



Item 9

DATE: December 9, 2020

TO: Deferred Compensation Management Council

FROM: Brent Petty, NWCM, Inc.

SUBJECT: Third Quarter Investment Performance Report (Executive Summary)

Capital Markets

Name	YTD (10/31/2020)	Q3 2020	1-Year (10/31/2020)
S&P 500 TR USD	2.77	8.93	9.71
S&P MidCap 400 TR	-6.63	4.77	-1.15
S&P SmallCap 600 TR USD	-13.06	3.17	-7.72
MSCI EAFE NR USD	-10.80	4.80	-6.86
MSCI EM NR USD	0.87	9.56	8.25
BBgBarc US Agg Bond TR USD	6.32	0.62	6.19

	10/29/2020	6/30/2020	10/31/2019
10-Year Treasury Yield	0.85%	0.66%	1.69%

Third Quarter (Complete Quarterly Investment Report is provided as **Exhibit A**)

The third quarter was characterized by a remarkable lack of volatility, despite a constant barrage of news and uncertainty. U.S. equities (S&P 500) gained 8.5% in the third quarter, spurred on by continued economic recovery and vaccine development progress. The positive returns have largely been driven by the Big Five tech stocks (Microsoft, Amazon, Apple, Google, and Facebook). These five companies climbed 33% through August and represented 26% of the benchmark, while the remaining 495 stocks in the S&P 500 lost 5%. The strength of the U.S. market relative to international equities was primarily due to the dominance of large cap technology stock. During the third quarter value underperformed growth, while small cap underperformed large cap. Although we may be observing the start of a rotation, which would potentially be a healthy development for market breadth and active management. As we head into the end of the year, uncertainty remains surrounding the pandemic, potential government stimulus, and the upcoming election.

- **U.S. Equities** delivered nearly 9% for the quarter, despite a 6.5% decline in September. Consumer cyclicals, basic materials, and technology sectors all returned over 10%, while energy declined 18%. The benchmark finished the quarter ahead 4.13% year-to-date.

- **International Equities** delivered positive returns for the quarter but underperformed U.S. Equities. The decline of the U.S. dollar proved beneficial to international markets. It was a positive quarter for emerging markets, which posted strong gains. However, overall performance year-to-date remains negative.
- **Fixed Income** continued to rebound this quarter amid fiscal and Fed support and continued economic progress. As spending and employment numbers improved, investors have displayed an increased appetite for risk. High yield rates declined to 6.08% and generated a 4.7% return for the third quarter while emerging market debt gained 2.39%. Three-month Treasury bill yields declined, while 10-and 30-year treasury bond rates rose.

Economic Factors

- Consensus for third quarter GDP came in above expectations at 21%, following a record setting decline in annualized GDP for the second quarter. The expansion is largely based on the increase in consumer spending and the recovery seen in many industries. Despite the strong forecast, air travel remains weak, and hospitality and leisure continue to be negatively impacted by the pandemic. The estimates for the year's GDP have improved to -3%. **Update:** GDP is now estimated to have accelerated at a 33.1% annualized pace in the third quarter, according to the advance estimate released by the Bureau of Economic Analysis on 10/29/2020.
- U.S. unemployment rates declined to 7.9% for September, down from a peak of 14.7% in April. Roughly half of the 21 million jobs that have been lost during the pandemic have now been recovered, but employment gains continue to slow.
- Total CPI saw a 1.3% rise for the 12-month period ending August. The index for all items, excluding food and energy, rose 1.7%. The Fed announced a policy change in August, stating that it would now seek to maintain a long-term average inflation rate of 2%, allowing inflation to rise moderately above 2% without requiring corrective action.

Investments

All investment options are compliant with the County's investment policy performance criteria.

- An updated fund watch report has been included as **Exhibit B**.
- A comprehensive review of the Great-West Target Date Suite has been included as **Exhibit C**.

Recommended Actions

1. **Approve adding the Great-West Lifetime 2060 Trust Fund to the Plan Investment Lineup.**

Item 9 - Exhibit A



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Market Overview

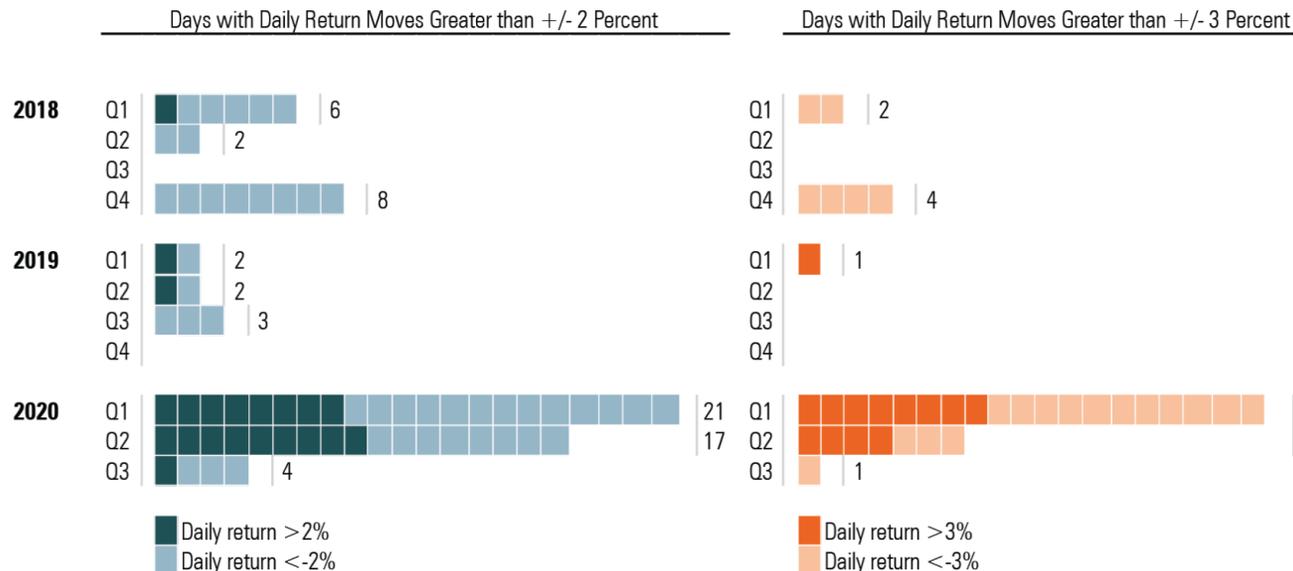
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Making Our Way Back...

S&P 500 Volatility: Daily Moves by Quarter



Perhaps the most surprising aspect to the past three months is the lack of volatility. Considering the constant barrage of news it was quite calm compared to the first two quarters, as the chart above shows. With the continued economic recovery and the hope for a vaccine, U.S. equities (S&P 500) gained 8.5% in the third quarter. The index topped out at a 15.5% on September 2 on the strength of the Big Five (Microsoft, Amazon, Apple, Google, and Facebook). Those companies climbed 33% through August and represented 26% of the benchmark and carried a P/E ratio of 32 at that point, while the remaining 495 stocks lost 5%. For comparison, at the peak of the Tech Bubble, the top five were 18% of the benchmark with a P/E of 60. From the September peak, the five market leaders lost an average of 13% while the index, as a whole, lost 6.5%. The U.S. market's strength relative to international equities was primarily the result of our dominance in large tech. Investors are starting to rotate to other U.S. companies, though the third quarter as a whole was one of growth besting value and large cap outperforming small cap. This rotation tends to bode well for market breadth and active management.

There remain many risks to the US economy and markets in the coming months.

The pandemic: The U.S. response to COVID-19 to date has been far less effective than most other countries. This unwelcomed shortfall in the U.S. response is mitigated to by several promising vaccine trials

Government support: There has been no fiscal package since April 2020. A House-passed \$2.2 trillion bill was only met with a \$300 billion Senate proposal. The Fed is advocating for a fiscal response to mitigate the risk of the economy falling back into recession. Negotiations continue, but there may not be any results until after the election. State and local government budgets are especially strained.

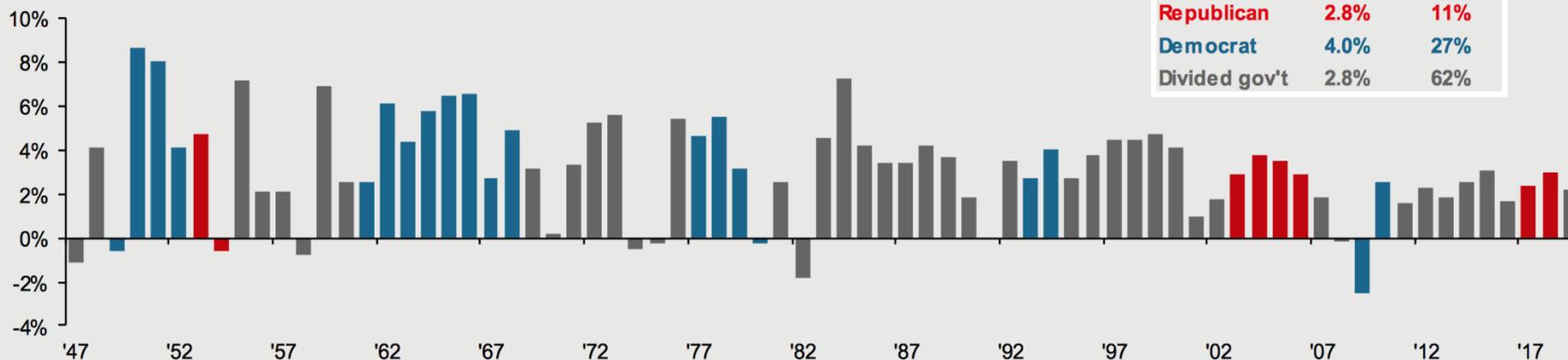
The election: The market and businesses loath uncertainty and the Presidential race may end up being the nastiest and most contested in over 100 years. The market is likely to plod on. Goldman Sachs concludes that an expected \$2 trillion COVID-19 relief package outweighs the negative impact of the proposed corporate tax increases.

Continued Improvement

Government Control and the Economy 1947-2019

Real GDP

Year-over-year % change, annual



GDP: After revisions, the U.S. GDP for the second quarter was a record setting -31.9%, annualized, the worst result in the country's history. Economists' consensus for the just-completed third quarter is a stunning 21%, driven primarily by an increase in consumer spending. Goldman Sachs is even more optimistic, estimating a 35% result. Although many industries are recovering, air travel remains weak, and hospitality and leisure continue to be negatively impacted by quarantines and social distancing. Estimates for the year's GDP have improved to -3%, well above the 6.5% contraction expected only a few months ago.

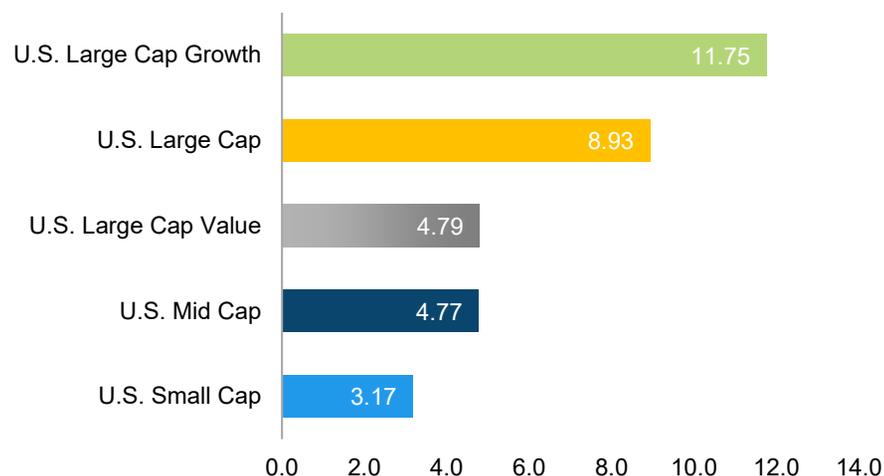
Labor Market: After ending the second quarter with 11.9% unemployment, the U.S. rate steadily continued to decline, settling at 7.9% for September. Of the nearly 21 million people who lost jobs during the COVID-19 recession to date, 10 million have been recalled to work.

