments' asset-based investment fees (investment fees).⁵⁶ Investment fees are important to identify and compare because they are typically the largest fee that a 401(k) participant will pay to save and invest in a plan, as we have previously reported.⁵⁷ The terms annual operating expense and expense ratio in a plan disclosure can both identify a fund's investment fee, which a participant can use to compare their investment funds' cost to that of other funds. However, participants can have difficulty

⁵⁶In this section when we refer to investment fees, we are referring to asset-based investment fees (often called the expense ratio).

⁵⁷GAO, *Retirement Savings: Better Information and Sponsor Guidance Could Improve Oversight and Reduce Fees for Participants*, [GAO-09-641](#) (Washington, D.C.: September 2009).

identifying investment fees when plans label them with different terms. We estimate based on our survey that 57 percent of 401(k) participants cannot identify the expense ratio in a disclosure excerpt that used the term total asset-based fee, even when the disclosure contained a table note saying that these terms refer to the same thing.

Among 10 Disclosures, GAO Found 11 Different Terms Used for Investment Fees

Our review of 10 large 401(k) plans' annual disclosures found that they used 11 different terms for investment fees, introducing variation that makes it more difficult for plan participants to know what to compare. Terms plans used were:

- total annual operating expenses
- annual operating expenses
- total annual expenses
- total operating expenses as a %
- total asset-based fees
- gross annual expense ratio
- annual gross expense ratio
- gross expense ratio
- annual expense ratio
- annual net expense ratio
- net expense ratio

Source: GAO review of ten large 401(k) plans' participant fee disclosures. | GAO-21-357

Because different plans do not use consistent terms for investment fees, identifying investment fees across multiple sources—for example, to compare investment fees in two different 401(k) plans' disclosures as part of a rollover decision—may be especially challenging for participants. Our review of 10 disclosures from among the largest 401(k) plans found that 11 different terms were used for the investment fee.⁵⁸ (See sidebar.) Four of the 10 plans used variations of the term expense ratio.⁵⁹

Our survey shows that variations of terms for investment fees negatively affect participants' ability to identify such fees in a plan disclosure. Moreover, variations of terms for investment fees can convey subtle differences in the measurement, making them less appropriate for apples to apples comparison of fees inside and outside plans, unless participants understand the differences in the terms used. For example, a gross expense ratio is calculated before fee waivers are applied, while the net expense ratio is collected after fee waivers are applied. Two of the 10 plans' disclosures used both gross and net *expense ratios*. The *total asset-based fee and total annual operating expense*, reported by other plans, should reflect the gross *expense ratio*, but that may not be transparent to a participant.

Expense ratio is commonly used in the retail space, outside of formal fund prospectuses, our review found. For example, among Fund Facts sheets for the 20 largest mutual funds,⁶⁰ we found 19 used a variation of this term. In addition, companies that offer and market mutual funds often use expense ratio to identify investment fees in their online fund descriptions. Of the 20 largest mutual funds, 19 used the term expense ratio. A mutual

⁵⁸Based on the amount of plan assets reported on the Form 5500 for plan year 2016. The plans remained among the largest in 2019.

⁵⁹A gross expense ratio reflects fees before any applicable waivers are applied, while net expense ratio reflects the actual fees after waivers are applied.

⁶⁰Based on MarketWatch.com analysis of data provided by Lipper, as of December 2020. The one other fund used the terms *gross and net expenses* but omitted *ratio*.

fund analysis tool to which SEC refers investors⁶¹ also uses the term *expense ratio*, as do three other private-sector, online investment comparison tools that we reviewed. SEC officials told us that FINRA requires a mutual fund that shows performance information in marketing materials to include its gross *expense ratio*.⁶² Furthermore, SEC officials noted the agency has a pending rule proposal that would require fund advertisements that present fees and expense information to disclose the gross expense ratio—the *expense ratio* before waivers.⁶³

DOL regulations require that plans provide investment fee information in a chart or similar format that helps participants compare investment options, and that disclosures are written in a way that can be understood by the average plan participant. Federal Plain Language Guidelines, which do not apply to fee disclosures but outline guiding principles for federal agencies to use when communicating with the public, state that clear writing uses the same term consistently for a specific object, cautioning that using a different term may cause a reader to wonder whether the different terms refer to the same thing.⁶⁴

However, DOL’s fee disclosure regulation does not require all disclosures to use the same term, thereby permitting variation in terms used for investment fees.⁶⁵ The regulation generally requires that plans provide participants the “*total annual operating expenses of the investment*

⁶¹The Financial Industry Regulatory Authority’s (FINRA) Fund Analyzer is located online, https://tools.finra.org/fund_analyzer/. FINRA is a self-regulating group for the broker-dealer industry, supervised by the Securities and Exchange Commission.

⁶²SEC officials told us that FINRA also requires that mutual fund materials show the maximum sales load fees. See FINRA Rule 2210, available at <https://www.finra.org/rules-guidance/rulebooks/finra-rules/2210>.

⁶³See Tailored Shareholder Reports, Treatment of Annual Prospectus Updates for Existing Investors, and Improved Fee and Risk Disclosure for Mutual Funds and Exchange-Traded Funds; Fee Information in Investment Company Advertisements, Investment Company Act Release No. 33963 (Aug. 5, 2020).

⁶⁴Federal Plain Language Guidelines, March 2011.

⁶⁵DOL’s regulation also requires plans to provide a general glossary of terms to assist participants and beneficiaries in understanding the plan’s investment options, or an Internet website address that is sufficiently specific to provide access to such a glossary along with a general explanation of the purpose of the address. See 29 C.F.R. § 2550.404a-5(d)(1)(vi). However, the extent to which these glossaries may clarify different terms used to describe the asset-based fee is unclear. For example, one plan disclosure’s glossary that we reviewed describes the asset-based fee, but does not state that it corresponds to a gross expense ratio.

expressed as a percentage (i.e., expense ratio)” and specifies how that fee is calculated, among other things.⁶⁶ In addition, DOL’s optional template for participant disclosure, called the Model Comparative Chart in the regulation, uses the term *total annual operating expenses*, not expense ratio, without stating that the term means the same thing as an expense ratio.⁶⁷ In the preamble accompanying the final regulation, DOL did not state the reason for using the term *total annual operating expense* in its optional template instead of expense ratio. Officials said they relied on the SEC’s definition of *total operating expense*, because investment options did not calculate expense ratios uniformly at that time. Even today, there are different types of investments offered in a plan that may have difficulty calculating an expense ratio in a manner comparable to a mutual fund. Nevertheless, mutual funds are the investment type most used by investors in 401(k) plans today.⁶⁸ Requiring a consistent term across plans for asset-based investment fees for like-investment types, such as *gross expense ratio*, could make it easier for participants to compare plan investments to alternatives outside their plan and thereby better advocate for their savings with their plan.

DOL Does Not Require Plans to Provide Participants with the Actual Cost of their Asset-Based Investment Fees

DOL’s fee disclosure regulation requires that 401(k) plan administrators provide participants with information regarding their plan investment options and the fees for those options so participants can make informed decisions on the management of their individual account. The regulation also requires that all fee information disclosed be presented in a manner calculated for the average participant to understand. To use fee information to assess investment options’ value and to make optimal choices between alternatives, participants have to understand the actual costs for the investments they hold.⁶⁹ Plans are required by DOL to provide participants with quarterly statements that inform them of the

⁶⁶See 29 C.F.R. § 2550.404a-5(d)(1)(iv)(A)(2)-(3).

⁶⁷See 29 C.F.R. § 2550.404a-5 app.

⁶⁸Sarah Holden, James Duvall, and Elena Barone Chism, “The Economics of Providing 401(k) Plans: Services, Fees, and Expenses, 2019.” ICI Research Perspective 26, no.5 (July 2020).

⁶⁹The actual cost of an investment could be complemented by the current measures, the cost per \$1,000 investment and expense ratio, which facilitate a standardized comparison of fees across investment options regardless of the amount invested. Investments’ fees are only one aspect that participants should consider when assessing the relative value of an investment compared to alternatives. An investment’s historical return, asset-type, risk-profile, and other factors are also important to consider, according to investor education resources on DOL’s website.

actual cost of administrative fees and fees for individual, participant-elected transactions, such as a loan, but those statements are not required to disclose the actual cost of the investment fees a participant has paid for each investment.⁷⁰ For example, when we reviewed one example of a quarterly disclosure, it showed the beginning balances of funds held, the ending balances, and the overall change in those balances, but it did not show the actual cost of investment fees applied to each fund’s balance over the quarter.⁷¹ (See fig. 29.) The “gain” shown in the figure reflects the amount added to a fund’s balance after the investment fee was deducted from gains, but the amount deducted—that is, the actual cost of the fee—is not shown.

Figure 29: Example of a 401(k) Plan Disclosure That Does Not Disclose the Actual Costs of Participants’ Asset-Based Investment Fees

Costs of funds’ fees not disclosed

INVESTMENT ACTIVITY				
Investment	Beginning Balance	Money In/ Money Out	Gain/Loss	Ending Balance
Stocks				
Fund ‘A’	\$10,749.09	\$627.55	-\$328.89	\$11,047.75
Fund ‘B’	\$11,326.54	\$627.48	\$392.90	\$12,346.92
Fund ‘C’	\$10,980.79	\$627.48	\$153.44	\$11,761.71

Source: Excerpt from a quarterly 401(k) plan participant disclosure. | GAO-21-357

Note: The Department of Labor’s fee disclosure regulation does not require plan administrators to furnish actual asset-based investment fees charged to a participant’s account. See 29 C.F.R. § 2550.404a-5(d)(1)(iv).

Plans are also required to annually provide participants the names of the plans’ investment options, and their total annual operating expenses (i.e. expense ratios), expressed as both a percentage and a dollar amount per \$1,000 investment for a one-year period, but that annual disclosure does not provide actual participant costs. DOL also does not require plans’ quarterly disclosures to provide participants with the actual cost of their investment fees. Our survey found that many participants have difficulty using the required total annual operating expense information to identify

⁷⁰See 29 C.F.R. § 2550.404a-5(c)(2)(ii) & (c)(3)(ii).

⁷¹We requested sample quarterly disclosures for all 10 plans for which we obtained annual disclosures and obtained three. In addition, a large record keeper shared its template for quarterly disclosures and we reviewed samples shared by a retirement policy expert.

approximately what they paid for their investments. For example, based on our survey, even with the calculations shown, an estimated 45 percent of participants cannot select the correct actual cost of the investment fee for a \$10,000 investment fund balance, given the fee in a “Per \$1,000” and “As a %” format—the formats DOL’s fee disclosure regulation requires.⁷² Our survey also found that an estimated 83 percent of participants would prefer plans to provide the actual cost of the investment fees they paid.⁷³

DOL officials explained that the fee disclosure regulations do not require plans to provide participants with the actual cost of their asset-based investment fees. While they acknowledged that the actual investment cost for a given fund would be good data for a participant to know, officials said the information may not help with comparing in-plan investment fees, and such a requirement would need to be weighed against the cost to record keepers. DOL officials recalled that investment industry stakeholders commented, in connection with the final rule, that it would be burdensome and expensive to determine actual investment fees paid on a participant-by-participant basis and that, correspondingly, fees may be increased to cover this additional disclosure. For example, a flat, one-time plan loan fee is easily calculated while the costs of asset-based fees are more complex. However, officials also stated that current technology may have reduced the cost of calculating and providing this individualized investment fee data to participants since the regulations were issued. Without being provided the actual cost of each investment’s fees in quarterly disclosures, many 401(k) plan participants will likely continue to be unaware of how much they pay for their investment fees—typically the largest fee they pay to save and invest in a 401(k) plan—and ill-equipped to assess the extent to which fees may impact the value of those investments. Given that investment fees are typically the largest fees paid, requiring provision of that information to participants on investment fees actually charged to their 401(k) accounts is important to help them manage the investment of their savings for retirement.

⁷²As shown earlier, 88 percent of participants selected the correct answer when asked to identify the actual cost of investment fees, using the dollar per \$1,000 format, when described in a sentence rather than shown in a table. Such calculations would only estimate the actual cost of investment fees to an individual, because the expense ratio is typically applied on a daily basis, not applied to quarter-end returns.

⁷³See 29 C.F.R. § 2550.404a—5(e)(5). Relatedly, New Zealand officials told us that changing fee disclosures to allow participants to see the actual cost of fees is a significant improvement that can help participants understand the consequences of fees they pay.

Participants Lack Access to DOL’s Information on the Cumulative Effects of Fees

DOL has developed various materials designed to help 401(k) plan participants understand the cumulative effect of investment fees, and requires plans to facilitate participant access to the materials by including information about them in participant disclosures. Specifically:

- DOL’s fee disclosure regulation requires disclosures to include a consumer warning that explains *the cumulative effect of fees and expenses can substantially reduce the growth of your retirement savings*.
- DOL’s fee disclosure regulation also requires disclosures to inform participants that they can visit DOL’s website “*for an example demonstrating the long-term effect of fees*[...].”⁷⁴ To that end, DOL’s optional template for annual fee disclosure (the Model Comparative Chart included in the regulation) suggests a web address for plans to use in directing participants to DOL’s online information about fees. Many participants (72 percent) report they would open the link if it was provided to them, we estimate based on our survey.
- DOL’s website has several educational resources to help participants better understand the fees associated with investing in a 401(k) plan, including a video on the cumulative effect of fees over time. For example, a publication called “*A Look at 401(k) Plan Fees*” includes a narrative example of the cumulative effect of fees, and an educational video with the same name offers dynamic images contrasting the growth over time of two balances, each with the same return but different fees. DOL’s website page “*Understanding Your Retirement Plan Fees*” provides a well-labeled link to the video.

However, we found accessing the resources could be difficult. In particular, we found that the web address that DOL provides in its disclosure template was not working during our evaluation. (See fig. 30.) Agency officials said that the agency cannot update the web address in the Model Comparative Chart to match the current web address of the information, but it did update the link imbedded in a copy of the Model Comparative Chart posted to DOL’s website (this working web address is shown in the footnote).⁷⁵

⁷⁴See 29 C.F.R. § 2550.404a-5(d)(1)(iv)(A)(5).

⁷⁵The updated web address is <https://www.dol.gov/sites/dolgov/files/EBSA/about-eba/our-activities/resource-center/publications/a-look-at-401k-plan-fees.pdf>.

Figure 30: DOL's Suggested Website Address for its Example of the Long-term Effect of Fees on 401(k) Retirement Plan Investments

The cumulative effect of fees and expenses can substantially reduce the growth of your retirement savings. Visit the Department of Labor's Web site for an example showing the long-term effect of fees and expenses at http://www.dol.gov/ebsa/publications/401k_employee.html. Fees and expenses are only one of many factors to consider when you decide to invest in an option. You may also want to think about whether an investment in an particular option, along with your investments, will help you achieve your financial goals.