Inflation: Total prices as measured by CPI increased 0.4% for August after rising 0.6% in July. Core CPI, which excludes food and energy costs, was identical. For the past 12 months total CPI increased 1.3%, but excluding food and energy raised it to 1.7%. The decline in energy costs in the past year is primarily responsible for this difference. At the end of August, the Federal Reserve announced that rather than trying to target a 2% inflation rate going forward, they would instead seek to maintain a long-term average inflation rate of 2%, allowing prices to increase above this threshold without taking corrective action.

Markets at a Glance

U.S. Equity Quarterly Performance

% Total Return USD

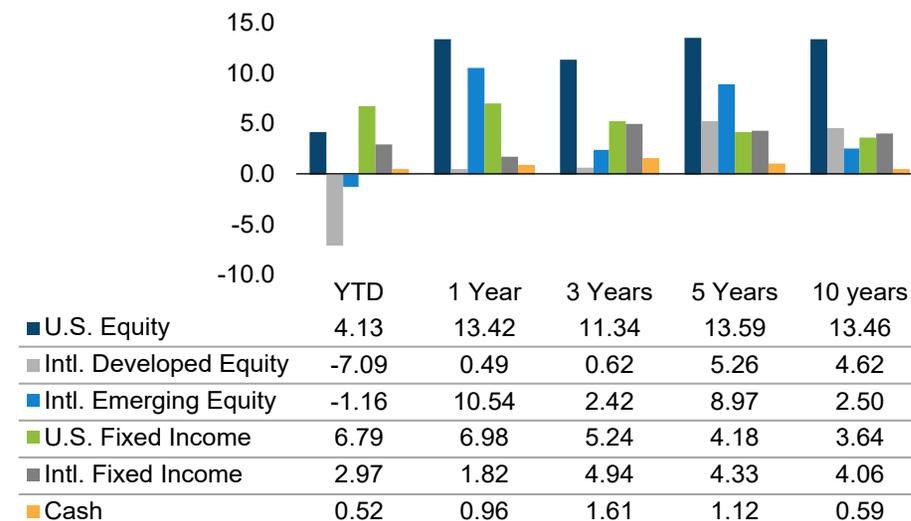


U.S. Equities: In the third quarter, large cap equities (S&P 500) tacked on another 8.9% to the 20.5% second quarter result. Even with a 6.5% decline in September, the benchmark finished ahead 4.13% for the year-to-date period. Consumer cyclicals, basic materials, and technology sectors all returned over 10%, while energy declined 18%.

International Equities: MSCI EAFE Index gained 4.8% in the third quarter, lagging U.S. equities. The declining U.S. dollar was the largest contributor to results. Performance for the year-to-date period, at -7.09%, remain well behind. MSCI Emerging Markets Index, with a 40% allocation to China, gained 9.56% in the third quarter, narrowing the year-to-date loss to just 1.16%. Emerging market countries have not experienced the same fiscal woes in 2020 that pummeled their equities in 2008.

Trailing Returns

% Total Return USD



Fixed Income: With the benefit of second quarter's fiscal and Fed support, the U.S. economy continued to rebound. Spending and employment improved and increased investors' risk appetite further. High yield rates declined to 6.08% and generated a 4.7% return for the third quarter while emerging market debt gained 2.39%. Three-month Treasury bill yields declined by a basis point, but the 10- and 30-year treasury bond rates rose by 22 and 4 basis points, respectively.

Plan Legislative and Regulatory Update

Follow-up to SECURE Act looks to Gain Bi-Partisan Support

Two head lawmakers in the House Ways and Means Committee, Richard Neal, D-Mass., and Kevin Brady, R-Texas, looked to advance legislation when Congress reconvened in September, which would serve as a follow up to the SECURE Act.¹ The 2019 SECURE Act was passed and signed into law by President Trump in December 2019, having been included in a spending omnibus bill. The aim of any future proposed legislation would be incentivizing Americans to save more for retirement and aiding taxpayers in setbacks related to COVID-19. Potential provisions include the following:

- Suspending 2019 RMDs, which was part of the House-passed HEROES Act
- Increasing the age threshold to 75 for required minimum distributions from IRAs
- Resolving partisan disputes, including the Butch Lewis Act, which would provide loans to troubled multiemployer pension funds
- Increasing catch-up contributions to \$10,000 a year
- Building on a CARES Act provision allowing coronavirus-related distributions of up to \$100,000 from an IRA or retirement plan in 2020 to be treated as loans
- Proposing a refundable version of the saver's credit aimed at low-income taxpayers

Lawmakers from both sides believe there is a desire to move forward with a retirement savings tax package on its own or as part of another bill such as an omnibus spending measure.

Q4 2020 Compliance Calendar

November 20th – Recommended distribution of annual notices to participants. Off-calendar plans, notice distribution 45 days before plan year end.

December 1st – Deadline for sending annual 401(k) notices to participants: Safe Harbor notice, Qualified Default Investment Alternative (QDIA) notice, Automatic Contribution Arrangement (ACA) notice

December 15th – Summary Annual Report (SAR) deadline for extended 5500 filing.

December 31st – Deadline for:

- eligible participants to receive Required Minimum Distribution (RMD) for the current year
- processing corrective distributions for failed ADP/ACP test for previous year with 10% excise tax
- correcting a failed ADP/ACP test for previous year with qualified nonelective contributions (QNEC)
- amendment to convert existing 401(k) plan to safe harbor design or remove safe harbor design for next plan year
- amending plan for discretionary changes implemented during plan year (certain exceptions apply, e.g. adding salary deferrals, cutting back accrued benefits)

IRS Provides Safe Harbor Relief

On June 29th, the Internal Revenue Service (IRS) provided temporary relief for safe harbor plans with Notice 2020-52.² The Notice allows employers to reduce contributions during 2020 to their safe harbor 401(k) or 403(b) plan due to the ongoing COVID-19 pandemic. The IRS specifies the following:

- Employers can amend their plan to reduce contributions only on behalf of HCEs without losing safe harbor status.
- Employers can make a mid-year amendment to reduce or suspend safe harbor contributions to NHCEs regardless of whether employer is suffering an economic loss or has provided notice.

Proposal for Est. Monthly Income

The U.S. Department of Labor (DOL) issued an interim rule in August, which requires defined contribution plans to provide lifetime income annuity illustrations to participants. The once-per-year statements are mandated to show what a participant's account balance would be worth if converted into a monthly income amount, both on a single life and QJSA basis. The rule will be in effect August 18, 2021 and does not require plans to offer annuity products.³

Senators Propose AMORE Act

Legislation was introduced in July by a group of Republican senators led by Ted Cruz, R-Texas. The proposed law, titled "Addressing Missed-savings Opportunities for Retirement due to an Epidemic Act" (AMORE Act), would allow retirement plan participants to make 'catch-up' contributions in 2021 and 2022 equal to the difference between the participant's actual contributions and the federal limits on the accounts during 2020. It is unknown if the bill will go to a vote in the Senate.⁴

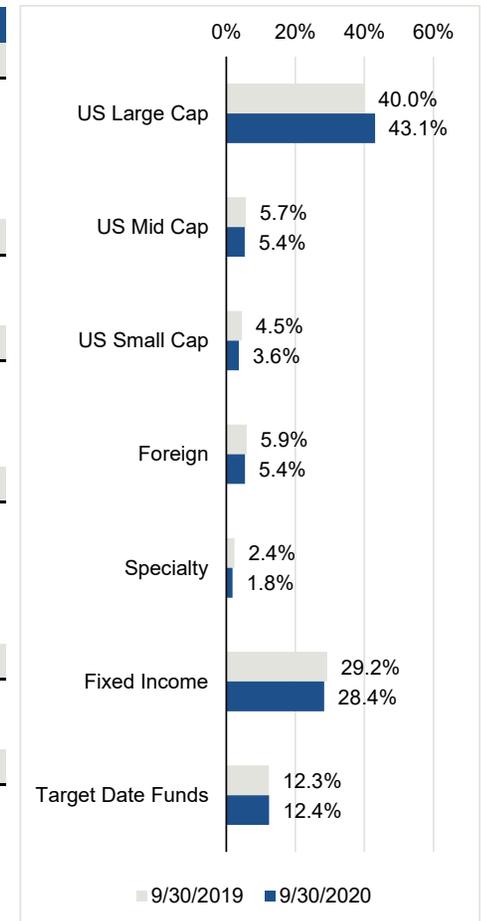


County of Fresno 457 DC Plan

Summary of Assets

As of 09/30/2020

Asset Class	Ticker	%	9/30/2019	Net Increases/Decreases	9/30/2020	%
US Large Cap		40.03%	\$105,580,052	\$20,848,208	\$126,428,260	43.05%
BlackRock Equity Index - Collective M	02cff1	18.09%	\$47,708,179	\$4,504,247	\$52,212,426	17.78%
Alger Spectra Y	aspyx	0.00%	\$0	\$59,263,492	\$59,263,492	20.18%
Alger Spectra Z	aspzx	16.48%	\$43,462,878	(\$43,462,878)	\$0	0.00%
Columbia Dividend Income Inst3	cddyx	5.46%	\$14,408,994	\$543,348	\$14,952,342	5.09%
US Mid Cap		5.69%	\$14,996,170	\$751,663	\$15,747,832	5.36%
BlackRock MidCap Idx - Collective M	03cff2	3.38%	\$8,920,359	(\$437,943)	\$8,482,416	2.89%
T. Rowe Price Mid-Cap Growth I	rptix	2.30%	\$6,075,811	\$1,189,605	\$7,265,417	2.47%
US Small Cap		4.52%	\$11,911,440	-\$1,269,535	\$10,641,905	3.62%
BlackRock Russell 2000 Index Coll M	03cff3	1.57%	\$4,128,099	(\$445,098)	\$3,683,001	1.25%
Nicholas Limited Edition I	nclex	2.35%	\$6,197,061	(\$390,049)	\$5,807,011	1.98%
Janus Henderson Small Cap Value N	jdsnx	0.60%	\$1,586,281	(\$434,389)	\$1,151,893	0.39%
Foreign		5.88%	\$15,513,949	\$280,023	\$15,793,972	5.38%
T. Rowe Price Overseas Stock I	troix	0.00%	\$0	\$9,987,894	\$9,987,894	3.40%
BlackRock EAFE Equity Index Coll T	10cff5	1.49%	\$3,919,132	(\$524,391)	\$3,394,742	1.16%
Ivy International Core Equity N	iincx	3.57%	\$9,420,950	(\$9,420,950)	\$0	0.00%
Invesco Developing Mkts R6	odvix	0.82%	\$2,173,867	\$237,469	\$2,411,336	0.82%
Specialty		2.38%	\$6,280,154	-\$868,687	\$5,411,467	1.84%
Fidelity Advisor Real Estate Income I	frirx	0.75%	\$1,982,889	(\$156,101)	\$1,826,788	0.62%
Franklin Utilities R6	fufrx	1.63%	\$4,297,265	(\$712,587)	\$3,584,678	1.22%
Fixed Income		29.22%	\$77,084,382	\$6,193,434	\$83,277,816	28.36%
BlackRock US Debt Index Fund Coll W	04cff4	1.91%	\$5,048,646	\$1,656,880	\$6,705,526	2.28%
Templeton Global Bond R6	fbnrx	0.77%	\$2,028,376	(\$2,028,376)	\$0	0.00%
Metropolitan West Total Return Bd Plan	mwtss	1.88%	\$4,964,349	\$1,430,179	\$6,394,528	2.18%
Vanguard Total Intl Bd Idx Admiral	vtabx	0.00%	\$0	\$2,482,405	\$2,482,405	0.85%
Fresno County Stable Value	fressv	24.66%	\$65,043,012	\$2,652,345	\$67,695,357	23.05%
Target Date Funds		12.29%	\$32,408,917	\$3,948,259	\$36,357,176	12.38%
Great-West Lifetime 2015 Trust	grwl15	1.62%	\$4,274,871	\$40,503	\$4,315,374	1.47%
Great-West Lifetime 2020 Trust	grwl20	0.00%	\$0	\$186,303	\$186,303	0.06%
Great-West Lifetime 2025 Trust	grwl25	4.23%	\$11,151,571	\$30,006	\$11,181,577	3.81%
Great-West Lifetime 2030 Trust	grwl30	0.13%	\$352,942	(\$224,080)	\$128,862	0.04%
Great-West Lifetime 2035 Trust	grwl35	2.54%	\$6,699,297	\$1,077,787	\$7,777,084	2.65%
Great-West Lifetime 2040 Trust	grwl40	0.00%	\$9,998	\$7,045	\$17,043	0.01%
Great-West Lifetime 2045 Trust	grwl45	2.39%	\$6,302,694	\$1,338,032	\$7,640,726	2.60%
Great-West Lifetime 2050 Trust	grwl50	0.00%	\$9,998	\$45,842	\$55,840	0.02%
Great-West Lifetime 2055 Trust	grwl55	1.37%	\$3,607,546	\$1,446,822	\$5,054,368	1.72%
Total		100%	\$263,775,065	\$29,883,364	\$293,658,428	100%



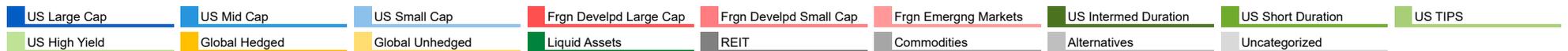
County of Fresno 457 DC Plan

Investment Summary

As of 9/30/2020

Target-Date Funds

Style	Investment	Ticker	Equities						Fixed Income						Liquid	Other				Exp	Qtr	YTD	1 Yr	2 Yr	3 Yr	4 Yr	5 Yr	10 Yr
			US			Foreign			US			Foreign				R	C	A	U									
			L	M	S	L	S	E	I	S	T	Y	H	U														
Target Date	Great-West Lifetime 2015 Trust	GRWL15	17	8	4	10	3	20	8	13	5	5		4	3					0.40	4.10	4.49	8.13	6.71	6.24	6.87	7.46	
Target Date	Great-West Lifetime 2020 Trust	GRWL20	19	8	5	12	4	21	6	9	5	5		3	3					0.40	4.37	3.52	7.54	6.38	6.28	7.15		
Target Date	Great-West Lifetime 2025 Trust	GRWL25	22	9	6	14	5	19	5	6	5	4		2	3					0.40	4.76	3.79	8.51	6.63	6.74	7.90	8.58	
Target Date	Great-West Lifetime 2030 Trust	GRWL30	25	11	7	17	6	16	3	4	4	3		1	3					0.41	5.25	2.59	8.05	6.13	6.56	8.21		
Target Date	Great-West Lifetime 2035 Trust	GRWL35	29	12	8	21	7	11	1	2	2	2		1	4					0.41	5.85	2.22	8.58	6.04	7.14	9.08	9.81	
Target Date	Great-West Lifetime 2040 Trust	GRWL40	30	13	10	23	9	8	1		2	1			3					0.41	6.36	1.20	8.25	5.52	6.71	9.01		
Target Date	Great-West Lifetime 2045 Trust	GRWL45	31	13	10	24	10	6			1	1			4					0.41	6.60	0.66	8.10	5.24	6.97	9.36	10.15	
Target Date	Great-West Lifetime 2050 Trust	GRWL50	30	13	11	25	10	5			1	1			4					0.41	6.71	0.39	7.92	5.12	6.44	8.97		
Target Date	Great-West Lifetime 2055 Trust	GRWL55	29	13	11	25	11	5			1	1			4					0.42	6.73	0.00	7.64	4.87	6.67	9.15	10.01	



CALCULATION METHODOLOGY OF OVERALL FUND 1 (Worst) — 10 (Best)

Factor	Weight	Explanation	Score Calculation		
<p>RETURNS</p> <p>Summary compliance report shows the average peer group quartile rank for all time periods (no credit for bottom quartile performance)</p>	 <p>40% Overall</p>	<p>Absolute Returns</p> <p>Peer Group Percentile Rankings: 3,5,10 Year Periods</p>	<p>Proportional Score Ranks in the top 75% of Peer Group</p>	<p>No Score Ranks in the bottom 25% of Peer Group</p>	
<p>RISK ADJUSTED RETURNS</p> <p>Summary compliance report shows the average peer group quartile rank for all time periods (no credit for bottom quartile performance)</p>	 <p>20% Overall</p>	<p>Sharpe Ratio</p> <p>Peer Group Percentile Rankings: 3,5,10 Year Periods</p>	<p>Proportional Score Ranks in top 75% of Peer Group</p>	<p>No Score Ranks in bottom 25% of Peer Group</p>	
<p>RISK</p> <p>Summary compliance report shows the average peer group quartile rank for all time periods (no credit for bottom quartile performance)</p>	 <p>30% Overall</p>	 <p>10% Overall</p>	<p>Standard Deviation</p> <p>Peer Group Percentile Rankings: 3,5,10 Year Periods</p>	<p>Proportional Score Ranks in top 75% of Peer Group</p>	<p>No Score Ranks in bottom 25% of Peer Group</p>
		 <p>20% Overall</p>	<p>Upside/Downside Capture</p> <p>Peer Group Percentile Rankings: 3,5,10 Year Periods</p>	<p>Proportional Score Ranks in top 75% of Peer Group</p>	<p>No Score Ranks in bottom 25% of Peer Group</p>
<p>OTHER</p> <p>Fund expense quartile rank</p> <p>Manager tenure is greater than 3 years</p>	 <p>10% Overall</p>	 <p>5% Overall</p>	<p>Expense Ratio</p> <p>For current period</p>	<p>Proportional Score Ranks in top 75% of Peer Group</p>	<p>No Score Ranks in bottom 25% of Peer Group</p>
		 <p>5% Overall</p>	<p>Average Tenure</p> <p>Number of years</p>	<p>Full Score Manager Tenure more than 3 years</p>	<p>No Score Manager Tenure less than 3 years</p>

For peer group rankings, a rank of 1-50 indicates the manager performed favorably and ranked in the top half of its peer group for that metric. For example: when measuring risk, a rank of 1 would mean the manager had a very low standard deviation compared to its peer group, whereas when measuring return, a rank of 1 would mean the manager had a very high return compared to its peer group.

Summary of Fund Compliance

Passively-Managed and Cash Funds

Type	Assets %	Fund Name	Ticker
LC Index	17.78%	BlackRock Equity Index - Collective M	02cff1
MC Index	2.89%	BlackRock MidCap Idx - Collective M	03cff2
SC Index	1.25%	BlackRock Russell 2000 Index Coll M	03cff3
GI Index	1.16%	BlackRock EAFE Equity Index Coll T	10cff5
TB Index	2.28%	BlackRock US Debt Index Fund Coll W	04cff4
Int'l Index	0.85%	Vanguard Total Intl Bd Idx Admiral	VTABX
Stable Value	23.05%	Fresno County Stable Value	fressv

Actively-Managed Funds

Underperforming ◀ (Yellow) (White) (Light Green) (Dark Green) ▶ Outperforming

Status	Assets %	Fund Name	Ticker	Return (40%)	Risk Adjusted Return (20%)	Risk (30%)	Expense (5%)	Tenure (5%)
Pass	5.09%	Columbia Dividend Income Inst3	CDDYX	Dark Green	Dark Green	Light Green	Dark Green	Dark Green
Pass	20.18%	Alger Spectra Y	ASPYX	Dark Green	Light Green	Light Green	Light Green	Dark Green
Pass	1.22%	Franklin Utilities R6	FUFRX	Light Green	Light Green	White	Dark Green	Dark Green
Pass	2.47%	T. Rowe Price Mid-Cap Growth I	RPTIX	White	Light Green	Light Green	Dark Green	Dark Green
Pass	0.39%	Janus Henderson Small Cap Value N	JDSNX	Light Green	Light Green	Light Green	Dark Green	Dark Green
Pass	1.98%	Nicholas Limited Edition I	NCLEX	White	Light Green	Light Green	Dark Green	Dark Green
Pass	3.40%	T. Rowe Price Overseas Stock I	TROIX	Light Green	Light Green	White	Dark Green	Dark Green
Pass	0.82%	Invesco Developing Mkts R6	ODVIX	Dark Green	Dark Green	Light Green	Dark Green	Dark Green
Pass	2.18%	Metropolitan West Total Return Bd Plan	MWTSX	Dark Green	Dark Green	Light Green	Dark Green	Dark Green
Pass	0.62%	Fidelity Advisor Real Estate Income I	FRIRX	White	Light Green	Light Green	Dark Green	Dark Green

Underperforming ◀ (Yellow) (White) (Light Green) (Dark Green) ▶ Outperforming

Target-Date Funds

Status	Assets %	Fund Name	Ticker	Return (40%)	Risk Adjusted Return (20%)	Risk (30%)	Expense (5%)	Tenure (5%)
Pass	1.47%	Great-West Lifetime 2015 Trust	GRWL15	Dark Green	Light Green	Light Green	Light Green	Dark Green
Pass	0.06%	Great-West Lifetime 2020 Trust	GRWL20	Dark Green	Light Green	White	Dark Green	Yellow
Pass	3.81%	Great-West Lifetime 2025 Trust	GRWL25	Dark Green	Dark Green	Light Green	Dark Green	Dark Green
Pass	0.04%	Great-West Lifetime 2030 Trust	GRWL30	Light Green	Light Green	Light Green	Dark Green	Yellow
Pass	2.65%	Great-West Lifetime 2035 Trust	GRWL35	Dark Green	Dark Green	Light Green	Dark Green	Dark Green
Pass	0.01%	Great-West Lifetime 2040 Trust	GRWL40	Light Green	Light Green	White	Dark Green	Yellow
Pass	2.60%	Great-West Lifetime 2045 Trust	GRWL45	Light Green	Light Green	Light Green	Dark Green	Dark Green
Pass	0.02%	Great-West Lifetime 2050 Trust	GRWL50	White	White	White	Dark Green	Yellow
Pass	1.72%	Great-West Lifetime 2055 Trust	GRWL55	Light Green	Light Green	Light Green	Dark Green	Dark Green

Passively-Managed and Cash Funds

Type of Fund	Assets %	Ticker	Fund Name	Return vs Peer Group (40%)			Risk Adjusted Return Sharpe (20%)			Standard Deviation			Risk (30%) Up Capture			Down Capture			Other (10%) Expense Tenure	
				3Y	5Y	10Y	3Y	5Y	10Y	3Y	5Y	10Y	3Y	5Y	10Y	3Y	5Y	10Y	Peer Rank %	Avg Yrs
				LC Index	17.78%	02cff1	BlackRock Equity Index - Collective M	14	7	6	15	10	5	43	39	29	17	18	26	39
MC Index	2.89%	03cff2	BlackRock MidCap Idx - Collective M	51	32	26	53	33	28	62	54	47	18	17	15	71	67	64	1	5
SC Index	1.25%	03cff3	BlackRock Russell 2000 Index Coll M	11	3	12	10	7	11	26	32	53	21	7	11	23	30	56	1	5
GI Index	1.16%	10cff5	BlackRock EAFE Equity Index Coll T	42	36	29	41	32	25	22	24	36	57	48	38	30	31	41	5	5
TB Index	2.28%	04cff4	BlackRock US Debt Index Fund Coll W	3	1		14	10		78	73		17	9		49	49		1	5
Int'l Index	0.85%	VTABX	Vanguard Total Intl Bd Idx Admiral	12	29		2	3		9	8		22	40		20	30		2	7
table Valu	23.05%	fressv	Fresno County Stable Value	1	1	1	1	1	1	6	2	10	1	1	1	n/a	1	1	41	6