Source: Department of Labor Model Comparative Chart, 29 C.F.R. § 2550.404a-5 app. | GAO-21-357

When we reviewed 10 large plan disclosures, we found that four disclosures used the web address suggested in DOL's Model Comparative Chart to refer participants to DOL's publication "A Look at 401(k) Plan Fees" which contains a narrative description of the cumulative effect of fees, but not DOL's graphic illustration or a web address for the DOL video. Another four disclosures cited different DOL website addresses. For example, one disclosure cited www.savingmatters.dol.gov, which has valuable educational information for participants, but does not show a DOL graphic illustrating the cumulative effect of fees and no link to the DOL video was evident. Another disclosure provided a separate web address for DOL's publication "A Look at 401(k) Plan Fees."⁷⁶

Without direction from their disclosure, participants may have difficulty locating DOL's educational material on their own. Our search for the phrase *long-term effect of fees* from DOL's homepage produced 7,935 results, and a search for the same phrase on the Employee Benefits Security Administration homepage produced 380 results.

Since DOL posted its video about understanding 401(k) fees to YouTube in 2012, it has been viewed, on average, fewer than 2,500 times per year,

⁷⁶Two disclosures we reviewed did not provide any web address.

which is a small figure compared to the more than 87 million 401(k) participants.⁷⁷

DOL's fee disclosure regulations state that plans should ensure participants have sufficient information to help them make informed investment decisions in managing their accounts. In requiring that participant disclosures include a consumer warning and refer participants to EBSA for more educational information about the cumulative effect of fees, DOL established that this is information that participants should understand when making investment decisions. DOL officials told us that public commenters indicated that many participants are unlikely to read longer disclosures, so practical space limitations require decisions about what is excluded, such as DOL's educational, graphic illustration of the cumulative effect of fees.

By taking steps to provide 401(k) plan participants with DOL's educational materials illustrating the cumulative effects of investment fees over time, beginning with a functional web address in the agency's template, DOL could better ensure that participants have the important educational information they need to consider fees when making investment decisions. Based on our survey, we estimate that 76 percent of participants who see information from the same DOL video are motivated to more thoroughly research their investment fees.⁷⁸ Lastly, recently finalized DOL regulations that allows for plans to default to using

⁷⁷DOL website sources on 401(k) fees: <https://www.dol.gov/agencies/ebsa/about-ebsa/our-activities/resource-center/publications/understanding-your-retirement-plan-fees>. Participant data are from EBSA's most recent bulletin, on 2018 data, published January 2021. Not all educational videos about retirement plan fees have low viewership. A retirement industry group in Australia aired a series of television ads titled "Compare the Pair" to promote educational material about the compounding effect of fees. The ad, which shows an image of a speedometer turning to show different retirement savings outcomes for two people in comparable funds with different fees, had more than 429,000 views in the six months after it was posted in November 2020.

⁷⁸Participants' preferences and willingness to do further reading are self-reported. From ratings on a five-point scale, we report responses of extremely likely and very likely, the two highest ratings of likeliness, as "likely." Moderately likely was the middle option on the rating scale. The low rates of participants that know they pay any fees for their 401(k) plan suggests this willingness is low, in practice.

electronic disclosures⁷⁹ may lead to the wider use of electronic disclosures, and this may create an opportunity for DOL’s graphic on the cumulative effect of fees to be included in electronic disclosure content, including through the layering of resources.

DOL Does Not Require Plans to Provide Fee Benchmarks and Ticker Symbols in Disclosures to Help Participants Compare Investment Options

We found that fee benchmarks and ticker information in disclosures can facilitate participants’ comparison of investment options, both among in-plan options as well as with options outside the plan. A fee benchmark shows an investor if a fund’s expense ratio is high or low relative to that of comparable investments. Ticker symbols are short groups of letters that identify a particular security, such as mutual funds or other publicly traded investments. DOL’s fee disclosure regulation requires plans to provide participants with certain investment-related information, including investment fee information, in a format designed to facilitate participants’ comparison of investment options.⁸⁰ The regulation does not require provision of fee benchmarks and ticker symbols.⁸¹

Based on our survey, we found that participants want to compare in-plan fees to those outside their plan. For example, we estimate that 55 percent of participants want investment fee information when they start a job and are considering whether to participate in a new 401(k) plan, and 65 percent want it when considering how to invest in the plan. Those choices depend not only on the investment options in the current plan, but also on how they compare to options outside that plan. In addition, we previously reported that rollover decisions, which millions of participants make each

⁷⁹See 29 C.F.R. §2520.104b-31. DOL estimates these regulations will make participant fee disclosures less expensive for plans. For more information on cyber-security concerns for plans using electronic disclosures, see GAO, *Defined Contribution Plans: Federal Guidance Could Help Mitigate Cybersecurity Risks in 401(k) and Other Retirement Plans*, [GAO-21-25](#) (Washington, D.C.: Feb. 11, 2021).

⁸⁰See 29 C.F.R. § 2550.404a-5(d)(2). This is a part of the more general requirement of ensuring that participants “are provided sufficient information regarding the plan, including its fees and expenses and designated investment alternatives, to make informed decisions about the management of their individual accounts.” See Fiduciary Requirements for Disclosure In Participant-Directed Individual Account Plans, 75 Fed. Reg. 64,910, 64,910 (Oct. 20, 2010).

⁸¹DOL’s regulation requires a website that provides participants access to certain investment information, but fee benchmarks and tickers are not among the list of information that must be accessible. See 29 C.F.R. § 2550.404a-5(d)(v).

year,⁸² should include a comparison of fees, as well as other factors, for in-plan options and those outside the plan.⁸³

Investment Fee Benchmarks

Investment Share Class

Share classes are different types of shares offered by a single fund. While each class of a fund holds identical investments and has the same investment objectives and policies, each class has different services for shareholders and fees and expenses, which results in different performance results.

Source: U.S. Securities and Exchange Commission. | GAO-21-357

Our review of 10 of the largest 401(k) plan disclosures found that none included benchmarks for investment fees. In the absence of fee benchmarks in disclosures, participants are not able to easily and appropriately compare fees for investment options in their plan, as observed by two consumer rights advocacy groups responding to DOL's proposed disclosure rules. Other in-plan investment options are often not comparable because they are different types of investments. For example, all but one of the 10 plans' annual disclosures offer target date funds, and those nine plans offer one target date fund series,⁸⁴ ⁸⁵ so without a fee benchmark, a participant cannot see if the target date fund series offered in their plan is well priced compared to other series.

Investment fee benchmarks are already available outside 401(k) plan disclosures. For example, a self-regulatory group for the broker-dealer industry provides an online tool that shows how an investment's expense ratio compares to the averages for its product and share class peers—those averages serve as fee benchmarks.⁸⁶ (See sidebar.) Similarly, a prominent online investment analysis platform for retail investors provides a fee benchmark for individual funds, called the "all funds average," which is an average of expense ratios for comparable funds.⁸⁷ DOL officials told us that plan administrators may face added costs to provide investment

⁸²Based on GAO analysis of DOL's Form 5500 data, more than 2.6 million participants separated from their employer during the 2019 plan year. All those participants can make a choice about whether to roll over their savings to another qualified account.

⁸³GAO, *401(K) PLANS: Labor and IRS Could Improve the Rollover Process for Participants*, [GAO-13-30](#) (Washington, D.C.: March 2013).

⁸⁴A target date fund is a product that takes into account the individual's age or retirement date and invests in a mix of investments that become more conservative as the participant approaches his or her retirement date.

⁸⁵One plan offers two target date funds from another fund provider, one for a target year now passed, but not a second full series. One plan offers no target date fund.

⁸⁶This is FINRA's Fund Analyzer tool.

⁸⁷There are different approaches to calculating fee benchmarks. One investment research group calculates both a simple average and asset-weighted average expense ratio for different types of mutual funds, which could be used as fee benchmarks for individual funds. James Duvall, "Trends in the Expenses and Fees of Funds, 2018." ICI Research Perspective 25, no.1 (March).

fee benchmarks in disclosures. Stakeholders must consider if the potential added cost to plans and perhaps to participants of including fee benchmarks for investments may be reasonable given the help it would provide to participants trying to understand their fees. DOL officials also told us that existing retail benchmarks may not be appropriate for all types of investment options available in a 401(k) plan. However, because the majority of 401(k) assets remain in mutual funds, for which fee benchmarks are often available, providing this information for investments when practicable would help participants better manage a significant portion of their invested savings.

Investment Ticker Information

Our review of 10 of the largest 401(k) plan disclosures found that one included ticker symbols for the plan investment options.⁸⁸ Ticker symbols are a unique identifier available for many types of investments, including mutual funds, and can help participants compare their investment fees by making it easier to identify their investments for research and evaluation outside of their plan. For example, when we entered a fund name provided in a large plan's participant disclosure into an online investment research website, the research website did not provide a match. When we searched for the name of the company, we found 611 funds. But when we searched for one of the fund's possible tickers, the website identified a specific fund and share class. Without ticker information for plan investment options, a participant may not be able to identify the correct fund, which means they may not have correct information on investment fees as costs often vary with share class. For example, without ticker information, it can be difficult for participants to use online investment comparison tools, such as research websites, to help them make investment decisions. Further, without share class information, which tickers identify, populating such a tool with accurate plan-level investment information could be challenging, one industry official explained, because it would be difficult to identify the fees for a plan's investment options. DOL officials also noted that not all investment types have ticker symbols, such as insurance products. Nevertheless, tickers are available for the investment types most widely used by 401(k) participants, including mutual funds.

⁸⁸Knowing a fund's share class may help to avoid confusion when researching a fund's fees, because, according to one retirement expert, mutual fund providers sometimes offer the same fund with different share classes, which have different costs. A ticker symbol differs for each share class.

DOL's fee disclosure regulation requires that plans provide participants with investment-related information, including fees, that is sufficient for and presented in a format that allows participants to compare their investment options in the plan and make informed investment decisions.⁸⁹ In its rulemaking for those regulations, DOL noted the burden was on participants when investment information does not facilitate comparison. While some consumer interest stakeholders encouraged fee benchmarks during public comment on the proposed regulations, DOL officials told us that the public record did not adequately support a fee benchmark mandate at that time. DOL staff had concerns about the availability, reliability, applicability, and transparency of fee benchmarking services, techniques, and methodologies when the rules were promulgated. However, such benchmarks are now available on several online platforms for retail investment and are found in investment data resources. Fee benchmarks promote DOL's goal of facilitating participants' apples to apples comparison of investments, and enable participants to compare specific types of in-plan options to comparable options outside the plan.⁹⁰ By requiring both investment fee benchmarks and ticker information in disclosures, DOL could further advance participants' understanding and use of fee information, and reduce the burden of making informed choices that promote the growth of their retirement savings.

Conclusions

By establishing regulations for participant fee disclosures, DOL ensured that 401(k) plan participants would be given important information about those administrative and investment expenses. However, our survey found that many 401(k) participants do not understand fee information or that they pay fees. Many Americans have limited financial literacy. Given that, and the technical nature of fee information, 401(k) plan and investment fees may be inherently hard to understand. Our interviews with officials in selected other countries about participant fee disclosure found that there is no one, easy way to make fees understandable to plan participants. However, by requiring that participants have additional, basic information in existing disclosures, and by taking added steps to educate participants, DOL could make fee information easier to understand and use. Specifically:

⁸⁹See 29 C.F.R. § 2550.404a-5(a) & (d)(2).

⁹⁰"Fact Sheet: Final Rule to Improve Transparency of Fees and Expenses to Workers in 401(k)-Type Retirement Plans", Department of Labor (February 2012).

- requiring a consistent term for investment fees in fee disclosures would better position participants to be sure that they are comparing the right figures when looking at investment options outside the plan;
- requiring participants' individualized quarterly statements to show the actual cost of the investment fees paid would help participants better understand the value of their investments;
- providing DOL's educational information about the cumulative effect of fees to participants would help them better understand that even small fees can result in significantly lower balances over time, and may motivate them to consider fees when comparing investment options;
- requiring disclosures to include fee benchmarks would help participants better gauge if their investments' costs are competitive; and
- requiring disclosures to include investment options' ticker information would help participants more easily research and compare their investments to options outside the plan.

As the primary way that plans explain fee information to participants, fee disclosures are a good step toward helping participants take on the critical task of managing their investments, but these additional steps can help participants better understand and compare their 401(k) plan fees, which can help optimize their retirement security.

Recommendations for Executive Action

We are making the following five recommendations to DOL:

The Assistant Secretary of the Employee Benefits Security Administration should require, in a manner deemed effective, that fee disclosures for participant-directed individual retirement accounts use a consistent term for asset-based investment fees (e.g. gross expense ratio).
(Recommendation 1)

The Assistant Secretary of the Employee Benefits Security Administration should require, in a manner deemed effective, that quarterly fee disclosures for participant-directed individual retirement accounts provide participants the actual cost of asset-based investment fees paid.
(Recommendation 2)

The Assistant Secretary of the Employee Benefits Security Administration should take steps to provide participants important information concerning the cumulative effect of fees on savings over time. For example, steps could include ensuring disclosures cite a working, specific DOL web address for where such information is shown and requiring that fee

disclosures include the agency's graphic illustration on the cumulative effect of fees. (Recommendation 3)

The Assistant Secretary of the Employee Benefits Security Administration should require, in a manner deemed effective, that participant fee disclosures for participant-directed individual retirement accounts include fee benchmarks for in-plan investment options. (Recommendation 4)

The Assistant Secretary of the Employee Benefits Security Administration should require, in a manner deemed effective, that participant fee disclosures for participant-directed individual retirement accounts include ticker information for in-plan investment options, when available. (Recommendation 5)

Agency Comments and Our Evaluation

We provided a draft of this report to the Department of Labor (DOL) and the Securities and Exchange Commission (SEC) for review and comment. Both agencies provided technical comments on the report, which we incorporated as appropriate. DOL provided formal comments, which are reproduced in appendix IV.

In its formal comments, DOL stated that our report demonstrated and reinforced the complexities the agency faces in trying to help pension plan participants understand the fees and costs they pay, directly or indirectly, to participate in employer-sponsored retirement plans. DOL also stated that while it would not commit to pursuing our recommendations at this time, as it continues to evaluate the format and delivery of information furnished to ERISA retirement plan participants, DOL officials will engage with stakeholders to get their input on our report and will carefully consider each of our recommendations with a focus on the potential practical impact of mandating such disclosures.

DOL noted in its letter, and we state in our report, that plan and investment fee information can be complicated, even for financially sophisticated investors. They added that additional information, in and of itself, is not certain to make a measurable difference. We agree that fee information is complicated for all participants to understand. Our survey results show the difficulties participants have in trying to understand the fee information disclosed to them. Nonetheless, disclosures are the primary way in which 401(k) participants receive investment fee information. Until another format or delivery option for disclosing fee information to participants is put forth by DOL, participants will continue to depend on the required participant fee disclosures, and making changes

to improve those disclosures will to be necessary to help ensure participants have the information they need to make informed decisions.

DOL also stated that our recommendations pose significant technical and feasibility challenges, which it noted may limit the efficacy of participant fee disclosures. In addition, DOL stated that implementing our recommendations would require lengthy and resource-intensive notice and comment rulemaking and that such an initiative would require the Department to forgo other regulatory initiatives. Yet our survey shows the magnitude of participants' lack of understanding of fee information, which argues for the agency to prioritize this initiative. Our recommendations are necessary to help address the issues we found participants struggled with when trying to understand the fee information provided to them. Without improving fee information, fees will continue to have a large impact on participants' retirement savings and continue to be a risk to their retirement security.

We commend DOL's efforts to proceed thoughtfully in making additions and revisions to its participant fee disclosure regulations, and encourage the agency to consider how it might do so in any manner it deems effective. DOL's multiple ongoing efforts to reconsider its approach to disclosure are encouraging, and the consideration of potential improvements going forward may benefit from additional consumer testing—which the agency noted it benefited from in developing the participant fee disclosures regulations over a decade ago. As we reported, several stakeholders in countries included in our review noted that ongoing consumer testing was an important tool to help ensure that information in disclosures is understood and used as intended.

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the appropriate congressional committees, the Secretary of Labor, the Chair of the Securities and Exchange Commission, and other interested parties. In addition, the report will be available at no charge on the GAO website at <https://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-7215 or nguyentt@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on

the last page of this report. GAO staff who made key contributions to this report are listed in appendix V.

A handwritten signature in black ink, appearing to read "Kris Nguyen". The signature is fluid and cursive, with the first name "Kris" written in a larger, more prominent script than the last name "Nguyen".

Tranchau (Kris) T. Nguyen
Director
Education, Workforce, and Income Security

Appendix I: Objectives, Scope, and Methodology

This report (1) assesses the extent to which 401(k) plan participants can understand and use fee information disclosed by plans; (2) describes practices used in selected countries that might help participants better understand and use fee information; and (3) examines additional steps, if any, that the Department of Labor (DOL) could take to advance participant understanding and use of fee information.

To assess the extent to which 401(k) plan participants can understand and use fee information in plan-provided disclosures, we conducted a nationally representative survey of 1,004 401(k) plan participants, which is generalizable to the population of all 401(k) participants in the U.S. The survey questions asked about participants' awareness of fees and tested their understanding of select content based on annual disclosures drawn from among 10 of the largest 401(k) plans, a sample quarterly disclosure, DOL and Securities and Exchange Commission (SEC) Office of Investor Education and Advocacy documents, and other sources. The survey also assessed how clear participants found certain fee-related information, asked participants about their preferences regarding plan disclosures, and included questions on their demographic and financial characteristics. See appendix II for a full technical discussion of the survey methodology and appendix III for a copy of the survey instrument.

To describe practices used in select countries that might help participants better understand and use fee information, we first identified three countries—Australia, Italy, and New Zealand—and the European Union (EU). To determine the locations for our review, we reviewed publicly available research on 37 locations with developed economies, as defined by the United Nations.¹ We then assessed these countries on other characteristics relevant to our review, such as whether retirement plan participants made investment decisions for their accounts. We selected the three countries and the EU because they have account-based retirement plans in which participants make investment decisions and documented practices to improve participants' understanding of fee disclosures.²

¹United Nations, *World Economic Situation and Prospects 2019* (New York: United Nations publication, 2019), 169.

²Account-based retirement plans are pension plans that allow workers to save for retirement by investing a portion of their income in funds through their employer.

For each of the four selected locations, we identified key strategies and practices designed to improve retirement plan participants' understanding and use of fee information by reviewing non-legal research and other available documentation and interviewing stakeholders.³ Specifically, we interviewed stakeholders—including government officials and regulators, financial industry representatives, consumer advocates, and subject matter experts—in Australia, Italy, New Zealand, and the EU to identify strategies and practices they said help account-based retirement plan participants understand and use information about fees and costs associated with their retirement accounts and investments. We obtained broad perspectives on the benefits and drawbacks of the strategies and practices to improve participants' understanding and use of fee disclosures. We also reviewed background materials provided by those stakeholders—reports, white papers, websites, and disclosure examples—on communicating fee information to retirement plan participants to better understand the locations' approaches to disclosures. We did not conduct an independent legal analysis to verify the information provided about the laws or regulations of the locations selected for this review. Instead, we relied on appropriate secondary sources and interviews to support our work. Following our interviews, we submitted key statements of facts for review and verification by stakeholders in each location and incorporated technical corrections as necessary.

To examine what additional steps, if any, DOL could take to advance 401(k) plan participant understanding and use of fee information, we identified topics in which about half of participants answered our survey's test questions incorrectly, and we considered participants' preferences for receiving fee information. In addition, we reviewed disclosures provided to participants by 10 of the largest 401(k) plans to describe their content on fees, such as whether they labeled asset-based investment fees as the expense ratio. The list of largest plans was derived from analysis of data plans provide annually to DOL on Form 5500. These plans were among the largest plans in terms of the number of participants in plan year 2019. We obtained examples of DOL-required fee disclosures for these 10 plans. Specifically, we obtained:

- Samples of annual disclosures—those that contain the information DOL requires plans provide to participants on an annual basis and at other times. We obtained these annual disclosures from the internet or directly from the plan sponsor. We were able to collect 10 large

³We conducted 21 interviews and refer to representatives of these organizations and entities collectively as "stakeholders" in this document.

plans' annual disclosures. In total, the 10 plans we reviewed have 4.5 million participants and more than \$181 billion in plan assets. We did not evaluate the disclosures for compliance with DOL regulations. The annual disclosures are not representative of all disclosures, but are samples that are illustrative of what a participant might receive from their plan.

- Quarterly disclosures—those that contain participant-specific account information DOL requires plans to provide to participants quarterly. These are, by their nature, made up of individuals' personal account information, so these are not publicly available online and actual disclosures are difficult to share. Therefore, we relied on sample quarterly disclosures provided by two large 401(k) plans and one large service provider, as well as several actual disclosures, with personal information redacted, shared by a retirement policy expert for our research purposes.

In addition, we interviewed DOL and SEC officials as well as representatives of eight other stakeholders, including a consumer advocacy group, an online investment analysis company, an investment industry and research group, and a financial literacy expert. Interviews with government officials and stakeholders in other select countries, discussed in greater detail above, also helped us to identify challenges faced in common by retirement plan participants, which may transcend national borders. We also reviewed several studies of consumer understanding of fees, how investors make decisions—especially in consideration of fee information, and financial literacy challenges facing Americans. These studies were identified by stakeholders whom we interviewed as well as through our own assessment of relevant, recent, and peer-reviewed research on these topics. Finally, we reviewed relevant federal laws and regulations.

We conducted this performance audit from February 2019 to July 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Technical Description of GAO's Survey of 401(k) Participants

We conducted a questionnaire survey with 401(k) plan participants to estimate the nature and extent of their understanding and use of select fee information provided in disclosures to participants, as required under Department of Labor (DOL) regulations.¹ We designed the survey questions, which were administered by NORC at the University of Chicago in July and August 2020 to a nationally representative sample of 1,004 plan participants drawn from their pre-recruited AmeriSpeak web survey panel.

Questionnaire Design

The primary purpose of our survey was to measure 401(k) plan participants' level of understanding of typical cost and fee information found in actual disclosure materials provided by plans. Because financial literacy research shows that people may overestimate how well they understand financial information, our survey tested participants' ability to identify the correct answer to questions about fee information, rather than ask if they felt they understood it.² We interpret selecting the correct answer to mean a participant understood the fee disclosure content or related fee information.

We constructed 25 multiple-choice test questions, 12 of which were based on administrative and investment-related fee disclosure content drawn from among 10 large 401(k) plans' annual disclosures and a sample quarterly disclosure shared by a large service provider. We redacted information that was specific to the plan or to its providers or their services or products, but otherwise presented the information in its original narrative, tabular, or graphic form. We also included two questions adapted from the National Financial Capability Study, commissioned by the FINRA Investor Education Foundation to study the financial capability of American adults, as well as three questions based on publicly-available information from DOL and three questions based on publicly-available graphics from the Securities and Exchange Commission (SEC) Office of Investor Education and Advocacy that concern the cumulative effect of fees. In addition, five questions were based on disclosure excerpts taken from the select locations we reviewed for our second research objective. To help develop test questions that would result in valid measures of participant understanding, we drew from questionnaires previously used to measure financial literacy and consulted with two financial literacy experts and GAO analysts with

¹See 29 C.F.R. § 2550.404a-5.

²Annamaria Lusardi, Olivia S. Mitchell, "The Economic Importance of Financial Literacy: Theory and Evidence," *Journal of Economic Literature*, vol. 52, no. 1, March 2014.

extensive audit experience in the financial markets and income security areas.

We did not test participants' understanding of their own 401(k) plans' fee information, therefore, it is possible that with exposure, education, and repetition, their understanding of their own plan's specific information could be better than their understanding of the sample fee information. Similarly, among correct responses, prior knowledge could help some participants pick the correct answer even when they might not fully understand the excerpted text. Nevertheless, we think it is reasonable to equate correct answers with understanding the information on which the question was based.

Because research has found that many 401(k) plan participants have limited financial literacy and limited ability to perform calculations, participants' incorrect answers could reflect these limitations instead of their lack of understanding of fee information.³ For appropriate survey questions, and to minimize math ability as a barrier, we provided answer choices with calculations in parentheses. It is also possible that because we provided the mathematical calculations for questions where some math was needed, some respondents were able to identify correct answers who would not be able to do so in a typical setting, when calculations are not provided. On balance, we decided the greater risk was incorrect answers that reflected not a lack of understanding but simply an inability to perform the calculation needed to find the answer.

Also, in part to minimize the extent to which guessing skews correct and incorrect answers, we provided a *Don't Know* answer option. That answer option could mean participants did not understand the question, understood the question but not how to answer it, or that survey fatigue prevented them from understanding either.

In addition to directly assessing respondent understanding of specific materials through test questions, we also measured concepts related to understanding. Specifically, we asked respondents a) to rate the clarity of each of the disclosure materials used in the test questions, b) to rate how knowledgeable they felt they were about the impact of fees, c) whether they knew that they paid fees, and d) if they felt that they knew the general amount of those fees. Our survey also asked participants about

³Fisch, Lusardi, and Hasler. "Defined Contribution Plans and the Challenge of Financial Illiteracy."

their preferences for the content and timing of fee information they might receive, and their likelihood of using that information or seeking out additional information under different conditions. The survey questionnaire is reproduced in its entirety in appendix III.

To test and revise draft versions of the questions in the survey, we conducted 13 pretests with 401(k) account holders selected to generally reflect a range of familiarity with the subject matter. Pretest participants answered the questions in an unaided, realistic setting, with GAO analysts asking follow-up questions to determine how participants interpreted the questions and arrived at their answers. A GAO methodologist's review suggested that certain test questions could be answered based on the logic—or lack thereof—of the answer options, and did not necessarily require understanding of the fee information shown. This could result in correct answers based on logic and general understanding of fees, even when given fee information itself was not understood and was unclear. On balance, we decided the greater risk was to provide answer options too complex to understand, so we designed our answers to be simple. Based on results from pretests of successive versions of the questionnaire, we made changes to improve the clarity and validity of the questions, and to reduce the burden of the survey.

We also conducted pilot testing of the live web questionnaire with 76 AmeriSpeak panelists who qualified for the survey. In debriefing interviews with five pilot test respondents, we assessed their experience with the questions and answers when operationalized as an AmeriSpeak survey and when completed by respondents on their own devices and browsers, to determine if changes to question wording and to how the disclosure material was displayed was warranted.

Test Scores

To assess participants' general understanding of fee disclosure content and related fee information, we calculated an overall test score using participants' responses to test questions based on U.S. disclosure content and fee-related information. There were 20 such test questions, with each participant generally answering 10 questions.⁴ We summed

⁴Participants generally answered 10 U.S.-based test questions instead of all 20 in order to reduce burden on respondents. For more information, see the Fieldwork section of this appendix.

Appendix II: Technical Description of GAO's Survey of 401(k) Participants

each participant's number of correct responses and divided by the number of questions answered.⁵

To analyze what demographic groups may be more or less likely to score poorly on the questions that tested understanding of fee disclosure content, we estimated a logistic regression model in which the dependent variable was a binary variable indicating whether the respondent answered at least half of the test questions incorrectly. The model included the following explanatory variables for respondents' demographics: age group, highest level of education, gender, race and ethnicity, and total amount of savings and investments. We also included as an explanatory variable whether respondents knew they pay fees for their 401(k) plan. Table 4 presents the odds ratios we estimated from our logistic regression model.

Table 4: Estimated Odds Ratios from Logistic Regression Model of Whether Survey Respondents Incorrectly Answered At Least Half of GAO Test Questions

Characteristic	Estimated Odds Ratio	95% Confidence Interval
Age: 18-29 vs. 60+	1.277	0.540 – 3.020
Age: 30-44 vs. 60+	0.974	0.538 – 1.761
Age: 45-59 vs. 60+	1.099	0.625 – 1.931
Education: HS diploma/GED or less vs. Masters/professional/doctorate degree	3.943**	1.891 – 8.221
Education: Some college with no degree vs. Masters/professional/doctorate degree	3.330**	1.816 – 6.106
Education: Associate's degree vs. Master's/professional/doctorate degree	2.462**	1.216 – 4.986
Education: Bachelor's degree vs. Master's/professional/doctorate degree	1.256	0.708 – 2.226
Gender: Female vs. male	1.524	0.984 – 2.360
Race and Ethnicity: Black non-Hispanic vs. White non-Hispanic	1.216	0.596 – 2.482
Race and Ethnicity: Hispanic vs. White non-Hispanic	2.358**	1.227 – 4.531
Race and Ethnicity: Asian non-Hispanic vs. White non-Hispanic	2.752**	1.147 – 6.602
Race and Ethnicity: Other non-Hispanic vs. White non-Hispanic	1.641	0.415 – 6.480
Race and Ethnicity: Two or more races non-Hispanic vs. White non-Hispanic	1.243	0.360 – 4.296
Total Savings and Investments Amount: < \$25,000 vs. \$100,000+	2.917**	1.648 – 5.162

⁵Participants had the option to skip test questions. For the few participants that skipped one or more test questions, we removed the number of skipped questions from their test score's denominator.

**Appendix II: Technical Description of GAO's
Survey of 401(k) Participants**

Characteristic	Estimated Odds Ratio	95% Confidence Interval
Total Savings and Investments Amount: \$25,000-\$99,999 vs. \$100,000+	1.961**	1.133 – 3.394
Know Pay Fees: No/Don't Know vs. Yes	1.602**	1.023 – 2.507

Source: GAO survey of 401(k) participants. | GAO-21-357

Note: The sample size for the model is 963 survey respondents; 41 responses were removed due to missing values for the dependent or explanatory variables.