Actively-Managed Funds

Overall Fund Score	Assets %	Ticker	Fund Name	Return vs Peer Group (40%)			Risk Adjusted Return Sharpe (20%)			Standard Deviation			Risk (30%) Up Capture			Down Capture			Other (10%) Expense Tenure	
				3Y	5Y	10Y	3Y	5Y	10Y	3Y	5Y	10Y	3Y	5Y	10Y	3Y	5Y	10Y	Peer Rank %	Avg Yrs
				9	5.09%	CDDYX	Columbia Dividend Income Inst3	1	1	1	1	1	1	8	8	9	42	67	79	7
7	20.18%	ASPYX	Alger Spectra Y	22			27			68			18			43			47	11
7	1.22%	FUFRX	Franklin Utilities R6	32	32	20	38	32	16	84	82	46	16	16	25	68	68	44	15	16
6	2.47%	RPTIX	T. Rowe Price Mid-Cap Growth I	70	62	31	67	53	15	23	22	17	77	65	58	50	39	19	6	28
7	0.39%	JDSNX	Janus Henderson Small Cap Value N	31	25	55	57	17	16	6	5	4	96	95	94	4	3	3	9	7
6	1.98%	NCLEX	Nicholas Limited Edition I	55	50	65	47	28	30	2	1	2	91	93	92	8	3	4	17	28
6	3.40%	TROIX	T. Rowe Price Overseas Stock I	55	36	17	55	41	16	77	70	56	30	28	24	76	66	40	22	14
8	0.82%	ODVIX	Invesco Developing Mkts R6	23	26	23	22	20	18	15	18	17	59	59	66	15	16	15	12	13
8	2.18%	MWTSX	Metropolitan West Total Return Bd Plan	10	32	10	8	8	2	26	18	17	40	62	36	17	17	15	13	22
6	0.62%	FRIRX	Fidelity Advisor Real Estate Income I	51	34	79	49	26	5	24	6	3	93	95	97	8	3	1	18	10

Target-Date Funds

Overall Fund Score	Assets %	Ticker	Fund Name	Return vs Peer Group (40%)			Risk Adjusted Return Sharpe (20%)			Standard Deviation			Risk (30%) Up Capture			Down Capture			Other (10%) Expense Tenure	
				3Y	5Y	10Y	3Y	5Y	10Y	3Y	5Y	10Y	3Y	5Y	10Y	3Y	5Y	10Y	Peer Rank %	Avg Yrs
				7	1.47%	GRWL15	Great-West Lifetime 2015 Trust	14	19		27	27		55	47		33	40		51
6	0.06%	GRWL20	Great-West Lifetime 2020 Trust	15			33			73			30			69			22	
8	3.81%	GRWL25	Great-West Lifetime 2025 Trust	18	19		27	14		44	37		43	41		38	31		23	5
6	0.04%	GRWL30	Great-West Lifetime 2030 Trust	39			36			46			50			46			21	
7	2.65%	GRWL35	Great-West Lifetime 2035 Trust	21	19		26	13		44	43		50	34		44	36		23	5
5	0.01%	GRWL40	Great-West Lifetime 2040 Trust	48			45			54			53			46			21	
7	2.60%	GRWL45	Great-West Lifetime 2045 Trust	35	22		35	22		39	40		47	29		41	40		22	5
5	0.02%	GRWL50	Great-West Lifetime 2050 Trust	54			57			44			59			49			20	
6	1.72%	GRWL55	Great-West Lifetime 2055 Trust	51	32		49	28		48	45		50	33		45	45		22	5

All data except for 'Tenure - Average Years' are listed as a peer rank percentage

All Funds remain in compliance with Investment Policy and no action need be taken other than indicated in the Fund Compliance Commentary section of this report.

This report, along with more detailed performance data on Plan Investment Options, was reviewed by the Plan's Trustee and/or Investment Committee.



Northwest Capital Management, Inc. 11/02/2020

Trustee / Committee Member Date

BlackRock Equity Index - Collective M (02cff1)

Fund Type: LC Index

US Large Cap

The fund seeks to replicate the performance of U.S. Large Cap Stocks

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
02cff1	8.94%	15.41%	12.42%	14.26%	13.83%
S&P 500 TR USD	8.93%	15.16%	12.28%	14.15%	13.75%
Out/(Under) Performing	0.00%	0.25%	0.14%	0.10%	0.08%
Peer Group Ranking	36	19	14	7	6

BlackRock MidCap Idx - Collective M (03cff2)

Fund Type: MC Index

US Mid Cap

The fund seeks to replicate the performance of U.S. Mid Cap Stocks

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
03cff2	4.81%	-1.30%	3.25%	8.20%	10.53%
S&P MidCap 400 TR	4.76%	-2.17%	2.89%	8.10%	10.49%
Out/(Under) Performing	0.04%	0.86%	0.36%	0.10%	0.04%
Peer Group Ranking	68	49	51	32	26

BlackRock Russell 2000 Index Coll M (03cff3)

Fund Type: SC Index

US Small Cap

The fund seeks to replicate the performance of U.S. Small Cap Stocks

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
03cff3	4.99%	0.97%	3.26%	9.07%	10.52%
Russell 2000 TR USD	4.93%	0.38%	1.76%	8.00%	9.85%
Out/(Under) Performing	0.06%	0.59%	1.50%	1.07%	0.67%
Peer Group Ranking	32	15	11	3	12

BlackRock EAFE Equity Index Coll T (10cff5)

Fund Type: GI Index

Frgn Developd Large Cap

The fund seeks to replicate performance of Foreign stock represented by the MSCI EAFE Index

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
10cff5	4.83%	0.90%	1.01%	5.65%	4.94%
MSCI ACWI Ex USA NR USD	6.25%	3.00%	1.16%	6.23%	4.00%
Out/(Under) Performing	-1.42%	-2.10%	-0.16%	-0.58%	0.94%
Peer Group Ranking	68	60	42	36	29

BlackRock US Debt Index Fund Coll W (04cff4)

Fund Type: TB Index

US Intermed Duration

The fund seeks to replicate the performance of the U.S. Bond Market

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
04cff4	0.64%	7.02%	5.28%	4.23%	
BBgBarc US Govt Interm TR USD	0.20%	5.99%	4.04%	2.76%	2.32%
Out/(Under) Performing	0.44%	1.03%	1.24%	1.47%	
Peer Group Ranking	4	17	3	1	

Vanguard Total Intl Bd Idx Admiral (VTABX)

Fund Type: Int'l Index

Global Hedged

The investment seeks to track the performance of a benchmark index that measures the investment return of non-U.S. dollar-denominated investment-grade bonds.

The fund employs an indexing investment approach designed to track the performance of the Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Index (USD Hedged). This index provides a broad-based measure of the global, investment-grade, fixed-rate debt markets. It is non-diversified.

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
VTABX	1.09%	2.14%	5.14%	4.35%	
BBgBarc Gbl Agg x USD FI Aj RIC TR HUSD	1.08%	2.33%	5.33%	4.57%	
Out/(Under) Performing	0.02%	-0.19%	-0.19%	-0.22%	
Peer Group Ranking	90	83	12	29	

Fresno County Stable Value (fressv)

Fund Type: Stable Value

Liquid Assets

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
fressv	0.58%	2.17%	2.15%	2.12%	2.31%
ICE BofA 0-3 M US Trsy Bill TR USD	0.04%	0.96%	1.61%	1.13%	0.59%
Out/(Under) Performing	0.54%	1.21%	0.55%	0.99%	1.72%
Peer Group Ranking	1	1	1	1	1

Columbia Dividend Income Inst3 (CDDYX)

Fund Score: 9 (Status: Pass)

US Large Cap

The investment seeks total return, consisting of current income and capital appreciation.

The fund invests at least 80% of its net assets (including the amount of any borrowings for investment purposes) in a diversified portfolio of income-producing (dividend-paying) equity securities, which will consist primarily of common stocks but also may include preferred stocks and convertible securities. It invests principally in securities of companies believed to be undervalued but also may invest in securities of companies believed to have the potential for long-term growth. The fund may invest in companies that have market capitalizations of any size.

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
CDDYX	6.29%	3.60%	8.47%	12.02%	11.99%
S&P 500 Value TR USD	4.79%	-2.66%	4.18%	8.84%	10.35%
Out/(Under) Performing	1.49%	6.26%	4.30%	3.18%	1.64%
Peer Group Ranking	19	5	1	1	1

Alger Spectra Y (ASPYX)

Fund Score: 7 (Status: Pass)

US Large Cap

The investment seeks long-term capital appreciation.

The fund invests primarily in the equity securities of companies of any size that the manager believes demonstrate promising growth potential. Equity securities include common or preferred stocks that are listed on U.S. or foreign exchanges. It may invest a significant portion of its assets in securities of companies conducting business within a single sector, including the information technology, consumer discretionary, and health care sectors.

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
ASPYX	14.65%	42.25%	22.08%		
S&P 500 Growth TR USD	11.74%	30.63%	19.10%	18.37%	16.53%

Out/(Under) Performing 2.91% 11.62% 2.99%

Peer Group Ranking 12 18 22

Alger Spectra returned 14.7% in the third quarter of 2020, surpassing the 11.7% return of its S&P 500 Growth benchmark. For the trailing 12-month period, the fund gained 42.3%, well ahead of the 30.6% result for the benchmark. The fund benefited from stock selection and weightings in consumer cyclical and communication services. The holdings that were most advantageous were Apple, Alibaba, and Amazon. Going forward, management sees attractive opportunities with companies investing in information. The fund currently scores a 7 under our methodology. Its returns rank in the top half relative to peers for the trailing 3- and 5-year periods, and in the top quartile for the trailing 10-year period. We are pleased with the fund's performance.

Franklin Utilities R6 (FUFRX)

Fund Score: 7 (Status: Pass)

US Large Cap

The investment seeks capital appreciation and current income.

The fund normally invests at least 80% of its net assets in the securities of public utilities companies. These are companies that provide electricity, natural gas, water, and communications services to the public and companies that provide services to public utilities companies. It concentrates (invests more than 25% of its total assets) in companies operating in the utilities industry. The fund invests primarily in equity securities, which consist mainly of common stocks.

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
FUFRX	3.63%	-8.43%	6.10%	9.40%	10.37%
MSCI World/Utilities NR USD	4.74%	-2.16%	6.05%	7.89%	5.78%

Out/(Under) Performing -1.11% -6.28% 0.05% 1.52% 4.59%

Peer Group Ranking 43 52 32 32 20

T. Rowe Price Mid-Cap Growth I (RPTIX)

Fund Score: 6 (Status: Pass)

US Mid Cap

The investment seeks long-term capital appreciation.

The fund normally invests at least 80% of its net assets (including any borrowings for investment purposes) in a diversified portfolio of common stocks of mid-cap companies whose earnings T. Rowe Price expects to grow at a faster rate than the average company. The advisor defines mid-cap companies as those whose market capitalization falls within the range of either the S&P MidCap 400 Index or the Russell Midcap Growth Index. While most assets will typically be invested in U.S. common stocks, the fund may invest in foreign stocks in keeping with the fund's objectives.

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
RPTIX	8.25%	13.42%	12.79%	13.97%	14.48%
S&P MidCap 400 Growth TR USD	7.00%	8.25%	7.13%	10.22%	11.85%

Out/(Under) Performing 1.25% 5.17% 5.66% 3.75% 2.63%

Peer Group Ranking 66 79 70 62 31

T. Rowe Price Mid-Cap Growth returned 8.3% for the quarter (13.4% for the trailing year). While its benchmark, the S&P MidCap 400 Growth, returned 7.0% (8.3% for the trailing year). In relation to the benchmark, management did best with its allocation toward the real estate and financial services sectors as well as equity selection in the technology industry. Overall top contributors were in the consumer cyclical, technology, and healthcare sectors. Top individual performers were Ball Corp, Hologic Inc, Clarivate PLC Ordinary Shares (in consumer cyclical, healthcare, and technology, respectively). The management team, led by Brian Berghuis, believe that sustained economic recovery depends on the containment of the Coronavirus. They continue to hold that this uncertainty will likely cause returns to remain uneven across countries, sectors, industries, and companies, and create the potential to add value with a strategic investing approach. T. Rowe Price Mid-Cap Growth scores a 6 under our scoring methodology and the trailing risk-adjusted returns rank in the top half of peers over the trailing ten-year period.

Janus Henderson Small Cap Value N (JDSNX)

Fund Score: 7 (Status: Pass)

US Small Cap

The investment seeks capital appreciation.