** indicates the odds ratio estimate is statistically significant at the 95% confidence level.

Sample Design

The survey was designed to make generalizable estimates to a target population of adults residing in the U.S. who had a 401(k) retirement savings plan account at the time of the survey, from either a current or former employer, or as the beneficiary of an account inherited from someone else. Therefore, our target population included both “active” 401(k) plan participants who at the time of the survey worked at the job where the plan was sponsored, and “inactive” participants who had left their job or retired but retained one or more accounts in the 401(k) plan, or were beneficiaries of a 401(k) plan account whose original account holder had died.

We contracted with NORC at the University of Chicago to administer our questionnaire to a statistically generalizable sample that would be as representative of our target population as practicable. DOL data estimate there were about 85 million 401(k) plan participants in 2017. The actual study population (the portion of the target population that can be identified and potentially contacted, and about which estimates can ultimately be made) is constrained by the population coverage afforded by the sampling frame (the list of population members that can be surveyed, and from which the sample is actually drawn) used in the survey. NORC operationalized our study population by using a segment of their AmeriSpeak probability-based household survey panel as our sampling frame. While our frame and subsequent sample were restricted to a segment of AmeriSpeak panelists, as described in the next paragraph, the AmeriSpeak Panel as a whole was designed to be representative of the U.S. household population in the 50 states and the District of Columbia. The panel was constructed in multiple stages, first by random selection of U.S. households using area probability and address-based sampling, primarily from the NORC National Sample Frame, which was itself constructed in multiple earlier stages. These sampled households were then recruited into the panel through contacts by U.S. mail, telephone, face-to-face visits from field interviewers, and the use of incentives. Although some households were excluded during panel construction, including those with Post Office Box-only addresses, some

with addresses not listed in the United States Postal Service's Delivery Sequence File, and some in newly constructed dwellings, the resulting panel provides sample coverage of approximately 97 percent of the U.S. household population. As of June 2020, the panel was comprised of 48,900 members age 13 and older residing in over 40,000 households.

The segment of AmeriSpeak panelists that formed our sampling frame, and from which we drew our sample, was defined by the following characteristics, which were known to NORC for each member of the panel in advance of the survey. Sampling frame members:

- were adults 18 years of age or older residing in the U.S.,
- had a 401(k), 403(b), or other employment sponsored retirement account⁶,
- were able to complete AmeriSpeak surveys through the self-administered web mode (phone interview mode-only panelists were excluded), and
- had responded to at least 45 percent of the studies they were invited to during the past six months, but had not been selected for a survey in the previous week.

At the time of our survey, 9,463 AmeriSpeak panelists had these characteristics. Our survey sample was drawn from these panelists across 48 categories, or strata, of age, race and ethnicity, education, and gender. The number sampled from each stratum was roughly proportional to how the U.S. population was distributed across them, but also took into account expected differences in survey completion rates by demographic groups, so that the set of responses received would more closely approach the U.S. population distribution, and therefore require less statistical adjustment, or weighting. Based on experience with eligibility and completion rates in previous AmeriSpeak surveys and the results of our pilot test, NORC estimated the sample size needed to yield the required 1,000 completed responses, and finalized the sample size at 1,832.

Fieldwork

The panelists from the AmeriSpeak segment qualifying for and being drawn into our sample as described above were then invited to begin the

⁶Using this characteristic to narrow the sampling frame increased the efficiency of the eligibility screening question asked at the start of the survey session. That question selected only the 401(k) plan participants meeting the specifications of our target population, as described in the Fieldwork section below.

survey. Those invitees who started the survey session were first screened on the specific eligibility criterion of 401(k) plan participation. To proceed to the rest of the survey questionnaire, a “yes” answer was required to this eligibility screening question:

“A 401(k) plan is a type of private-sector employer-based retirement savings plan where you can save and invest money. If your employer is a government entity or a not for profit organization, your retirement plan is not a 401(k) plan. Do you have 401(k) plan account—from either your current employer, a former employer, or that you inherited from someone else as their beneficiary?”

NORC began emailing survey invitations to the sample and collecting responses on July 16, 2020, and ended the survey on August 10, 2020. NORC emailed up to four reminders to those sample members not yet responding during this field period. A \$5 incentive was also offered to survey respondents. The questionnaire was offered only in English and only accessible through the web mode of the AmeriSpeak survey platform. Of those completing the questionnaire, 59 percent did so using a smartphone, and 41 percent used a desktop computer or tablet.

Of the 1,832 initially sampled panelists, 1,615 (88 percent) began the survey session and answered the eligibility screening question. Of those answering the screening question, 1,053 (65 percent) were determined to be eligible 401(k) plan participants. At the end of fieldwork, 1,004 (95 percent) of those determined to be eligible had submitted a completed survey response. For a response to have been considered completed, the respondent must have:

- reached the end of the questionnaire before submitting the response,
- answered at least half of the questions, and
- submitted the questionnaire in no less than 30 percent of the median completion duration.⁷

(See table 5 for a breakdown of sample and survey fieldwork outcomes.)

To properly measure the extent of successful data collection from the sample, a response rate has to account for all sources of non-response at each stage of the panel recruitment, management, and survey

⁷Because questionnaire response requires time to read and comprehend questions, make judgments, and select answers, very short response times may be an indicator of low effort and inattention, and removing those responses may increase data quality.

Appendix II: Technical Description of GAO's Survey of 401(k) Participants

administration process. The weighted cumulative response rate of 16.8 percent best accounts for the outcomes of all the sample selections and data collection attempts made across these stages, by multiplying the rates of:

- successful recruitment of households into the AmeriSpeak Panel,
- retention of those households as still available for sampling at the time of our survey,
- completion of our survey's eligibility screening, and
- submission of a completed survey response.

These component rates are weighted (see description of response weighting below) to account for each stage's sample design and the differential inclusion probabilities of sample members.

Table 5: Sample and Survey Fieldwork Outcomes for GAO Survey on 401(k) Plan Fee Disclosures

Stage	Number	Rates
Panelists in AmeriSpeak households as of June 2020	48,900	23.6% weighted household recruitment rate X 84.8% weighted household retention rate
Panelists in the AmeriSpeak segment comprising the sampling frame	9,463	
Panelists sampled and invited to our survey	1,832	
Panelists answering the survey's eligibility screening question	1,615	X 88.1% screener completion rate
Panelists eligible for the survey questions ^a	1,053	
Panelists submitting completed survey responses	1,004	X 95.3% survey completion rate
		= 16.8% cumulative weighted response rate

Source: GAO analysis of survey administration data. | GAO-21-357

^aOf the 562 panelists answering the eligibility screening question who were not eligible, 530 answered that they did not have a 401(k) plan account, while 32 did not know or gave an invalid answer.

To reduce the length of the survey session and burden on respondents, the 25 test questions were split across two versions of the questionnaire. Approximately half of the sampled respondents were randomly assigned to receive only the first 13 of the test questions, and the other half received only the remaining 12 questions. While all other questions in the survey were asked of all 1,004 respondents, the first set of test questions

were asked of 481 respondents, and the second set of test questions were asked of the other 523 respondents. The median duration of the self-administered survey was 19 minutes.

Some of the demographic and financial characteristics we obtained on our respondents and used for analysis purposes were not collected through our survey questionnaire, but previously collected by NORC upon recruitment into the AmeriSpeak Panel, and updated approximately annually thereafter, on a rolling basis. Any missing values for demographic characteristics were assigned, or imputed, by NORC using hot-deck imputation, a process that substitutes non-missing values from similar respondents. For the key demographic characteristics used in our survey's sampling and weighting processes (age, race and ethnicity, education, gender, and Census Division), the rate of imputation was less than 0.5 percent.

Response Weighting

Because our sample was the cumulative result of systematic selections – across the stages of AmeriSpeak Panel creation, the creation of our sampling frame, and the selection of our sample itself – each member of our sample had a known, nonzero probability of being selected from the entire study population into our survey. Once each of our survey responses was multiplied by a final weight that reflected those probabilities and that made up for sample members who did not respond, the aggregate of these weighted responses became our estimates of the percentages and totals that would be found in the entire study population.

The final survey weights began with the base sampling weights for the AmeriSpeak Panel, calculated as the inverse of the probability of selection of each panelist's household from the NORC National Sample Frame. These base weights were further adjusted in the following sequential steps:

- a subsample of households not initially responding during panel recruitment received in-person follow up; their base weights were inflated by the inverse of that subsampling rate,
- adjustment to account for unknown eligibility and nonresponse among eligible households,
- a post-stratification adjustment so that response totals in several categories, or strata, of households match population totals from the U.S. Census Bureau's Current Population Survey, and
- adjustment at the panelist level to account for nonresponse among adults within a recruited household.

To arrive at the final panel weights, the panel's base weights were then raked (repeatedly adjusted for each response until the distribution of response totals aligned with the distribution of population totals across several characteristics) to population totals associated with age, race and ethnicity, education, gender, housing tenure, telephone status, and Census Division. As in the post-stratification adjustment, these population totals were obtained from the Current Population Survey.⁸

The final panel weights were then multiplied by the inverse of the probabilities of selection for each of our specific survey's sample members from our sampling frame. This combination resulted in the base sampling weights for our specific survey.

As with the base weights for the panel, the survey-specific base weights were then adjusted in the following steps:

- adjustment to account for those sample members who did not answer the eligibility screening question,
- adjustment for those who gave a qualifying answer to the eligibility screening question, but did not respond to the rest of our questionnaire and submit a completed survey response, and
- a post-stratification adjustment so that response totals would match those in the segment of the AmeriSpeak Panel used as our sampling frame, after that segment had been weighted to Current Population Survey totals in 46 strata of age, race and ethnicity, education, gender, and Census Division.

These survey-specific base weights were then raked to produce totals aligned with Current Population Survey totals across the same 46 strata used in the post-stratification adjustment. During the raking process, extreme weights were trimmed according to a formula that minimized the variability, as measured by the mean squared error, of key survey estimates. The final survey-specific weights were the result of this last step.

Because some of our survey questions were asked of all respondents, while the test questions were split into two randomly-assigned sets which

⁸Post-stratification and raking adjustment of weights are done to make the demographic characteristics of the set of survey responses more closely align with those of the study population, and by extension, the target population. This is done under the assumption that the answers to survey questions are generally associated with the demographic characteristics of the members of the population.

were asked of approximately half of those responding, we calculated three versions of the final survey-specific weights to account for that subsampling. When the number of responses to a question is multiplied by the applicable version of the final survey-specific weight, the sum of those responses is 74,553,593. This is the estimated size of the study population of 401(K) owners our survey represents.

Survey Exclusions,
Quality, and Error

Due to the practical difficulties of conducting any survey, estimates from surveys are subject to a variety of errors, not all of which can be measured. In developing, administering, and analyzing the results from the survey, we took steps to minimize the five types of errors that may affect survey results—population coverage, sampling, measurement, nonresponse, and data processing errors.

Population coverage error may result to the extent that our study population, as operationalized by the sample frame we used, did not cover all members of the target population. While some types of households were excluded during the construction of the AmeriSpeak Panel, the estimated coverage of 97 percent of U.S. households remains high. Our questionnaire was offered only in English and through the web mode, which likely had a small but unmeasurable impact on coverage.⁹ We conclude that the differences between the study population we covered and the target population were minor.

Sampling error is present in our estimates because our probability-based sample is only one of a large number of samples that we might have drawn. Since each sample could have provided different estimates, we express our confidence in the precision of our particular sample's results as a 95 percent confidence interval (e.g., plus or minus 7 percentage points, also referred to as a "margin of error") around an estimate. This is the interval that would contain the actual population value for 95 percent of the samples we could have drawn. The width of confidence intervals can vary for estimates made from different questions, because they are a

⁹Upon recruitment, AmeriSpeak panelists are offered a choice of preferred mode—web or phone—for future participation in AmeriSpeak surveys. Panelists predominantly prefer web over phone mode—as of February 2020, 85 percent of the active panelists preferred to do web surveys. However, the remaining 15 percent of panelists—those without internet access, those with access only through a smartphone, and those with access but who are unwilling to share an email address—were not included in the AmeriSpeak Panel segment used for our sampling frame. To the extent that non-internet households or "net averse" persons are different from the rest of the target population on the topics measured in our survey, their absence from our study population may impact the representativeness of our estimates.

function of not only the overall design of our sample (or the subsamples, for test questions), but also the number of answers received to a question, and the distribution, or variability, of those answers.

We calculate that the confidence intervals, or margins of error, for estimates from questions asked of all 1,004 respondents are no larger than plus or minus 4.4 percentage points. For the first set of 13 test questions asked of a subsample of 481 respondents, the confidence intervals are no larger than plus or minus 6.1 percentage points, and for the second set of 12 test questions asked of 523 respondents, the confidence intervals are no larger than plus or minus 5.7 percentage points.

Caution should be taken when comparing estimates (for example, of the answers of different demographic subgroups to a question) in the presence of sampling error. Apparent differences between point estimates that are within the confidence intervals, or margins of error, of those estimates may not represent actual differences in the target population.

Measurement error is the difference between reported and actual values, and may arise in respondents' answers to our self-administered questionnaire due to problems of question comprehension, information recall, making judgments, and reporting answers. We undertook the questionnaire development and testing activities described above to improve our questions and reduce their contribution to these problems. In addition, NORC generally manages and maintains its AmeriSpeak Panel to limit respondent burden, minimize respondent fatigue from repeated surveys, and field surveys that provide an appropriate online user experience. For our survey, NORC also cleaned the data by marking as ineligible 85 completed survey responses from participants who finished the survey in under 30 percent of the median survey completion time or skipped over half of the questions shown to them. We did not find that it was necessary to exclude from our analysis the data from any of the 1,004 eligible and complete surveys.

Nonresponse error can occur when a survey fails to collect any information from an eligible member of the sample (unit nonresponse), or when respondents do not provide a usable answer to an individual question (item nonresponse). In our survey, the main risk of nonresponse is the potential for nonresponse bias – to the extent that those who did not answer would have answered differently from those who did, our

estimates will depart from the true values for the study population as a whole.

In the weighting process described above, adjustments were incorporated to compensate for the effects of nonresponse occurring in different stages of our survey, from AmeriSpeak Panel creation through fieldwork for our specific survey. In addition, post-stratification and raking adjustment of weights was done to make the demographic characteristics of our set of survey respondents more closely align with those of the study population, under the assumption that the answers to survey questions like ours are generally associated with common demographic characteristics. To the extent this assumption is true, increasing or decreasing the weights of responses with demographic characteristics that are under- or over-represented, respectively, may mitigate bias from nonresponse. To gauge the success of this alignment, we compared some key characteristics of our set of respondents to those of a benchmark group that approximated our study population: the 9,463 panelists in the segment of AmeriSpeak panelists (our sampling frame) who were previously known to have a 401(k), 403(b), or other employment sponsored retirement account. Even after weighting, some demographic groups were slightly underrepresented in our response data. Homeowners (77 percent among our respondents, compared to 79 percent in the benchmark group) and those currently married (62 percent, compared to 63 percent) were the most underrepresented characteristics of those we compared. Finally, the rate of item nonresponse to individual questions in our survey was low, and can be discounted as a potential source of nonresponse error. Given the weighted cumulative response rate of 16.8 percent, however, we cannot rule out the possibility of nonresponse error in our estimates.

Data processing error may result after survey responses are collected, during the data management, editing, coding, and analysis to produce our estimates. To limit the possibility of such errors, NORC took steps to clean the response data, and all data processing and analysis we conducted was verified by a second analyst. We found the data to be reliable for the purposes of our report.

Appendix III: Reproduction of 401(k) Plan Participants Web Survey



at the UNIVERSITY of CHICAGO



This is an approximate reproduction of the survey administered to 401(k) plan participants by the National Opinion Research Center (NORC) to its national survey panel, AmeriSpeak. The actual survey was web-based and formatting accordingly. We have briefly excluded some additional standard disclosures used by NORC for the sake of brevity and their proprietary nature.

Thank you for agreeing to participate in our new AmeriSpeak survey! This survey is about retirement finances.

This survey is being conducted for the U.S. Government Accountability Office (GAO). GAO is an independent, nonpartisan agency that supports the United States Congress. Often called the “congressional watchdog,” GAO provides Congress and federal agencies with objective, reliable information to help the government save money and work more efficiently.

By taking this survey you could learn more about 401(k) fees and other information that could help you better manage your retirement savings. If you are a 401(k) retirement plan participant, you receive regular statements about the rules and features of your plan. One type of statement provides information about fees and costs associated with your 401(k) plan and the investment options offered. This survey will first collect information about you, then assess your understanding and ask your preferences about receiving fee information from your plan. The survey may take 25 to 30 minutes to complete.

Q5.

Is English your preferred/primary language?

- Yes
- No

Q5a.

Please select your preferred language.

- Spanish
- Chinese (incl. Cantonese, Mandarin, other Chinese languages)
- Tagalog
- Vietnamese
- French (incl. Patois, Cajun)
- French Creole
- Korean
- German (incl. Luxembourgian)
- Arabic

- Russian
 - Other
-

Part A. Demographic questions

Q1. A 401(k) plan is a type of private-sector employer-based retirement savings plan where you can save and invest money. If your employer is a government entity or a not for profit organization, your retirement plan is not a 401(k) plan. Do you have 401(k) plan account—from either your current employer, a former employer, or that you inherited from someone else as their beneficiary?

- Yes
 - No
 - Don't know
-

Q1A. How many 401(k) plan accounts would you estimate that you currently have? If you have rolled multiple 401(k) accounts into a single account, this is considered having one account.

- 1
 - 2
 - 3
 - 4 or more
-

Q2. In total, about how much money do you currently have in savings and investments, not including the value of your primary residence (your home)? Please include savings, certificates of deposit (CDs), stocks, bonds, mutual funds, employer-sponsored savings plans—like 401(k) plans— and other investments. Do not include the value of defined benefit plans (pensions).

Choose one:

- Less than \$1,000
 - \$1,000 to less than \$10,000
 - \$10,000 to less than \$25,000
 - \$25,000 to less than \$50,000
 - \$50,000 to less than \$100,000
 - \$100,000 to less than \$150,000
 - \$150,000 to less than \$250,000
 - \$250,000 to less than \$1 million
 - \$1 million or more
 - Don't know
 - Don't want to answer
-

Q3. Do you pay any fees for your 401(k) plan? If you have more than one 401(k) plan, please answer based on the plan to which you most recently contributed.

- Yes
- No
- Don't know

Q4. How knowledgeable are you about the impact that fees can have on your total retirement savings?

- Extremely knowledgeable
- Very knowledgeable
- Moderately knowledgeable
- Slightly knowledgeable
- Not at all knowledgeable

Part B. 1.

You will now see a set of questions regarding various fees and expenses associated with a 401(k) plan. We'll provide you with some information and ask you to rate its clarity. Then we'll ask you a question based on that same information. You may find some answers difficult to determine. That's okay. If you do not know an answer, please feel free to indicate that you don't know. Some questions require basic calculations, which have been provided.

Q6. Suppose your 401(k) plan sends you an account statement with this information:

Variable return investments			Fees and expenses			
	Average annual total return as of 03/31/2018			Total annual operating expense		Additional fees, restrictions and notes
	1 year	5 year	10 year (since inception)	As a %	Per \$1,000	
USD*						
Target Date 2020 Fund (inception date 01/31/2011)	7.46%	6.52%	(6.86%)	0.10%	\$1.00	

How clear is the information in the box?

- Completely clear
- Very clear
- Moderately clear
- Somewhat clear
- Not at all clear

Q6a. Now please answer a question based on the same information.

Variable return investments			Fees and expenses			
	Average annual total return as of 03/31/2018			Total annual operating expense		Additional fees, restrictions and notes
	1 year	5 year	10 year (since inception)	As a %	Per \$1,000	
USD*						
Target Date 2020 Fund (inception date 01/31/2011)	7.46%	6.52%	(6.86%)	0.10%	\$1.00	

Based on this information, if you have \$10,000 invested in the Target Date 2020 Fund, how much did you spend for Total Annual Operating expenses this year, in dollars? (Calculations in parentheses)

- \$0.10 (\$1.00 * \$0.10)
- \$10 (\$1.00 * 10)
- \$100 (\$1.00 * 100)
- \$1,000 (\$1.00 * 1,000)
- Don't know

Q7. Suppose your 401(k) plan sends you an account statement with this information about investment funds offered in the plan:

All total returns assume the reinvestment of all dividend and capital gain distributions at net asset value when paid and do not reflect the deduction of any sales charge, as these charges are not applicable to eligible retirement plans. Had the sales charge been deducted, results would have been lower than shown.

How clear is the information in the box?

- Completely clear • Very clear • Moderately clear • Somewhat clear • Not at all clear

Q7a. Now please answer a question based on the same information.

All total returns assume the reinvestment of all dividend and capital gain distributions at net asset value when paid and do not reflect the deduction of any sales charge, as these charges are not applicable to eligible retirement plans. Had the sales charge been deducted, results would have been lower than shown.

Based on this information, if those same funds were offered outside the 401(k) plan, would your returns be higher if you invested in them inside or outside of your plan?

- Outside my plan
- Inside my plan
- The return would be the same
- Don't know

Q8. If your investment fund's expenses are \$4 each quarter per \$1,000 invested, how much are your expenses for a \$15,000 investment in that quarter, assuming that the amount of the investment doesn't change? (Calculations in parentheses)

- Nothing, because the account is growing
- \$4
- \$15 (\$1 x 15)
- \$60 (\$4 x 15)
- Don't know

Q9. Suppose you have \$100 in a retirement account earning a 5 percent return a year. You also pay a \$1 annual fee. After 1 year, how much would you have?

Math help: $\$100 * 5 \text{ percent} = \5 return

- Less than \$105
- Exactly \$105
- More than \$105
- Don't know

Q10. Suppose you have \$100 in a retirement account earning a 5 percent return a year. You also pay a \$10 annual fee. After 5 years, how much more would you have had in your account if \$50 in fees had not been taken out:

- Less than \$50
 - More than \$50
 - Exactly \$50
 - Don't know
-

Q11. Suppose your 401(k) plan sends you this information:

Investment-Related Information

The following table shows the plan’s investment options, including:

1. General information about the type of investment
2. Fee information, including asset-based fees (often called the expense ratio), plus other stakeholder-type fees or investment restrictions
3. Historical fund performance and an appropriate benchmark for the same period of time

General information			Fee information			Historical performance				
Fund Name/ Benchmark	Investment Manager	Asset Class	Total Asset- Based Fees ¹	Annual Cost per \$1,000 of Investment	Shareholder- Type Fees and Investment Restrictions ²	Average Annual Total Return as of 12/31/2018 ³				Fund Inception Date
						1 yr.	5 yr.	10 yr.	Since Inception	
Target date Funds										
Target Date Retirement Fund	Financial Company	Pre- mixed	0.16%	\$1.60	N/A	-3.60%	3.10%	6.03%	4.60%	8/1/2005

¹Total asset-based fees are investment management company fees and other plan administrative costs charged to participants provided by the investment management company to cover plan administrative and other costs. Administrative costs make up approximately 0.09% of the total asset-based fee for each fund.
²Shareholder-type fees and investment restrictions outline any fees paid directly from your investment in this option and any restrictions on trading that might exist for a specific investment option.
³In general, 1-year, 5-year, 10-year, and since inception performance is shown. If a full history is not available, simulated returns are shown. Each fund’s returns have been reduced by that fund’s total asset-based fees.

How clear is the information in the box?

- Completely clear
- Very clear
- Moderately clear
- Somewhat clear
- Not at all clear

Q11a. Now please answer a question based on the same information.

Investment-Related Information

The following table shows the plan's investment options, including:

1. General information about the type of investment
2. Fee information, including asset-based fees (often called the expense ratio), plus other stakeholder-type fees or investment restrictions
3. Historical fund performance and an appropriate benchmark for the same period of time

General information			Fee information			Historical performance				
Fund Name/ Benchmark	Investment Manager	Asset Class	Total Asset- Based Fees ¹	Annual Cost per \$1,000 of Investment	Shareholder- Type Fees and Investment Restrictions ²	Average Annual Total Return as of 12/31/2018 ³				Fund Inception Date
						1 yr.	5 yr.	10 yr.	Since Inception	
Target date Funds										
Target Date Retirement Fund	Financial Company	Pre- mixed	0.16%	\$1.60	N/A	-3.60%	3.10%	6.03%	4.60%	8/1/2005

¹Total asset-based fees are investment management company fees and other plan administrative costs charged to participants provided by the investment management company to cover plan administrative and other costs. Administrative costs make up approximately 0.09% of the total asset-based fee for each fund.
²Shareholder-type fees and investment restrictions outline any fees paid directly from your investment in this option and any restrictions on trading that might exist for a specific investment option.
³In general, 1-year, 5-year, 10-year, and since inception performance is shown. If a full history is not available, simulated returns are shown. Each fund's returns have been reduced by that fund's total asset-based fees.

Based on this information, what is the expense ratio for the Target Date Retirement Fund?

- 0.16%
- 16%
- \$1.60
- It is not shown
- Don't know

Q12. Now please answer an additional question based on the same information (please read the information in table note 3).

Investment-Related Information										
The following table shows the plan's investment options, including:										
1. General information about the type of investment										
2. Fee information, including asset-based fees (often called the expense ratio), plus other stakeholder-type fees or investment restrictions										
3. Historical fund performance and an appropriate benchmark for the same period of time										
General information			Fee information			Historical performance				
Fund Name/ Benchmark	Investment Manager	Asset Class	Total Asset- Based Fees ¹	Annual Cost per \$1,000 of Investment	Shareholder- Type Fees and Investment Restrictions ²	Average Annual Total Return as of 12/31/2018 ³				Fund Inception Date
Target date Funds						1 yr.	5 yr.	10 yr.	Since Inception	
Target Date Retirement Fund	Financial Company	Pre-mixed	0.16%	\$1.60	N/A	-3.60%	3.10%	6.03%	4.60%	8/1/2005

¹Total asset-based fees are investment management company fees and other plan administrative costs charged to participants provided by the investment management company to cover plan administrative and other costs. Administrative costs make up approximately 0.09% of the total asset-based fee for each fund.

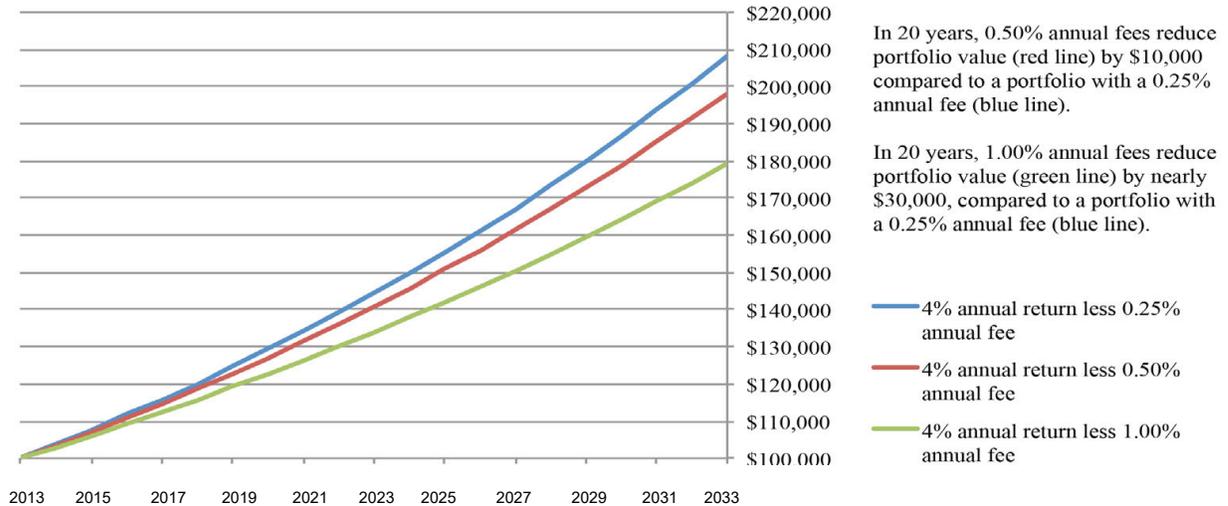
²Shareholder-type fees and investment restrictions outline any fees paid directly from your investment in this option and any restrictions on trading that might exist for a specific investment option.

³In general, 1-year, 5-year, 10-year, and since inception performance is shown. If a full history is not available, simulated returns are shown. Each fund's returns have been reduced by that fund's total asset-based fees.

Based on the information in table note 3, which of the following observations about the Average Annual Total Return of the Target Date Retirement Fund is correct?

- It was lower before fees
- It was not affected by the fees
- It was higher before fees
- Don't know

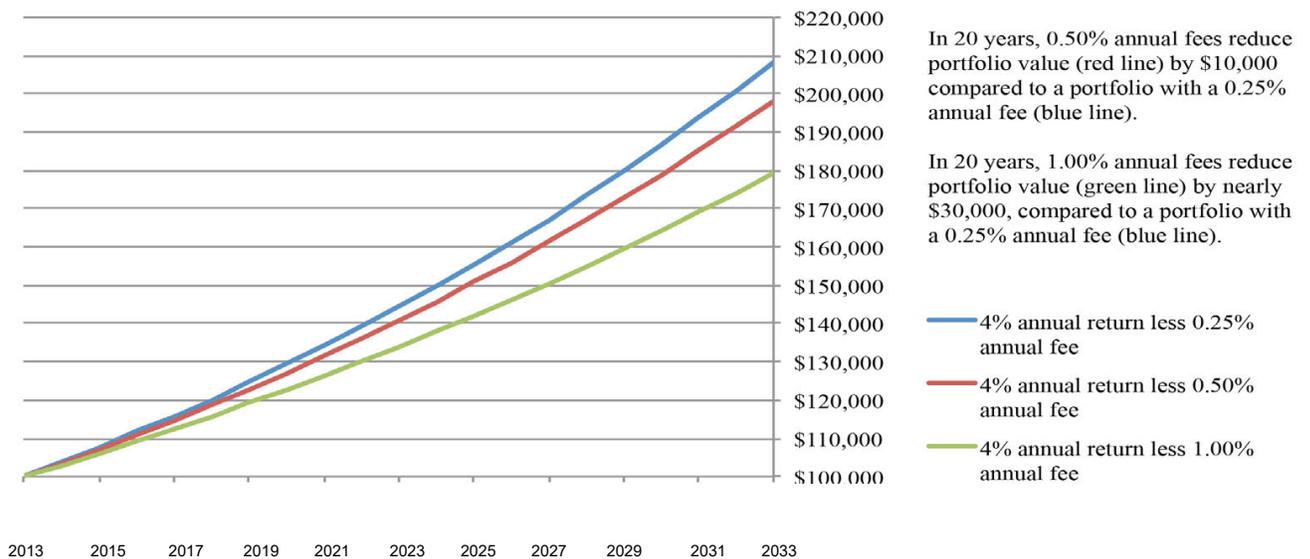
Q13. Suppose your plan provides the following graph, called "Portfolio Value From Investing \$100,000 Over 20 Years":



How clear is the information in the box?