The fund pursues its investment objective by investing primarily in the common stocks of small companies whose stock prices are believed to be undervalued by the fund's portfolio managers. It invests, under normal circumstances, at least 80% of its net assets (plus any borrowings for investment purposes) in equity securities of small companies whose market capitalization, at the time of initial purchase, is less than the 12-month average of the maximum market capitalization for companies included in the Russell 2000 Value Index. The fund may invest up to 20% of its net assets in cash or similar investments.

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
JDSNX	-2.40%	-20.47%	-4.94%	3.79%	6.40%
Russell 2000 Value TR USD	2.56%	-14.87%	-5.13%	4.11%	7.10%

Out/(Under) Performing -4.96% -5.60% 0.18% -0.32% -0.70%

Peer Group Ranking 96 84 31 25 55

Janus Henderson Small Cap Value Fund returned -2.40%, underperforming its benchmark (Russell 2000 Value TR USD) which returned 2.56%. For the trailing year, the fund returned -20.47%, while its benchmark returned -14.87%. The fund underperformed its benchmark primarily due to unfavorable stock selection in the consumer cyclical, financial services, and basic materials sectors. The fund's holdings in the financial sector, including United Bankshares Inc and Washington Federal Inc, were the leading detractors from results. The financial sector continues to lag, and the fund's bank exposure remains significant, although it has been trimmed slightly. The fund's underweight to energy contributed to relative results, as energy was the worst-performing sector within the index this quarter. Management plans to remain selective and maintain minimal exposure within the energy sector. Moving forward, management intends to maintain focus on high-quality companies trading at reasonable valuations. The fund currently scores a 7 under our methodology, and its risk-adjusted returns rank in the top quartile over the trailing five- and ten-year periods.

Nicholas Limited Edition I (NCLEX)

Fund Score: 6 (Status: Pass)

US Small Cap

The investment seeks to increase the value of the investment over the long-term.

The fund primarily invests in common stocks of domestic corporations with small- and medium-sized market capitalizations believed to have growth potential. The advisor believes a company's annual sales volume and market capitalization are the factors most illustrative of a company's size. The advisor generally considers companies with market capitalizations up to \$3 billion as "small", between \$3 billion and \$25 billion as "medium," and greater than \$25 billion as "large."

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
NCLEX	6.04%	9.34%	9.73%	12.59%	12.03%
Russell 2000 Growth TR USD	7.17%	15.72%	8.19%	11.43%	12.34%
Out/(Under) Performing	-1.13%	-6.39%	1.55%	1.16%	-0.31%
Peer Group Ranking	73	72	55	50	65

Nicholas Limited Edition, Inc. returned 6.04%, compared to 7.17% for its benchmark (Russell 2000 Growth TR USD). For the trailing year, the fund returned 9.34%, compared to 15.72% for the benchmark. The fund's underweight to healthcare, which currently accounts for 14.79% of the portfolio's weighting boosted performance, however selection within the sector dragged. The fund's selection in Tabula Rasa HealthCare Inc, a medication risk-mitigation provider, was the leading detractor. Tabula Rasa has suffered pandemic related tailwinds, including delayed contract start dates and lower patient volume. The fund's lack of holdings in SunRun, Inc. also detracted from results. SunRun's stock surged this quarter due to increased residential demand for solar technology, as well as a proposed acquisition of Vivint Solar Inc. The fund's best selection, and leading contributor this quarter, was BMC Holdings, a national distributor of building products. Looking forward, management believes the fund to be well diversified and intends to maintain focus on companies with sales and profit growth, good returns on capital, and attractive valuations. The fund currently scores a 6 under our methodology, and its risk-adjusted returns rank in the top half over the trailing three-, five- and ten-year periods.

T. Rowe Price Overseas Stock I (TROIX)

Fund Score: 6 (Status: Pass)

Frgn Develpd Large Cap

Created from Axys Import - 1/8/2020

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
TROIX	5.85%	3.03%	0.48%	5.64%	5.28%
MSCI ACWI Ex USA NR USD	6.25%	3.00%	1.16%	6.23%	4.00%
Out/(Under) Performing	-0.40%	0.03%	-0.69%	-0.59%	1.28%
Peer Group Ranking	50	45	55	36	17

T. Rowe Price Overseas Stock I returned 5.9% in Q3 2020, compared to 6.3% for its benchmark (MSCI ACWI Ex USA). For the trailing year, the fund returned 3.03%, while its benchmark returned 3.00%. On a regional basis, the fund's sizable underweight in China detracted from performance, as the economic recovery in China continues to advance. The fund's holdings in the healthcare sector also hindered performance, notably Bayer, Astellas Pharma, and GlaxoSmithKline. The fund was again aided by its holdings in ASOS, the British online fashion retailer, which continues to demonstrate strong momentum during the pandemic. The fund's leading contributor this quarter was its position in Taiwan Semiconductor Manufacturing Co., as the company's results were propelled by reports that Intel was facing manufacturing delays. Management has initiated new positions in Barry Callebaut, Housing Development Finance, and THG Holdings, while eliminating its positions in Burberry. Moving into the fourth quarter, macro factors relating to the global pandemic and uncertainty around the U.S. election may lead to heightened volatility. Management maintains conviction in their focus on individual stock selection, backed by in-depth fundamental research. The fund currently scores a 6 under our methodology. The fund ranks in the top half of its peers over the trailing three-, five-, and ten-year periods.

Invesco Developing Mkts R6 (ODVIX)

Fund Score: 8 (Status: Pass)

Frgn Emergng Markets

The investment seeks capital appreciation.

The fund mainly invests in common stocks of issuers in developing and emerging markets throughout the world and at times it may invest up to 100% of its total assets in foreign securities. Under normal market conditions, it will invest at least 80% of its net assets, plus borrowings for investment purposes, in equity securities of issuers whose principal activities are in a developing market, i.e. are in a developing market or are economically tied to a developing market country, and in derivatives and other instruments that have economic characteristics similar to such securities.

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
ODVIX	8.29%	10.60%	4.52%	10.57%	4.40%
MSCI EM NR USD	9.57%	10.56%	2.43%	8.98%	2.51%
Out/(Under) Performing	-1.28%	0.04%	2.09%	1.59%	1.89%
Peer Group Ranking	65	47	23	26	23

Invesco Developing Markets returned 8.3% for the quarter, while its benchmark returned 9.6% (MSCI Emerging Markets). The fund's trailing year return was 10.6%, with the benchmark returning 10.5% for the same period. Against its benchmark, the fund did strongly with an overweight position in France and good stock selection in Taiwan, specifically its position in Taiwan semiconductor manufacturing Co. In contrast, the benchmark performed better in China and South Korea, a difference mostly attributable to the fund being underweight those regions by comparison. Major detractors in these countries came from consumer cyclical selections such as Yum China Holdings, and NIO Inc. Looking forward, management will continue to seek out high quality companies that have durable long-term growth potential supported by strong competitive positions, balance sheets, cash flows, etc. that will enable them to thrive in the post-COVID-19 world. The fund currently scores an 8 under our methodology. Its risk-adjusted returns rank in the top quartile of peers for the trailing three-, five- and ten-year periods.

Metropolitan West Total Return Bd Plan (MWTSX)

Fund Score: 8 (Status: Pass)

US Intermed Duration

The investment seeks to maximize long-term total return.

The fund pursues its objective by investing, under normal circumstances, at least 80% of its net assets in investment grade fixed income securities or unrated securities determined by the Adviser to be of comparable quality. Up to 20% of the fund's net assets may be invested in securities rated below investment grade or unrated securities determined by the Adviser to be of comparable quality. The fund also invests at least 80% of its net assets plus borrowings for investment purposes in fixed income securities it regards as bonds.

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
MWTSX	1.24%	8.10%	5.83%	4.52%	4.59%
BBgBarc US Agg Bond TR USD	0.62%	6.98%	5.25%	4.18%	3.64%
Out/(Under) Performing	0.62%	1.12%	0.59%	0.34%	0.95%
Peer Group Ranking	57	15	10	32	10

The MetWest Total Return Bond Fund gained 1.2% for the third quarter of 2020, surpassing the 0.6% of its benchmark, the Bloomberg Barclays U.S. Aggregate Index. For the past 12 months, the fund returned 8.1% compared to 7.0% for the benchmark. Overweights to defensive corporate credits and agency MBS were beneficial to the quarter's performance. Trimming the overall credit exposure was a slight negative. Management has reduced duration to half of a year shorter than the benchmark and focused on large liquid corporate issues and on-the-run treasuries in anticipation of increasing credit downgrades. The fund scores an 8 under our scoring methodology and its risk-adjusted returns rank in the top quartile relative to peers over the trailing 3-, 5- and 10-year periods. We are pleased with the performance.

Fidelity Advisor Real Estate Income I (FRIRX)

Fund Score: 6 (Status: Pass)

REIT

The investment seeks higher than average income; and capital growth is the secondary objective.

The fund normally invests primarily in preferred and common stocks of REITs; debt securities of real estate entities; and commercial and other mortgage-backed securities, with an emphasis on lower-quality debt securities (those of less than investment-grade quality, also referred to as high yield debt securities or junk bonds). It invests at least 80% of assets in securities of companies principally engaged in the real estate industry and other real estate related investments. The fund invests in domestic and foreign issuers.

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
FRIRX	4.23%	-8.02%	2.20%	5.09%	6.93%
FTSE Nareit Equity REITs TR USD	1.44%	-18.16%	0.05%	3.86%	7.85%
Out/(Under) Performing	2.79%	10.15%	2.15%	1.24%	-0.92%
Peer Group Ranking	11	19	51	34	79

Great-West Lifetime 2015 Trust (GRWL15)

Fund Score: 7 (Status: Pass)

Uncategorized

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
GRWL15	4.10%	8.13%	6.24%	7.46%	
DJ Target 2015 TR USD	2.50%	5.58%	4.49%	4.88%	4.65%
Out/(Under) Performing	1.60%	2.55%	1.75%	2.58%	
Peer Group Ranking	30	30	14	19	

Great-West Lifetime 2020 Trust (GRWL20)

Fund Score: 6 (Status: Pass)

Uncategorized

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
GRWL20	4.37%	7.54%	6.28%		
DJ Target 2020 TR USD	2.95%	5.50%	4.79%	5.65%	5.51%
Out/(Under) Performing	1.43%	2.04%	1.49%		
Peer Group Ranking	32	45	15		

Great-West Lifetime 2025 Trust (GRWL25)

Fund Score: 8 (Status: Pass)

Uncategorized

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
GRWL25	4.76%	8.51%	6.74%	8.58%	
DJ Target 2025 TR USD	3.57%	5.86%	5.21%	6.53%	6.44%
Out/(Under) Performing	1.19%	2.65%	1.53%	2.05%	
Peer Group Ranking	47	41	18	19	

Great-West Lifetime 2030 Trust (GRWL30)

Fund Score: 6 (Status: Pass)

Uncategorized

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
GRWL30	5.25%	8.05%	6.56%		
DJ Target 2030 TR USD	4.27%	6.21%	5.60%	7.48%	7.34%
Out/(Under) Performing	0.98%	1.84%	0.96%		
Peer Group Ranking	59	55	39		

Great-West Lifetime 2035 Trust (GRWL35)

Fund Score: 7 (Status: Pass)

Uncategorized

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
GRWL35	5.85%	8.58%	7.14%	9.81%	
DJ Target 2035 TR USD	5.00%	6.51%	5.85%	8.26%	8.05%
Out/(Under) Performing	0.85%	2.07%	1.29%	1.55%	
Peer Group Ranking	68	54	21	19	

Great-West Lifetime 2050 Trust (GRWL50)

Fund Score: 5 (Status: Pass)

Uncategorized

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
GRWL50	6.71%	7.92%	6.44%		
DJ Target 2050 TR USD	6.50%	6.85%	6.16%	9.45%	8.97%
Out/(Under) Performing	0.21%	1.07%	0.29%		
Peer Group Ranking	72	58	54		

Great-West Lifetime 2040 Trust (GRWL40)

Fund Score: 5 (Status: Pass)

Uncategorized

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
GRWL40	6.36%	8.25%	6.71%		
DJ Target 2040 TR USD	5.64%	6.68%	6.04%	8.89%	8.59%
Out/(Under) Performing	0.72%	1.57%	0.67%		
Peer Group Ranking	66	59	48		

Great-West Lifetime 2055 Trust (GRWL55)

Fund Score: 6 (Status: Pass)

Uncategorized

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
GRWL55	6.73%	7.64%	6.67%	10.01%	
DJ Target 2055 TR USD	6.60%	6.88%	6.16%	9.47%	8.97%
Out/(Under) Performing	0.13%	0.76%	0.50%	0.55%	
Peer Group Ranking	76	68	51	32	

Great-West Lifetime 2045 Trust (GRWL45)

Fund Score: 7 (Status: Pass)

Uncategorized

Trailing Returns	1 Qtr	1 Yr	3 Yr	5 Yr	10 Yr
GRWL45	6.60%	8.10%	6.97%	10.15%	
DJ Target 2045 TR USD	6.17%	6.82%	6.14%	9.29%	8.89%
Out/(Under) Performing	0.43%	1.28%	0.83%	0.86%	
Peer Group Ranking	74	58	35	22	

County of Fresno 457 DC Plan

Expense Ratio Report (Entity)

As of 9/30/2020

Passively-Managed and Cash Funds

Investment	Ticker	Expense Ratio▲	Peer Rank	Range of Peer Group Expense Ratios							
				0%	0.5%	1%	1.5%	2%	2.5%	3%	
52,212,426 BlackRock Equity Index - Collective M	02cff1	0.02%	2	▲							
8,482,416 BlackRock MidCap Idx - Collective M	03cff2	0.03%	1	▲							
3,683,001 BlackRock Russell 2000 Index Coll M	03cff3	0.03%	1	▲							
3,394,742 BlackRock EAFE Equity Index Coll T	10cff5	0.10%	5	▲							
6,705,526 BlackRock US Debt Index Fund Coll W	04cff4	0.04%	1	▲							
2,482,405 Vanguard Total Intl Bd Idx Admiral	VTABX	0.11%	2	▲							
67,695,357 Fresno County Stable Value	fressv	0.34%	41	▲							

Actively-Managed Funds

14,952,342 Columbia Dividend Income Inst3	CDDYX	0.57%	15	▲							
59,263,492 Alger Spectra Y	ASPYX	0.94%	47	▲							
3,584,678 Franklin Utilities R6	FUFRX	0.50%	15	▲							
7,265,417 T. Rowe Price Mid-Cap Growth I	RPTIX	0.61%	6	▲							
1,151,893 Janus Henderson Small Cap Value N	JDSNX	0.68%	9	▲							
5,807,011 Nicholas Limited Edition I	NCLEX	0.86%	17	▲							
9,987,894 T. Rowe Price Overseas Stock I	TROIX	0.66%	22	▲							
2,411,336 Invesco Developing Mkts R6	ODVIX	0.83%	12	▲							
6,394,528 Metropolitan West Total Return Bd Plan	MWTSX	0.38%	13	▲							
1,826,788 Fidelity Advisor Real Estate Income I	FRIRX	0.74%	18	▲							

Target-Date Funds

4,315,374 Great-West Lifetime 2015 Trust	3RWL15	0.40%	31	▲							
186,303 Great-West Lifetime 2020 Trust	3RWL20	0.40%	22	▲							
11,181,577 Great-West Lifetime 2025 Trust	3RWL25	0.40%	23	▲							
128,862 Great-West Lifetime 2030 Trust	3RWL30	0.41%	21	▲							
7,777,084 Great-West Lifetime 2035 Trust	3RWL35	0.41%	23	▲							
17,043 Great-West Lifetime 2040 Trust	3RWL40	0.41%	21	▲							
7,640,726 Great-West Lifetime 2045 Trust	3RWL45	0.41%	22	▲							
55,840 Great-West Lifetime 2050 Trust	3RWL50	0.41%	20	▲							
5,054,368 Great-West Lifetime 2055 Trust	3RWL55	0.42%	22	▲							

293,658,428

Expense Ratio Averages

0.43%

17

Weighted Average Gross Expense Ratio: 0.44%

Your Plan

Bal Weighted Avg



Expense Ratio

0.44%

88.5%(23)

11.5%(3)

-

-

County of Fresno 457 DC Plan

As of: 09/30/2020

Investment Fund Performance Report

Retirement Date	Investment	3-Mo	1 Yr	2 Yr *	3 Yr *	5 Yr *	Expense Ratio
2015	Great-West Lifetime 2015 Trust	4.1	8.13	6.71	6.24	7.46	0.4
	Morningstar Lifetime Mod 2015 TR USD	4.15	8.44	7.43	6.60	7.27	
	Benchmark +/-	-0.05	-0.31	-0.72	-0.36	0.19	
2020	Great-West Lifetime 2020 Trust	4.37	7.54	6.38	6.28		0.4
	Morningstar Lifetime Mod 2020 TR USD	4.44	8.59	7.55	6.86		
	Benchmark +/-	-0.07	-1.05	-1.17	-0.58		
2025	Great-West Lifetime 2025 Trust	4.76	8.51	6.63	6.74	8.58	0.4
	Morningstar Lifetime Mod 2025 TR USD	4.79	8.40	7.30	6.98	8.36	
	Benchmark +/-	-0.03	0.11	-0.67	-0.24	0.22	
2030	Great-West Lifetime 2030 Trust	5.25	8.05	6.13	6.56		0.41
	Morningstar Lifetime Mod 2030 TR USD	5.25	7.79	6.58	6.89		
	Benchmark +/-	0.00	0.26	-0.45	-0.33		
2035	Great-West Lifetime 2035 Trust	5.85	8.58	6.04	7.14	9.81	0.41
	Morningstar Lifetime Mod 2035 TR USD	5.76	6.79	5.51	6.54	9.19	
	Benchmark +/-	0.09	1.79	0.53	0.60	0.62	
2040	Great-West Lifetime 2040 Trust	6.36	8.25	5.52	6.71		0.41
	Morningstar Lifetime Mod 2040 TR USD	6.23	5.87	4.54	6.14		
	Benchmark +/-	0.13	2.38	0.98	0.57		
2045	Great-West Lifetime 2045 Trust	6.6	8.1	5.24	6.97	10.15	0.41
	Morningstar Lifetime Mod 2045 TR USD	6.51	5.28	3.94	5.82	9.24	
	Benchmark +/-	0.09	2.82	1.30	1.15	0.91	
2050	Great-West Lifetime 2050 Trust	6.71	7.92	5.12	6.44		0.41
	Morningstar Lifetime Mod 2050 TR USD	6.60	5.01	3.69	5.63		
	Benchmark +/-	0.11	2.91	1.43	0.81		
2055	Great-West Lifetime 2055 Trust	6.73	7.64	4.87	6.67	10.01	0.42
	Morningstar Lifetime Mod 2055 TR USD	6.61	4.88	3.58	5.51	9.10	
	Benchmark +/-	0.12	2.76	1.29	1.16	0.91	

*Returns are annualized after 1 year

**Great West Lifetime Trust Series replaced Great West Lifetime Trust Series II in June 2016. Return data prior to June 2016 reflects Great West Lifetime Trust Series II

*** Great West Lifetime Trust Series expense ratios were reduced to 0.40%-0.42% in Q1 2019

**** The following Lifetime Trusts were added in Q3 2019: 2020, 2030, 2040, 2050

Current Lineup Status

Asset Class		Current Status	Placed On Watch	Asset Class		Current Status	Placed On Watch
US Large Cap				Fixed Income			
02cff1	BlackRock Equity Index - Collective M	Pass	-	04cff4	BlackRock US Debt Index Fund Coll W	Pass	-
ASPYX	Alger Spectra Y	Pass	-	MWTSX	Metropolitan West Total Return Bd Plan	Pass	-
CDDYX	Columbia Dividend Income Inst3	Pass	-	VTABX	Vanguard Total Intl Bd Idx Admiral	Pass	-
US Mid Cap				fressv	Fresno County Stable Value	Pass	-
03cff2	BlackRock MidCap Idx - Collective M	Pass	-	Target Date Funds			
RPTIX	T. Rowe Price Mid-Cap Growth I	Pass	-	GRWL15	Great-West Lifetime 2015 Trust	Pass	-
US Small Cap				GRWL20	Great-West Lifetime 2020 Trust	Pass	-
03cff3	BlackRock Russell 2000 Index Coll M	Pass	-	GRWL25	Great-West Lifetime 2025 Trust	Pass	-
NCLEX	Nicholas Limited Edition I	Pass	-	GRWL30	Great-West Lifetime 2030 Trust	Pass	-
JDSNX	Janus Henderson Small Cap Value N	Pass	-	GRWL35	Great-West Lifetime 2035 Trust	Pass	-
Foreign				GRWL40	Great-West Lifetime 2040 Trust	Pass	-
TROIX	T. Rowe Price Overseas Stock I	Pass	-	GRWL45	Great-West Lifetime 2045 Trust	Pass	-
10cff5	BlackRock EAFE Equity Index Coll T	Pass	-	GRWL50	Great-West Lifetime 2050 Trust	Pass	-
ODVIX	Invesco Developing Mkts R6	Pass	-	GRWL55	Great-West Lifetime 2055 Trust	Pass	-
Specialty							
FRIRX	Fidelity Advisor Real Estate Income I	Pass	-				
FUFRX	Franklin Utilities R6	Pass	-				

Watch List History

		Status	Most Recent Time on Watch		Previous Time on Watch		Previous Time on Watch	
			Placed	Removed	Placed	Removed	Placed	Removed
FRESSV	County Of Fresno Stable Value Fund	In Plan	2017 - Q1	2018 - Q1				
GRWL15	Great-West Lifetime 2015 Trust	In Plan	2017 - Q1	2018 - Q1				
GRWL25	Great-West Lifetime 2025 Trust	In Plan	2017 - Q1	2018 - Q1				
GRWL35	Great-West Lifetime 2035 Trust	In Plan	2017 - Q1	2018 - Q1				
GRWL45	Great-West Lifetime 2045 Trust	In Plan	2017 - Q1	2018 - Q1				
GRWL55	Great-West Lifetime 2055 Trust	In Plan	2017 - Q1	2018 - Q1				
MSIIX	MainStay International Equity I	Removed	2012 - Q4	2015 - Q2				
PAXIX	Pax Balanced Institutional	Removed	2012 - Q4	2013 - Q2				
IINCX	Ivy International Core Equity R6	Removed	2019 - Q2	2020 - Q2				
GTAVX	Invesco Mid Cap Core Equity R5	Removed	2012 - Q1	2013 - Q2				
NBGNX	Neuberger Berman Genesis Inv	Removed	2012 - Q1	2012 - Q3				
SDGTX	Deutsche Capital Growth I	Removed	2012 - Q1	2012 - Q3				
CHTVX	Invesco Charter Fund R5	Removed	2012 - Q1	2012 - Q3				

* Watch List History displays all funds that have been on watch in the plan since 2012

Target Date Review – November 2020

County of Fresno 457(b) Plan



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Executive Summary

Introduction

This document has been prepared to provide a detailed analysis of the Great-West Target Date Funds (GWTDFs). Although the GWTDFs are not currently considered a top-tier target date offering, there are enough positive attributes about their methodology that warrants their retention. Structural headwinds have led to modest underperformance relative to the peer group's top performers, but those attributes may prove favorable if market conditions were to change going forward.

Section Summaries

Glide Path - Positive

The Great-West product utilizes a “through” retirement glide path methodology rather than a “to retirement” approach. We consider the “through” retirement methodology to be superior as we believe it is more responsive to the risk tolerances of retirees. As a result of the relatively recent adoption of the “through” approach by Great-West, there are not separate vintages for those retiring prior to 2015. Additionally, NWCM finds the recent addition of the even vintages in 2019 (2020, 2030, 2040, 2050) beneficial as it provides further customization for participants of different ages. The firm has retained Morningstar as its glidepath advisor and implemented its recommendations except those regarding long-term fixed income and commodity allocations (pages 11,12).

Active/Passive - Positive

Great-West employs a blend of active and passive investments in a broad mix of asset classes. NWCM considers this hybrid approach to be best-in-class. This allows for more competitive investment management fees, but more importantly, this approach offers better risk control. Passive investment strategies tend to outperform during frothy equity markets while active managers excel in more benign scenarios.