- Completely clear
- Very clear
- Moderately clear
- Somewhat clear
- Not at all clear

Q13a. Now please answer a question based on the same information.



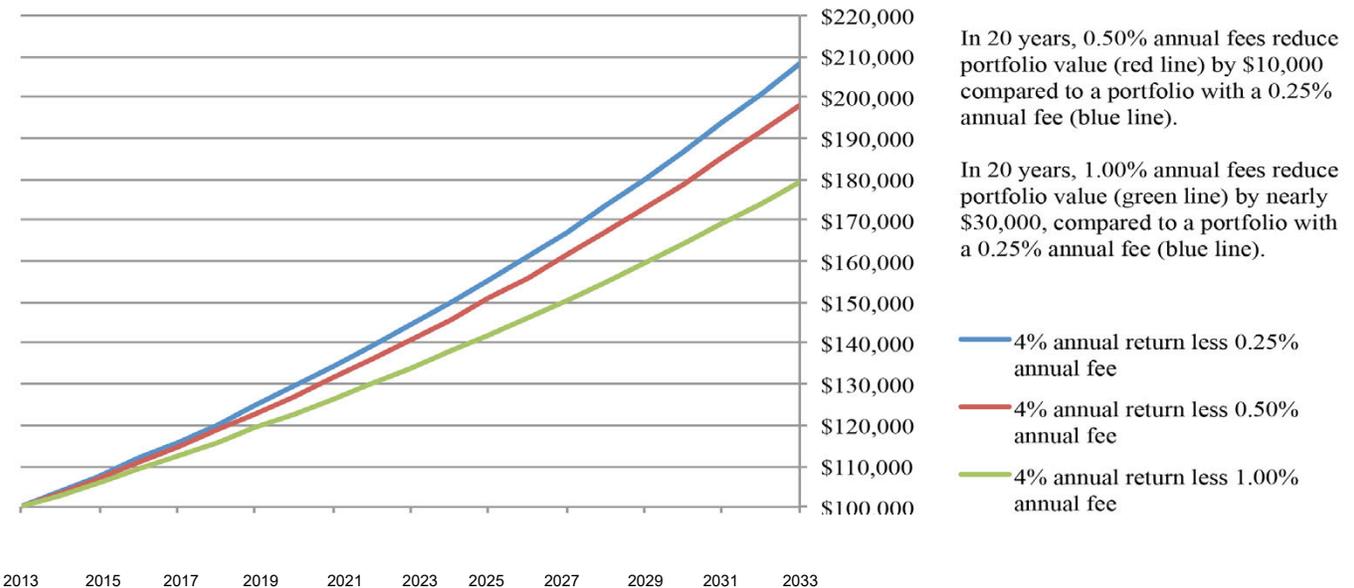
Based on this information, which of the following is correct?

An account paying a higher annual fee (green line) is less than an account paying a lower fee (red, blue lines):

- by the same proportion over time.
- by a smaller proportion over time.
- by a greater proportion over time.
- Don't know

Q14.

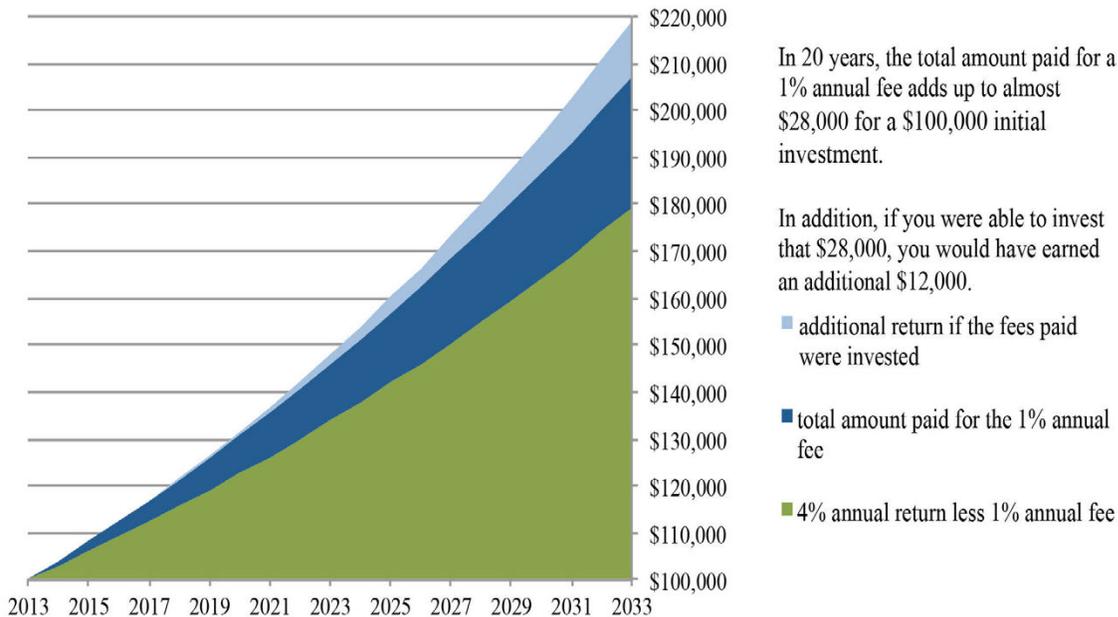
Suppose your 401(k) plan provides you with the same graph, called "Portfolio Value From Investing \$100,000 Over 20 Years":



Based on the information in the box, what should you do to maximize the growth of your savings over 20 years?

- Invest for more than 20 years to avoid annual fees
- Invest for fewer than 20 years to avoid annual fees
- Choose investments with lower annual fees
- Choose investments with higher annual fees
- Don't know

Q15. Suppose your plan provides you with the following graph, called "Illustration of Ongoing Fees Over 20 Years:"



How clear is the information in the box?

- Completely clear
- Very clear
- Moderately clear
- Somewhat clear
- Not at all clear

Q15a. Now please answer a question based on the same information.

Based on this information, which of the following is correct?

- Because of the fees, I have a smaller amount invested that is earning a return
- Because of investment returns, the 1% fee does not impact my account balance
- Because of the fees, I have a larger amount invested that is earning a return
- Don't know

Q16. Suppose you receive the consumer warning advisory below:

Small differences in both investment performance and fees and costs can have a substantial impact on your long term returns.

For example, total annual fees and costs of 2% of your account balance rather than 1% could reduce your final return by up to 20% over a 30 year period (for example reduce it from \$100,000 to \$80,000).

You should consider whether features such as superior investment performance or the provision of better member services justify higher fees and costs.

How clear is the information in the box?

- Completely clear
- Very clear
- Moderately clear
- Somewhat clear
- Not at all clear

Q16a. Now please answer a question based on the same information.

Small differences in both investment performance and fees and costs can have a substantial impact on your long term returns.

For example, total annual fees and costs of 2% of your account balance rather than 1% could reduce your final return by up to 20% over a 30 year period (for example reduce it from \$100,000 to \$80,000).

You should consider whether features such as superior investment performance or the provision of better member services justify higher fees and costs.

Based on this information, which one of the following statements is correct?

- If my account balance is growing, it will decrease because of fees and costs.
- If my account balance is growing, it will not grow as much because of fees and costs.
- Fees and costs can increase my investment performance.
- Don't know

Q17. Suppose your 401(k) plan sends you this information about fees and costs:

Fees and other costs

This section shows fees and other costs that you may be charged. These fees and other costs may be deducted from your money, from the returns on your investment, or from the assets of the retirement plan as a whole.

Other fees, such as activity fees, advice fees for personal advice, and insurance fees may also be charged, but these will depend on the nature of the activity, advice, or insurance chosen by you.

Taxes, insurance fees, and other costs relating to insurance are set out in another part of this document.

Fees and Costs Summary

Your Retirement Plan		
Type of fee or cost	Amount	How and when paid
Ongoing annual fees and costs		
<i>Administration fees and costs</i>	\$	
<i>Investment fees and costs</i>	\$	
<i>Transaction costs (net)</i>	\$	
Member activity related fees and costs		
<i>Buy-sell spread</i>	\$	
<i>Switching fee</i>	\$	
<i>Exit fee</i>	\$	
<i>Other fees and costs</i>	\$	

How clear is the information in the box?

- Completely clear • Very clear • Moderately clear • Somewhat clear • Not at all clear

Q17a. Now please answer a question based on the same information.

Fees and other costs

This section shows fees and other costs that you may be charged. These fees and other costs may be deducted from your money, from the returns on your investment, or from the assets of the retirement plan as a whole.

Other fees, such as activity fees, advice fees for personal advice, and insurance fees may also be charged, but these will depend on the nature of the activity, advice, or insurance chosen by you.

Taxes, insurance fees, and other costs relating to insurance are set out in another part of this document.

Fees and Costs Summary

Your Retirement Plan		
Type of fee or cost	Amount	How and when paid
<i>Ongoing annual fees and costs</i>		
<i>Administration fees and costs</i>	\$	
<i>Investment fees and costs</i>	\$	
<i>Transaction costs (net)</i>	\$	
Member activity related fees and costs		
<i>Buy-sell spread</i>	\$	
<i>Switching fee</i>	\$	
<i>Exit fee</i>	\$	
<i>Other fees and costs</i>	\$	

Based on this information, which of the following is correct?

- This table summarizes all the fees and costs you may pay for your retirement plan
- This table summarizes all ongoing annual fees and costs, but member activity related fees and costs are not shown
- This table summarizes both ongoing annual fees and costs and some member activity related fees and costs, but other costs—such as taxes—are excluded
- Don't know

Q18. Suppose your 401(k) plan sends you this information about fees and costs:

Example of annual fees and costs

This table gives an example of how the ongoing annual fees and costs for [Sample Investment Product] can affect your 401(k) plan savings over a 1 year period. You should use this table to compare this investment option with other investment options.

Example [name of investment product]		Balance of \$50,000 with a contribution of \$5,000 during the year
Investment fees and costs	[\$X]	For every \$50,000 you have in the investment you will be charged or have deducted from your investment \$[X] each year
PLUS Administration fees and costs	[\$X]	And, you will be charged \$[X] in administration fees and costs regardless of your balance
PLUS Transaction costs (net)	[\$X]	And, you will be charged \$[X] in transaction costs (net)
EQUALS Cost of product		If your balance was \$50,000 at the beginning of the year and you put in an additional \$5,000 on the last day of that year, then for that year you will be charged fees of \$[X] for the product.

How clear is the information in the box?

- Completely clear
- Very clear
- Moderately clear
- Somewhat clear
- Not at all clear

Q18a.

Now please answer a question based on the same information.

Example of annual fees and costs

This table gives an example of how the ongoing annual fees and costs for [Sample Investment Product] can affect your 401(k) plan savings over a 1 year period. You should use this table to compare this investment option with other investment options.

Example [name of investment product]		Balance of \$50,000 with a contribution of \$5,000 during the year
Investment fees and costs	[\$ X]	For every \$50,000 you have in the investment you will be charged or have deducted from your investment \$[X] each year
PLUS Administration fees and costs	[\$ X]	And, you will be charged \$[X] in administration fees and costs regardless of your balance
PLUS Transaction costs (net)	[\$ X]	And, you will be charged \$[X] in transaction costs (net)

EQUALS Cost of product	If your balance was \$50,000 at the beginning of the year and you put in an additional \$5,000 on the last day of that year, then for that year you will be charged fees of \$[X] for the product.
------------------------	--

Based on this information, which one of the following statements is correct? Administrative fees and costs and transaction costs:

- increase your balance
- increase the cost of your investment product
- cancel out your investment fees and costs
- Don't know

Part B. 2.

You will now see a set of questions regarding various fees and expenses associated with a 401(k) plan. We'll provide you with some information and ask you to rate its clarity. Then we'll ask you a question based on that same information. You may find some answers difficult to determine. That's okay. If you do not know an answer, please feel free to indicate that you don't know. Some questions require basic calculations, which have been provided.

Q19. Suppose your 401(k) retirement plan sends you a statement with this information:

Plan-wide administrative expenses are expenses for Plan administrative services that are charged to your Plan accounts and which are: (1) not reflected in the total operating expenses of any investment option and (2) not individual expenses. Plan administrative expenses include charges for the Plan's day-to-day operation, such as legal, accounting, recordkeeping, communication, investment advisory services and other administrative expenses associated with maintaining account records, processing investment menu changes, and providing customer service.

As of the date of this notice, the Plan expects to incur the following Plan-wide administrative expenses over the next year:

- Fees for recordkeeping services of approximately \$11.14 per participant per year, paid in four quarterly installments.
- Fees for investment advisory and consulting services of approximately \$0.06 per participant per quarter (\$0.24 per participant per year).

How clear is the information in the box?

- Completely clear • Very clear • Moderately clear • Somewhat clear • Not at all clear

Q19a.

Now please answer a question based on the same information.

Plan-wide administrative expenses are expenses for Plan administrative services that are charged to your Plan accounts and which are: (1) not reflected in the total operating expenses of any investment option and (2) not individual expenses. Plan administrative expenses include charges for the Plan's day-to-day operation, such as legal, accounting, recordkeeping, communication, investment advisory services and other administrative expenses associated with maintaining account records, processing investment menu changes, and providing customer service.

As of the date of this notice, the Plan expects to incur the following Plan-wide administrative expenses over the next year:

- Fees for recordkeeping services of approximately \$11.14 per participant per year, paid in four quarterly installments.
- Fees for investment advisory and consulting services of approximately \$0.06 per participant per quarter (\$0.24 per participant per year).

Based on this information, how much will you pay this year for total administrative expenses—not just for plan-wide administrative expenses? (Calculations in parentheses)

- \$11.14
- \$11.38 (which is \$11.14 + \$0.24)
- Could be more than \$11.38 because of investment options and individual expenses
- Don't know

Q20.