Open vs. Proprietary - Positive

Great-West uses a wide variety of investment firms in its offering, although in some instances they have used multiple products from the same investment firm. We consider the open investment philosophy to be best practice. Our research has shown that this offers improved diversification and better opportunities for selection. Many investment firms employ a singular investment philosophy and screening methodology that favors or punishes certain attributes, leading to many of their funds underperforming or outperforming at the same time. In addition, we have found that target date providers using proprietary investment offering often find it difficult to terminate their own products.

continued on following page

Executive Summary

Section Summaries (cont.)

Defensive Assets - Neutral

Great West has a structural bias towards value equities relative to its peers. This creates a profile that is more defensive than over 75% of its peers for younger participants, but only 25% of its peers for participants in retirement. This has created a headwind for their trailing performance and, more importantly, is an unusual posture compared to many in the industry (page 13).

Non-Traditional Assets - Neutral

These are used to mitigate inflation risks. Great-West gradually replaces core fixed income with Treasury Inflation-Protected Securities (TIPS) as participants approach retirement, but other than that, Great-West only uses real estate, eschewing commodities and other choices. The level of their investment in inflation assets are well below the Morningstar average and all the peers referenced in this report. In this low inflation environment, Great-West's choice has not yet negatively impacted investment performance (page 10,15).

People - Negative

In the early years of target date development, most firms had these types of funds managed by less senior investment professionals. As the concept of lifecycle investing matured and more assets were being invested in these funds, most investment firms, especially those using proprietary funds, increased the number and experience of employees in this area. Great-West, like many recordkeepers with more captive clients, have lagged in making similar investments. Great-West, with only \$14.5 billion in target date assets, has yet to invest in retaining top talent. We find the experience of the investment professionals managing this product somewhat below their top-tier competitors.

Expenses - Neutral

Great-West's expenses rank near median of Morningstar's Target Date peer group and below two of firm's included in the report, TIAA-CREF and JP Morgan, but unsurprisingly, much greater than passive target date funds like Vanguard (page 16).

Performance - Positive

Despite Great-West's use of some of the less common asset allocation choices and its value equity bias, it has still managed to match its peers trailing performance, albeit with a higher standard deviation. This is a testament to the superiority of their mix of active and passive investments as well as their open architecture (pages 18-30).

Executive Summary

Conclusion

As a suite, GWTDFs provide many attributes NWCM believes to be positive relative to the target date peer group: open architecture, combination of passive and active management styles, and glidepath licensed from a reputable provider, Morningstar, Inc. Additionally, performance has been respectable considering their structural headwinds (defensive assets and limited use of non-traditional asset classes).

The GWTDFs have a structural value bias and underweights to equities for younger participants early in their careers relative to the target date peer group, making this suite unique. Lastly, the suite's target date peers have more robust teams overseeing the product.

NWCM is of the opinion that the GWTDFs remain a prudent investment offering for the County's 457 Plan. We will continue to monitor performance relative to its peers. If market conditions changed to where Value as a style was to rotate in favor over Growth, we would hope to see improved relative performance for this offering.

Target Date Comparison

Target Date Comparison

Portfolio Details

Portfolio Details

	Great-West LT Series	JPMorgan SmartRetirement Series	Principal Lifetime Hybrid Target Series	T. Rowe Price Retirement Hybrid Series	TIAA-CREF Lifecycle Series	Vanguard Target Retirement Series
Share Class / Type	/ CIT	R5 / MF	Z / CIT	T5 / CIT	Retire / MF	Inv / MF
Vintages Offered (Incl. Income)	2015 - 2060	2020 - 2060	2010 - 2065	2005 - 2060	2010 - 2060	2015 - 2065
Total # Offered	10	10	13	12	11	12
Active/Passive ^o	Blend	Active	Blend	Blend	Active	Passive
Open/Proprietary ^l	Open	Proprietary	Open	Proprietary	Proprietary	Proprietary
Glide Path Type (To / Through)	Through	To	Through	Through	Through	Through
Landing Point	30 Years After Retirement	At Retirement	15 Years After Retirement	30 Years After Retirement	30 Years After Retirement	10 Years After Retirement
Equity Exposure (holdings-based) ²	90.57% (2055) 40.86% (2015) 49.71% (Spread)	84.48% (2050) 29.14% (Income) 55.34% (Spread)	88.28% (2065) 19.77% (Income) 68.51% (Spread)	90.75% (2055) 37.01% (2005) 53.74% (Spread)	92.14% (2060) 34.76% (2010) 57.38% (Spread)	90.83% (2045) 30.43% (Income) 60.40% (Spread)
Equity Exposure (returns-based) ³	85.84% (2050) 40.65% (2015) 45.19% (Spread)	86.32% (2050) 26.21% (Income) 60.11% (Spread)	89.44% (2065) 21.36% (Income) 68.08% (Spread)	90.66% (2045) 36.52% (2005) 54.14% (Spread)	93.08% (2060) 34.19% (2010) 58.89% (Spread)	87.21% (2045) 26.29% (Income) 60.92% (Spread)
Non-Traditional Exposure Rank (returns-based) ⁴	3rd Quartile	1st Quartile	3rd Quartile	2nd Quartile	2nd Quartile	4th Quartile
Average Prosp. Net Exp. Ratio	0.41	0.56	0.29	0.36	0.67	0.14
Longest Manager Tenure (Years)	5.79	12.25	11.24	12.29	14.51	7.61
Average Manager Tenure (Years)	5.17	11.07	10.24	11.74	12.97	7.24
Largest Net Assets (\$ Millions)	\$298.77 (2035)	\$6,835.00 (2030)	\$8,363.57 (2030)	\$2,476.78 (2030)	\$5,984.00 (2040)	\$46,521.00 (2025)
Average Net Assets Across Vintages (\$ Millions)	\$133.00	\$4,026.30	\$3,328.28	\$1,074.39	\$3,205.09	\$24,956.58
Largest # Underlying Funds	25	23	11	12	22	6

All information contained here is based on products selected in this report and not necessarily all available products offered.

^oActive/Passive categorization is based on Morningstar's Top 10 Holdings: <25% passive exposure is Active; >=25% & <75% passive exposure is Blend; >=75% average passive exposure is Passive.

^lOpen/Proprietary classification is based on Morningstar's Top 10 Holdings. If 1 or more of the top 10 holdings is managed by a firm other than the Target Date manager, the result is Open classification.

²Equity Exposure (holdings-based) includes holdings from U.S. Equity and Non-U.S. Equity.

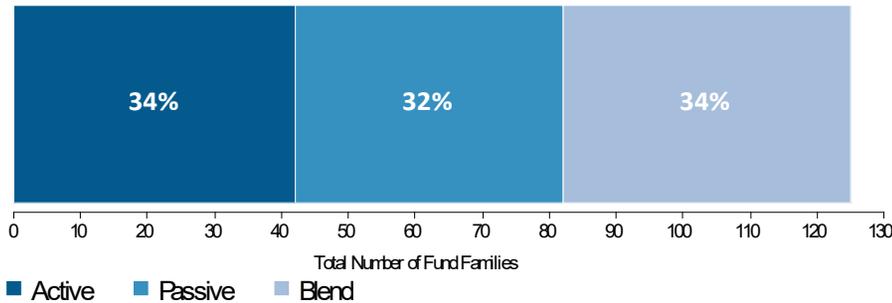
³Factors used in determining total equity exposure are indices representing U.S. Large Cap Equity, U.S. Mid Cap Equity, U.S. Small Cap Equity, Developed Foreign Equity, and Emerging Market Equity.

⁴Factors used in determining non-traditional exposure are indices representing Emg. Market Equity, Dev. Foreign Equity, Emg. Market Debt, Dev. Foreign Debt, High Yield Bonds, Commodities, REITs, and TIPS.

Active vs Passive

Active, Passive or Blend categorization refers to whether the target date fund manager implements the glidepath with actively managed underlying funds (Active), passively managed underlying funds (Passive) or a combination of actively managed and passively managed underlying funds (Blend).

TDF UNIVERSE BREAKDOWN: ACTIVE vs. PASSIVE

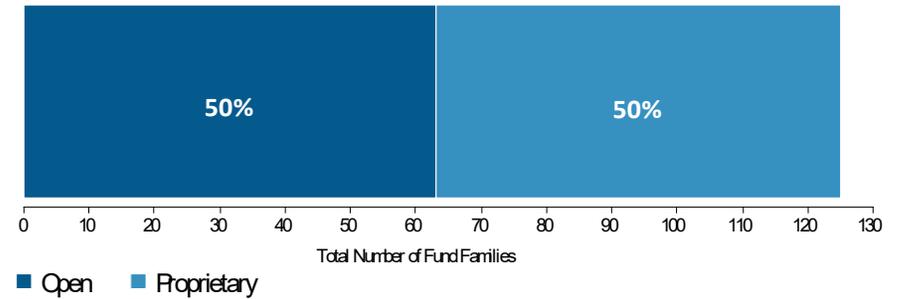


Active vs. Passive vs. Blend	
Great-West LT Series	Blend
JPMorgan SmartRetirement Series	Active
Principal Lifetime Hybrid Target Series	Blend
T. Rowe Price Retirement Hybrid Series	Blend
TIAA-CREF Lifecycle Series	Active
Vanguard Target Retirement Series	Passive

Open vs Proprietary

Open or Proprietary categorization describes whether the assets that the target date funds invest in are managed by the same organization that manages the target date fund itself (Proprietary) or if at least some assets are managed by un-affiliated organizations (Open).

TDF UNIVERSE BREAKDOWN: OPEN vs. PROPRIETARY



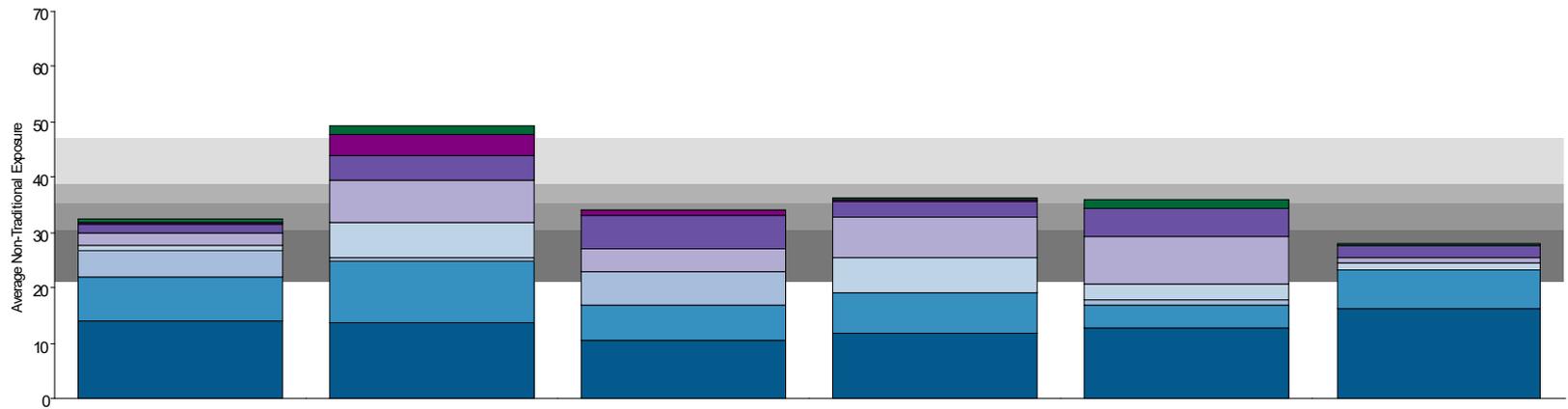
Open vs. Proprietary	
Great-West LT Series	Open
JPMorgan SmartRetirement Series	Proprietary
Principal Lifetime Hybrid Target Series	Open
T. Rowe Price Retirement Hybrid Series	Proprietary
TIAA-CREF Lifecycle Series	Proprietary
Vanguard Target Retirement Series	Proprietary

This proprietary universe consists of 111 target date families. The categorizations of Active/Passive/Blend and Open/Proprietary are based on the following thresholds: Active/Passive categorization is based on Morningstar's Top 10 Holdings: <25% passive exposure is Active; >=25% & <75% passive exposure is Blend; >=75% average passive exposure is Passive. Open/Proprietary classification is based on Morningstar's Top 10 Holdings. If 1 or more of the top 10 holdings is managed by a firm other than the Target Date manager, the result is Open classification.