Suppose you take out a loan from your 401(k) plan account. Your 401(k) retirement plan sends you a quarterly statement with this information:

CONTRIBUTIONS AND ACTIVITIES FOR THIS PERIOD

Fees

Loan Initiation Fee -40.00

Recordkeeping Fee -5.00

Total Fees -45.00

Some plan administrative expenses may be covered through indirect revenue received from the annual operating expenses of the investments offered through the plan.

How clear is the information in the table?

- Completely clear • Very clear • Moderately clear • Somewhat clear • Not at all clear

Q20a.

Now please answer a question based on the same information.

CONTRIBUTIONS AND ACTIVITIES FOR THIS PERIOD

Fees

Loan Initiation Fee -40.00

Recordkeeping Fee -5.00

Total Fees -45.00

Some plan administrative expenses may be covered through indirect revenue received from the annual operating expenses of the investments offered through the plan.

Based on this information, which of the following best explains what you pay in fees, including plan administrative expenses, for this period?

- I paid no administrative fees and expenses
- I paid \$45 in administrative fees and expenses
- I paid at least \$45 in administrative fees and expenses, but with the information shown I can't tell exactly how much I paid
- Don't know

Q21.

Suppose you took out a loan for a down payment on a home—a residential loan—from your 401(k) plan account. Your 401(k) retirement plan sends you a statement with this information:

Participant Loan Fees:

○ One-time loan origination fee at the time the loan is taken	\$50
○ Additional fee for review of residential loan paperwork (charged each time paperwork is reviewed)	\$45
○ Fee for rejection of loan payment due to insufficient funds (where paid from individual bank account)	\$25
○ Check Fee (applies to any distribution from the Plan)	\$15 per distribution
○ Overnight Check Service (applies if you request a distribution from the Plan and wish to have the check sent by overnight mail)	\$25 per check

How clear is the information in the box?

- Completely clear
- Very clear
- Moderately clear
- Somewhat clear
- Not at all clear

Q21a.

Now please answer a question based on the same information.

Participant Loan Fees:	
○ One-time loan origination fee at the time the loan is taken	\$50
○ Additional fee for review of residential loan paperwork (charged each time paperwork is reviewed)	\$45
○ Fee for rejection of loan payment due to insufficient funds (where paid from individual bank account)	\$25
○ Check Fee (applies to any distribution from the Plan)	\$15 per distribution
○ Overnight Check Service (applies if you request a distribution from the Plan and wish to have the check sent by overnight mail)	\$25 per check

Based on this information, what were your minimum individual expenses for taking a residential loan from your plan?

- \$15
- \$50
- \$110
- More than \$110
- Don't know

Q22.

Suppose your 401(k) plan sends you a statement with this information about expenses for investment advice and management services:

Professional Management Account Service fees: If you sign up for the Professional Management program with Financial Advisors, LLC , our vendor for investment advice and investment management service for the Plan, you will be charged a fee based on the size of your account:
0.50% per year for the first \$100,000 in your account
0.45% per year for the next \$150,000 in your account
0.30% per year for the amount above \$250,000 in your account
Fees are assessed quarterly. The fee is calculated based on the average amount of assets under management for the calendar quarter and is debited from your account the following quarter.

How clear is the information in the box?

- Completely clear
- Very clear
- Moderately clear
- Somewhat clear
- Not at all clear

Q22a. Now please answer a question based on the same information.

Professional Management Account Service fees: If you sign up for the Professional Management program with Financial Advisors, LLC , our vendor for investment advice and investment management service for the Plan, you will be charged a fee based on the size of your account:

- 0.50% per year for the first \$100,000 in your account
- 0.45% per year for the next \$150,000 in your account
- 0.30% per year for the amount above \$250,000 in your account

Fees are assessed quarterly. The fee is calculated based on the average amount of assets under management for the calendar quarter and is debited from your account the following quarter.

Based on this information, if you use the investment advice and management services program, what will you pay?

- I would pay nothing if there is less than \$100,000 in my account
- I would pay nothing, because fees and expenses are taken out of my investment returns
- My costs would vary depending on my account balance
- My costs would vary depending on my investments
- Don't know

Q23. Suppose your 401(k) plan sends you this same information about your individual expenses for investment advice and management services:

Professional Management Account Service fees: If you sign up for the Professional Management program with Financial Advisors, LLC , our vendor for investment advice and investment management service for the Plan, you will be charged a fee based on the size of your account:

- 0.50% per year for the first \$100,000 in your account
- 0.45% per year for the next \$150,000 in your account
- 0.30% per year for the amount above \$250,000 in your account

Fees are assessed quarterly. The fee is calculated based on the average amount of assets under management for the calendar quarter and is debited from your account the following quarter.

Based on this information, are you required to use investment advice and management services?

- No, but I must opt out of the Professional Management Account Service if I choose not to use it
- No, I can opt in to the Professional Management Account Service, but otherwise I make my own investment choices

- Yes, my account is invested automatically using the Professional Management Account Service
- Don't know

Q24. Suppose your 401(k) plan sends you an account statement with this information:

For certain investment options, the returns reflect subsidies and waivers, without which the results would have been lower than noted. These subsidies and waivers may not continue to remain in effect. Please consult the prospectus for more information.

How clear is the information in the box?

- Completely clear
- Very clear
- Moderately clear
- Somewhat clear
- Not at all clear

Q24a. Now please answer a question based on the same information.

For certain investment options, the returns reflect subsidies and waivers, without which the results would have been lower than noted. These subsidies and waivers may not continue to remain in effect. Please consult the prospectus for more information.

Based on this information, how can subsidies and waivers affect your return?

- They increase my investment return
- They lower my investment return
- They have no effect on my investment return
- Don't know

Q25a. Suppose your 401(k) plan sends you an account statement with this information:

For certain investment options, the returns reflect subsidies and waivers, without which the results would have been lower than noted. These subsidies and waivers may not continue to remain in effect. Please consult the prospectus for more information.

Based on this same information, assuming that your investments' returns currently reflect subsidies and waivers, which of the following is correct?

- Investment returns are not affected by these subsidies and waivers
- Subsidies and waivers are permanent so their effects on investment returns won't change
- Subsidies and waivers may not be permanent so their effects on investments could change

- Don't know

Q26. Suppose your plan provides the following information.

Investment-Related Information										
The following table shows the plan's investment options, including:										
<ol style="list-style-type: none"> 1. General information about the type of investment 2. Fee information, including asset-based fees¹ (often called the expense ratio), plus other stakeholder-type fees or investment restrictions² 3. Historical fund performance and an appropriate benchmark for the same period of time³ 										
Keep in mind, however, that past performance does not guarantee how the investment option will perform in the future. Your investment in these options could lose money. Information about an option's principal risks is available on companypayandbenefits.com . Click on Plan Documents from the resources section of the homepage. Go to Other Retirement Documents and click on Fund Fact Sheets .										
General information			Fee information			Historical performance				
Fund Name/ Benchmark	Investment Manager	Asset Class	Total Asset- Based Fees ¹	Annual Cost per \$1,000 of Investment	Shareholder- Type Fees and Investment Restrictions ²	Average Annual Total Return as of 12/31/2018 (Fund and Benchmark) ³				Fund Inception Date
Target Date Funds						1 yr.	5 yr.	10 yr.	Since Inception	
Target Date Retirement Fund <i>Benchmark: Russell 1000 Index</i> <i>Benchmark: Custom⁴</i>	Financial Company	Pre-mixed	0.16%	\$1.60	N/A	-3.60%	3.10%	6.03%	4.60%	8/1/2005
Target Date 2020 Fund <i>Benchmark: Russell 1000 Index</i> <i>Benchmark: Custom⁴</i>	Financial Company	Pre-mixed	0.16%	\$1.60	N/A	-3.98%	3.23%	6.16%	4.76%	8/1/2005
Target Date 2025 Fund <i>Benchmark: Russell 1000 Index</i> <i>Benchmark: Custom⁴</i>	Financial Company	Pre-mixed	0.16%	\$1.60	N/A	-4.78%	8.21%	13.28%	7.71%	7/5/2006
Target Date 2030 Fund <i>Benchmark: Russell 1000 Index</i> <i>Benchmark: Custom⁴</i>	Financial Company	Pre-mixed	0.16%	\$1.60	N/A	-4.94%	3.78%	7.88%	4.81%	8/1/2005
						-4.78%	8.21%	13.28%	7.71%	8/1/2005
						-5.76%	4.11%	8.61%	5.29%	
						-8.29%	N/A	N/A	4.71%	

¹Total asset-based fees are investment management company fees plus any other plan administrative costs charged to participants provided by the investment management company to cover plan administrative and other costs. Administrative costs make up approximately 0.09% of the total asset-based fee for each fund.

²Shareholder-type fees and investment restrictions outline any fees paid directly from your investment in this option and any restrictions on trading that might exist for a specific investment option.

³In general, 1-year, 5-year, 10-year, and since inception performance is shown. If a full history is not available, simulated returns are shown. Each fund's returns have been reduced by that fund's total asset-based fees. The benchmarks' returns have *not* been reduced by fees.

⁴The custom benchmark is calculated using blended returns of third-party indices that reflect the weightings of the fund's asset classes.

⁵In late 2019, the Target Date 2020 Fund will be merged into the Target Date Retirement Fund. You will receive additional information about the merger closer to its effective date.

How clear is the information in the box?

- Completely clear
- Very clear
- Moderately clear
- Somewhat clear
- Not at all clear

Appendix III: Reproduction of 401(k) Plan Participants Web Survey

Q26a. Now please answer a question based on the same information.

General information			Fee information			Historical performance				
Fund Name/ Benchmark	Investment Manager	Asset Class	Total Asset- Based Fees ¹	Annual Cost per \$1,000 of Investment	Shareholder- Type Fees and Investment Restrictions ²	Average Annual Total Return as of 12/31/2018 (Fund and Benchmark) ³				Fund Inception Date
Target Date Funds						1 yr.	5 yr.	10 yr.	Since Inception	
Target Date Retirement Fund <i>Benchmark: Russell 1000 Index</i> <i>Benchmark: Custom⁴</i>	Financial Company	Pre-mixed	0.16%	\$1.60	N/A	-3.60%	3.10%	6.03%	4.60%	8/1/2005
Target Date 2020 Fund <i>Benchmark: Russell 1000 Index</i> <i>Benchmark: Custom⁴</i>	Financial Company	Pre-mixed	0.16%	\$1.60	N/A	-3.98%	3.46%	7.23%	4.76%	8/1/2005
Target Date 2025 Fund <i>Benchmark: Russell 1000 Index</i> <i>Benchmark: Custom⁴</i>	Financial Company	Pre-mixed	0.16%	\$1.60	N/A	-4.78%	8.21%	13.28%	7.71%	7/5/2006
Target Date 2030 Fund <i>Benchmark: Russell 1000 Index</i> <i>Benchmark: Custom⁴</i>	Financial Company	Pre-mixed	0.16%	N/A \$1.60		-4.94%	3.78%	7.88%	4.81%	
						-4.78%	8.21%	13.28%	7.88%	
						-4.90%	3.85%	7.98%	4.97%	
						-5.75%	4.06%	8.42%	5.13%	
						-4.78%	8.21%	13.28%	7.71%	8/1/2005
						-5.76%	4.11%	8.61%	5.29%	
						-8.29%	N/A	N/A	4.71%	

¹Total asset-based fees are investment management company fees plus any other plan administrative costs charged to participants provided by the investment management company to cover plan administrative and other costs. Administrative costs make up approximately 0.09% of the total asset-based fee for each fund.

²Shareholder-type fees and investment restrictions outline any fees paid directly from your investment in this option and any restrictions on trading that might exist for a specific investment option.

³In general, 1-year, 5-year, 10-year, and since inception performance is shown. If a full history is not available, simulated returns are shown. Each fund's returns have been reduced by that fund's total asset-based fees. The benchmarks' returns have *not* been reduced by fees.

⁴The custom benchmark is calculated using blended returns of third-party indices that reflect the weightings of the fund's asset classes.

⁵In late 2019, the Target Date 2020 Fund will be merged into the Target Date Retirement Fund. You will receive additional information about the merger closer to its effective date.

Based on this information, what is the expense ratio for the Target Date 2025 Fund?

- 0.16%
- 16%

- \$1.60
- It is not shown
- Don't know

Q27. Suppose your 401(k) plan provides you with this information:

The cumulative effect of fees and expenses can substantially reduce the growth of your retirement savings.

How clear is the information in the box?

- Completely clear
- Very clear
- Moderately clear
- Somewhat clear
- Not at all clear

Q27a. Now please answer a question based on the same information.

The cumulative effect of fees and expenses can substantially reduce the growth of your retirement savings.

Based on this information, which of the following is correct?

- If my balance is growing, my savings balance will not be effected by fees and expenses
- If my balance is growing, it will grow less because of fees and expenses
- Fees and expenses can increase my investment performance
- Don't know

Q28. Suppose an investment fund has a \$20 annual fee for balances under \$10,000 and a 0.2% fee on all accounts, as shown in the box.

Starting balance	\$5,000	\$10,000
\$20 fee for small balances	- \$20	
0.2% fee	- \$9.96	- \$20
Ending balance	\$4,970.04	\$9,980

Based on this information, which of the following is correct about how much you would pay in fees?

- You would pay more to invest \$10,000
- You would pay more to invest \$5,000
- You can't determine that with this information
- Don't know

Q29. Suppose your 401(k) plan sends you this information about the value of your account:

Value at the beginning of 2018	(+)	\$16,138
Contributions by you	(+)	\$600
Contribution by your employer	(+)	\$900
Return on your investment	(+)	\$204
Administrative costs	(-)	\$38
Investment and transaction fee	(-)	\$20
Taxes	(-)	\$44
Death coverage premium	(-)	\$30
TOTAL SUM in 2018	(+)	\$1,572
Your account balance on 12/31/2018		\$17,710

How clear is the information in the box?

- Completely clear
- Very clear
- Moderately clear
- Somewhat clear
- Not at all clear

Q29a. Now please answer a question based on the same information.

Value at the beginning of 2018	(+)	\$16,138
Contributions by you	(+)	\$600
Contribution by your employer	(+)	\$900
Return on your investment	(+)	\$204
Administrative costs	(-)	\$38
Investment and transaction fee	(-)	\$20
Taxes	(-)	\$44
Death coverage premium	(-)	\$30
TOTAL SUM in 2018	(+)	\$1,572
Your account balance on 12/31/2018		\$17,710

Based on this information, which of the following is correct?

Math help: total of all deductions (-) is \$132.

- In 2018, your investment return is greater than your total costs
- In 2018, your account balance decreased
- In 2018, you earned a \$600 return on your investment
- Don't know

Q30. Suppose your 401(k) plan sends you this information about the potential costs of your investment:

What are the costs?			
The reduction in yield (RIY) shows what impact the total costs you pay will have on the investment return you might get. The total costs take into account one-off, ongoing and incidental costs. The amounts shown here are the cumulative costs of the product itself, for three different holding periods. The monetary figures shown assume you invest \$10,000 and investments perform in line with a moderate scenario. The figures are estimates and may change in the future.			
Scenarios	If you withdraw your investment after 1 year	If you withdraw your investment after 5 years	If you withdraw your investment at 10 years
Total costs	\$232	\$1,024	\$2,183
Impact on return (RIY) per year	2.26%	1.84%	1.79%

How clear is the information in the box?

- Completely clear
- Very clear
- Moderately clear
- Somewhat clear
- Not at all clear

Q30a. Now please answer a question based on the same information.

What are the costs?			
The reduction in yield (RIY) shows what impact the total costs you pay will have on the investment return you might get. The total costs take into account one-off, ongoing and incidental costs. The amounts shown here are the cumulative costs of the product itself, for three different holding periods. The monetary figures shown assume you invest \$10,000 and investments perform in line with a moderate scenario. The figures are estimates and may change in the future.			
Scenarios	If you withdraw your investment after 1 year	If you withdraw your investment after 5 years	If you withdraw your investment at 10 years
Total costs	\$232	\$1,024	\$2,183
Impact on return (RIY) per year	2.26%	1.84%	1.79%

Based on this information, when should you withdraw your money to optimize your return on this investment?

- After 1 year
- After 5 years
- After 10 years
- Don't know

Part C: Consumer experience and preferences

This part of the survey asks about your opinions, experiences, and preferences related to receiving and using fee information for a 401(k) plan or plans. In this question, “your 401(k) plan” refers to the 401(k) plan(s) provided by your current or former employer in which you currently have money saved. “Your 401(k) plan” does not refer to any 401(k) plans provided by your spouse’s employer, and it does not refer to savings in other types of retirement accounts.

Q30b. Financial service companies that manage 401(k) plans charge fees for administering and managing those plans. The fees are paid by the employer and/or the employees that participate in the plan. Often, the company that manages the 401(k) plan simply deducts the fees from each participants’ 401(k) plan balance, so you rarely receive a bill for the fees.

In general, do you know about how much in fees you are paying for your 401(k) plan(s)?

- Yes
- No
- Not applicable, I do not pay fees

Q31. A 401(k) plan disclosure might encourage you to locate and review additional, detailed investment documents—the prospectus or summary prospectus for the investment options in the plan—to learn more information about the investments than is provided in the disclosure itself. Such as this statement:

For more complete information on the investment options that are mutual funds, including their management fees and other charges and expenses, please consult the prospectuses and other comparable documents. Investors should consider the investment objectives, risks, charges and expenses of investment options carefully before investing. This, and additional information about the investment options, can be found in the prospectuses and, if available, the summary prospectuses which can be obtained on SeeMyBenefits at www.benefits.company.com or by calling Company Name at 800.866.401K. Investors should read the prospectuses and, if available, the summary prospectuses carefully before investing.

Based on this information, how likely are you to obtain and review additional, detailed investment documents outside what is provided in your plan documents?

- Extremely likely
- Very likely
- Moderately likely
- Slightly likely
- Not at all likely

Q32. How many additional, detailed investment documents would you be likely to obtain and review?

- 1
- 2-3
- 4-6
- More than 6

Q33. Why would you obtain and review additional, detailed investment documents?
(Choose all that apply)

- To compare investment options, before making my selection
- To learn more about my investment options after I've selected them
- Because the plan documents encouraged me to
- Other reason
- Not sure

Q34. Would you be more likely to obtain and review additional, detailed investment documents if you were also told that they described fees and expenses that could reduce the growth of your savings over time?

- Yes
- No
- Don't know

Q35. Suppose that you read this statement in the middle of a document with other information about your 401(k) plan:

"The cumulative effect of fees and expenses can substantially reduce the growth of your retirement savings. Visit the Department of Labor's Web site for an example showing the long-term effect of fees and expenses at https://www.dol.gov/ebsa/publications/401k_employee.html."

Based on the information, which one of the following would you do?

- I would open the link right away
- I would open the link later
- I would not open the link later

Q36. Under what conditions would you open it right away?
(Choose all that apply)

- If I'm already reading online and there's a hyperlink
- If I'm already reading online, even if I have to manually copy and paste the link into a web browser

-
- If I'm reading a paper copy and have to use a device to type the link into a web browser

Q37. Which of the following are reasons you would not open the link?
(Choose all that apply)

- I do not feel this is a priority
- I do not have time
- I do not want to read more
- I do not have enough interest
- I do not know how to access the link
- Other

Q38. When would it be helpful to receive plan-related information about administrative fees and expenses (including recordkeeping expenses) and individual fees and expenses (including loan fees)?
(Choose all that apply)

- When I start a job and am considering whether to participate in the plan
- When I open a 401(k) plan account and consider how to invest in it
- When I consider rolling over savings from another employer plan or IRA into the 401(k) plan
- When I change my contribution level
- When I compare investment options available to me
- When I leave my job, to compare my plan to options available in another employer's plan or IRA.
- None of these times
- Other
- Don't know

Q39. When would it be helpful to receive investment-related information about fees and expenses (including an expense ratio)?
(Choose all that apply)

- When I start a job and am considering whether to participate in the plan
- When I open a 401(k) plan account and consider how to invest in it
- When I consider rolling over savings from another employer plan or IRA into the 401(k) plan
- When I change my contribution level
- When I compare investment options available to me
- When I leave my job, to compare my plan to options available in another employer's plan or IRA.
- None of these times
- Other
- Don't know

Q39b. How often would you like to receive information about investment fees for the purpose of comparing investment options?

- Every 3 months
- Every year
- Other

Q40. How do you prefer to receive information about your 401(k) plan's fees?
(Choose all that apply)

- By phone
- Paper materials sent by mail
- Online
- By email
- In-person, group information setting
- In-person, one-on-one counseling
- Other – describe:

Q41.

Suppose you see the following illustration about retirement savings. The large number in bold is the Account Balance.

Here we presented three color screenshots. The first image shows a projected balance of \$227,000 assuming a 7.0% return and a 0.5% fee, the next image shows a lower projected balance of \$163,000 assuming a 7.0% return and a 1.5% fee. In each image, a growing green segment on the graph is accompanied by a smaller, red segment showing the potential savings lost to fees. The last image summarizes, in bold and all caps: "1% DIFFERENCE IN FEES REDUCES YOUR ACCOUNT BALANCE BY 28 PERCENT." We omit the image here due to copyright protection.

Based on this information, how likely are you to research your investment fees and compare them to other investments?

- Extremely likely
 - Very likely
 - Moderately likely
 - Slightly likely
 - Not at all likely
-

Q42. In a disclosure from your 401(k) plan, would you rather see the total investment fees that you paid that year, see the fees you paid per \$1,000 in your account that year, or see both?

- Just the actual dollar amount of the fees that I paid
- Just the amount of the fees that I paid for every \$1,000 in my account
- Both the actual dollar amount and the amount for every \$1,000 in my account
- Don't know

Appendix IV: Comments from the Department of Labor

U.S. Department of Labor

Assistant Secretary for
Employee Benefits Security Administration
Washington, DC 20210



Tranchau (Kris) Nguyen
Director, Education, Workforce, and Income Security
United States Government Accountability Office
Washington, DC 20548

Dear Ms. Nguyen:

Thank you for the opportunity to review the Government Accountability Office (GAO) draft report entitled "401(k) Retirement Plan: Many Participants Do Not Understand Fee Information, but DOL Could Take Additional Steps to Help Them" (GAO-21-357). The draft report contains five recommendations for the Department of Labor (Department):

- Recommendation 1: The Assistant Secretary of the Employment Benefits Security Administration should require, in a manner deemed effective, that fee disclosures for participant-directed individual retirement accounts use a consistent term and measure for asset-based investment fees (e.g. gross expense ratio).
- Recommendation 2: The Assistant Secretary of the Employee Benefits Security Administration should require, in a manner deemed effective, that quarterly fee disclosures for participant-directed individual retirement accounts provide participants the actual cost of asset-based investment fees paid.
- Recommendation 3: The Assistant Secretary of the Employee Benefits Security Administration should take steps to provide participants important information concerning the cumulative effect of fees on savings over time. For example, steps could include ensuring disclosures cite a working specific DOL web address for where such information is shown and requiring that fee disclosures include the agency's graphic illustration on the cumulative effect of fees.
- Recommendation 4: The Assistant Secretary of the Employee Benefits Security Administration should require, in a manner deemed effective, that participant fee disclosures for participant-directed individual retirement accounts include fee benchmarks for in-plan investment options.
- Recommendation 5: The Assistant Secretary of the Employee Benefits Security Administration should require, in a manner deemed effective, that participant fee disclosures for participant-directed individual retirement accounts include ticker information for in-plan investment options, when available.

In 2010, after a rigorous multi-year rulemaking initiative with commentary from a diverse group of stakeholders, the Department of Labor's Employee Benefits Security Administration (EBSA) published a final rule with a goal of helping America's workers manage and invest the money they contribute to their 401(k)-type pension plans. The rule was intended to ensure: (1) that workers in these plans are

1

**Appendix IV: Comments from the Department
of Labor**

given, or have access to, the information they need to make informed decisions, including information about fees and expenses; (2) that the delivery of investment-related information is in a format that enables workers to meaningfully compare the investment options under their pension plans; (3) that plan fiduciaries use standard methodologies when calculating and disclosing expense and return information so as to achieve uniformity across the spectrum of investments that exist among and within plans, thus facilitating “apples-to-apples” comparisons among their plan’s investment options; and (4) that participant disclosures meet a new level of fee and expense transparency. See 29 CFR 2550.404a-5; 75 FR 64910 (Oct. 20, 2010).

That rule, and other EBSA initiatives, evidence our shared interest in fee transparency and in ensuring that ERISA plan participants are effectively informed about the costs of participating in and saving for retirement through their employer-sponsored plan, including cost and performance information of designated investment alternatives under the plan. For example, we have endeavored in recent years to obtain input from a broad set of stakeholders on changes that EBSA could make to enhance participants’ disclosure experiences and financial literacy. A series of Requests for Information were published in the 2010 to 2014 timeframe that explored how to improve participant disclosures, both in general and to take advantage of technological advances. Those efforts also focused on steps we could take to improve participants’ understanding of financial concepts and potential costs associated with a variety of common investment options in defined contribution plans, including target date funds, annuity products and features which offer lifetime income and other guarantees; and brokerage windows. See Request for Information Regarding Lifetime Income Options for Participants and Beneficiaries in Retirement Plans, 75 FR 5253, (Feb 2, 2010); Target Date Disclosure, 75 FR 73987 (Nov. 30, 2010); Request for Information Regarding Electronic Disclosure by Employee Benefit Plans, 76 FR 19285 (April 7, 2011); Request for Information Regarding Standards for Brokerage Windows in Participant-Directed Individual Account Plans, 79 FR 49469 (Aug 21, 2014). In addition, more recently EBSA issued a Request for Information soliciting information, data, and ideas on measures the Department could take to improve the effectiveness of ERISA disclosures more generally, especially with respect to design, content, and delivery of disclosures under required under title I of ERISA. See 84 FR 56894, 08 (Oct. 23, 2019).

We also published a proposal in 2016 to improve employee benefit plan Form 5500 reporting by modernizing financial information filed regarding plans; updating fee and expense information on plan service providers, and enhancing mine-ability of investment and other data filed on annual return/reports. See Proposed Revision of Annual Information Return/Report, 81 FR 47534 (July 21, 2016). Data usability and availability in particular fosters third party data collection and evaluation efforts that in turn help protect and inform retirement plan participants. Although that proposal was published under the Obama Administration and not finalized by the Trump Administration, another set of efforts to improve the Form 5500 was just added to the Department’s semi-annual regulatory agenda. See www.reginfo.gov.

Your study demonstrates and reinforces the complexities that we have faced, and continue to face, in trying to help pension plan participants understand the fees and costs they pay, directly or indirectly, to participate in employer-sponsored retirement plans. Plan and investment fee information can be quite complicated, even for financially sophisticated investors. The EBSA Advisory Council, in a 2017 report, observed the challenge inherent in providing effective and valuable communication to a diverse population of plan participants – some of whom read disclosures in detail, some who struggle to understand what they read, and some who ignore plan communications altogether. Additional

**Appendix IV: Comments from the Department
of Labor**

information, in and of itself, is not certain to make a measurable difference. For that reason, as the Department moves forward with any new disclosure or reporting requirements, it expects to pay careful attention to the likelihood that the disclosures will improve participant decision-making and retirement savings' outcomes.

With all the considerations above in mind, we note that your recommendations pose significant technical and feasibility challenges, which may limit the efficacy of the disclosures. Implementation of the recommendations would also require the Department to undertake a lengthy, resource-intensive, and demanding notice and comment rulemaking process. Such a major rulemaking initiative would necessarily require the Department to forego other regulatory initiatives, including other disclosure and reporting initiatives that may be important to plans and plan participants. Before undertaking such a demanding project, we would have to carefully consider other EBSA regulatory priorities and the limits of EBSA's resources, as well as the likelihood that the project would appreciably change retirement investor understanding and outcomes.

We appreciate the study you conducted, which certainly will educate our ongoing efforts in this area. Although we are not prepared at this point to commit to pursuing the individual recommendations in your report, as we continue to evaluate the specific information furnished to ERISA retirement plan participants, as well as the format and fashion of delivery, we will engage with stakeholders for their input on your study and will carefully consider each of your recommendations with a focus on the potential practical impact of mandating such disclosures.

Sincerely,

ALI KHAWAR Digitally signed by ALI KHAWAR
Date: 2021.07.06 10:03:44 -0400

Ali Khawar
Acting Assistant Secretary

Appendix V: GAO Contact and Acknowledgments

GAO Contact

Tranchau (Kris) T. Nguyen, Director, (202) 512-7215 or nguyentt@gao.gov

Acknowledgments

In addition to the contact named above, Tamara Cross (Assistant Director), Angie Jacobs (Analyst-in-Charge), Colette Alexander, Jeffrey G. Miller, Jeanine Navarrete, and Elizabeth Poulsen made key contributions to this report. Also contributing to the report were James Ashley, Rachel Beers, James Bennett, Michael Clements, Danielle Curet, Holly Dye, Jennifer Gregory, Carl Ramirez, Monica Savoy, Amrita Sen, Adam Wendel, and Christopher Zbrozek.

Related GAO Products

401(k) Plans: Labor and IRS Could Improve the Rollover Process for Participants. [GAO-13-30](#). Washington, D.C.: March 7, 2013.

401(k) Plans: Increased Educational Outreach and Broader Oversight May Help Reduce Plan Fees. [GAO-12-325](#). Washington, D.C.: April 24, 2012.

Highlights of a Forum on Financial Literacy: Strengthening Partnerships in Challenging Times. [GAO-12-299SP](#). Washington, D.C.: February 2012.

Private Pensions: Changes Needed to Provide 401(k) Plan Participants and the Department of Labor Better Information on Fees. [GAO-07-21](#). Washington, D.C.: November 16, 2006.

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