Non-Traditional Asset Class Breakdown

Non-traditional asset class exposure determines the degree to which the fund is exposed to non-traditional assets. Non-traditional assets are composed of indices representing developed foreign equity, emerging market equity, developed foreign debt, emerging market debt, TIPS, high yield bonds, REITs, and commodities. These are returns-based style exposures to these indices and not based on actual fund holdings.

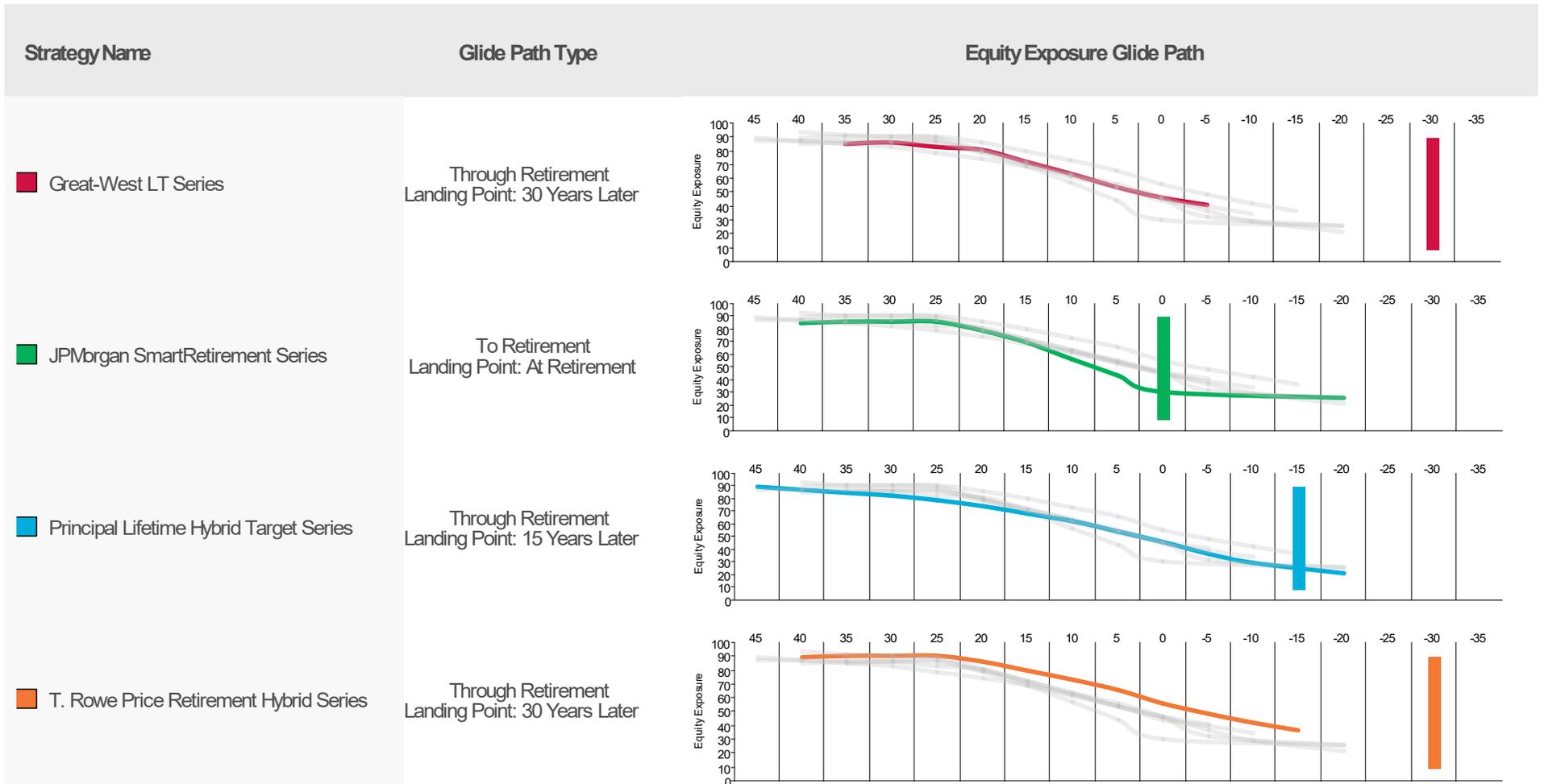
AVERAGE NON-TRADITIONAL ASSETS EXPOSURE



	Great-West LT Series	JPMorgan SmartRetirement Series	Principal Lifetime Hybrid Target Series	T. Rowe Price Retirement Hybrid Series	TIAA-CREF Lifecycle Series	Vanguard Target Retirement Series
Developed Foreign Equity	13.85	13.78	10.56	11.92	12.66	16.36
Emerging Markets Equity	8.16	11.07	6.20	7.24	4.23	6.91
Developed Foreign Debt	4.69	0.76	6.12	0.08	1.04	0.00
Emerging Markets Debt	1.06	6.22	0.00	6.22	2.69	1.13
TIPS	2.06	7.50	4.29	7.46	8.52	1.09
High Yield	1.78	4.64	5.93	2.60	5.25	2.22
REITs	0.29	3.70	0.79	0.44	0.00	0.09
Commodities	0.44	1.61	0.10	0.22	1.44	0.33
Non-Trad. Exposure Total	32.32	49.27	33.98	36.19	35.83	28.12
Non-Trad. Exposure Rank	3rd Quartile	1st Quartile	3rd Quartile	2nd Quartile	2nd Quartile	4th Quartile

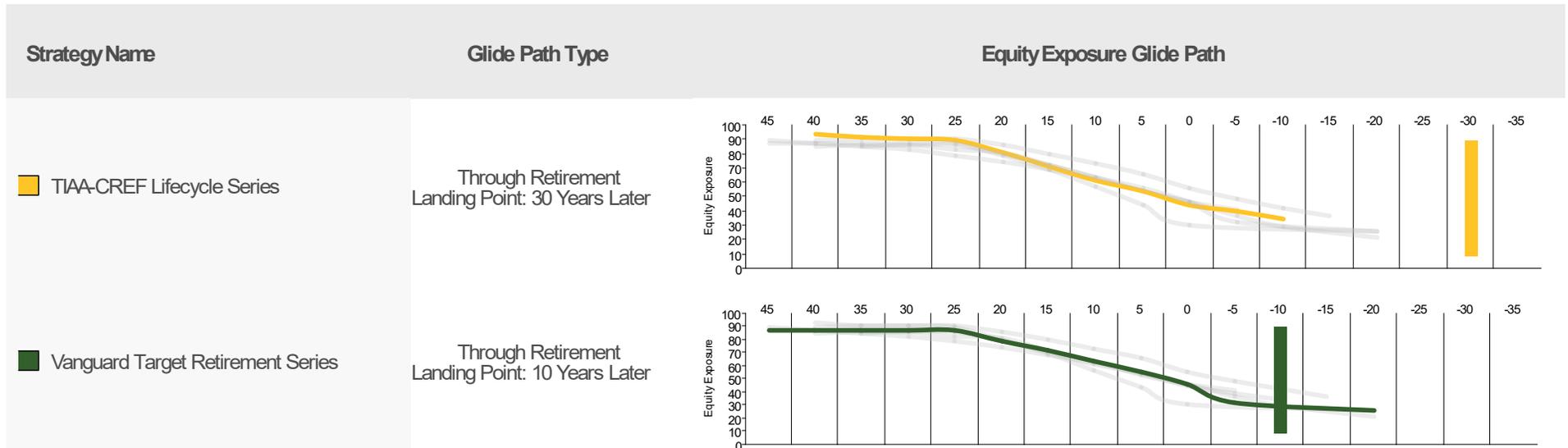
Landing Point Breakdown

Landing point determines where in a retiree's lifetime the lowest equity allocation occurs. In some cases, this can be before retirement (defined as age 65) or up to retirement ("To Funds") and the retiree's account moves to the Target Date suite's Income fund at that point. In other cases, the landing point might be well beyond or through retirement ("Through Funds") and the equity allocation continues to get lower until the specified "Landing Point".



Landing Point Breakdown

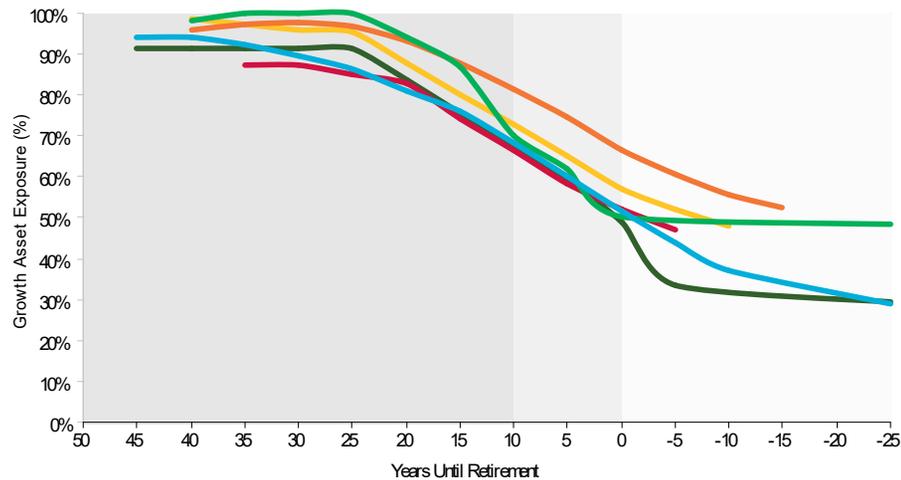
Landing point determines where in a retiree's lifetime the lowest equity allocation occurs. In some cases, this can be before retirement (defined as age 65) or up to retirement ("To Funds") and the retiree's account moves to the Target Date suite's Income fund at that point. In other cases, the landing point might be well beyond or through retirement ("Through Funds") and the equity allocation continues to get lower until the specified "Landing Point".



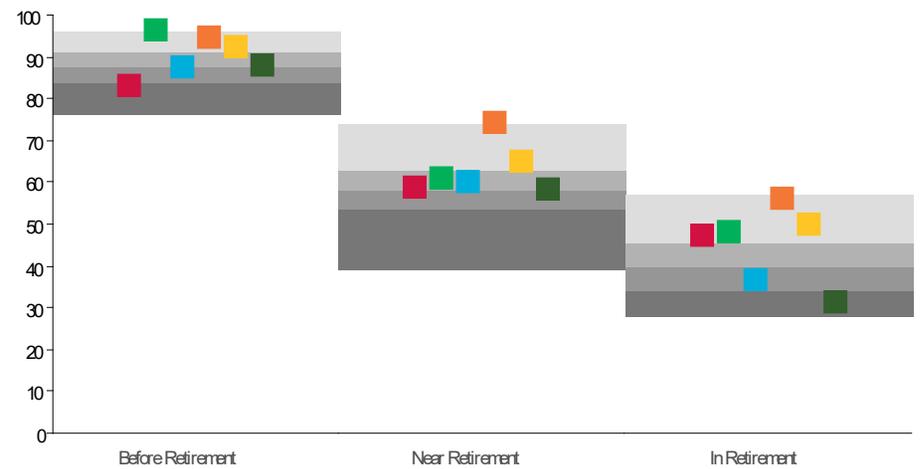
Growth Asset Breakdown

Growth assets are assets that mitigate Longevity risk, which is the risk of outliving your money. The purpose of these assets, as its name implies, is to grow wealth. The asset classes that compose growth assets are made up of US Equity (Large, Mid, and Small), Non-US Equity (Emerging and Developed), High Yield Fixed Income, Emerging Market Debt, Commodities, and REITs. There are three distinct stages where we look at the percentage of growth assets that should be in a TDF for the participant; Before-retirement (<55), Near-retirement (55-65), and In-Retirement (>65).

GROWTH ASSETS GLIDE PATH



AVERAGE GROWTH ASSETS PER RETIREMENT REGION

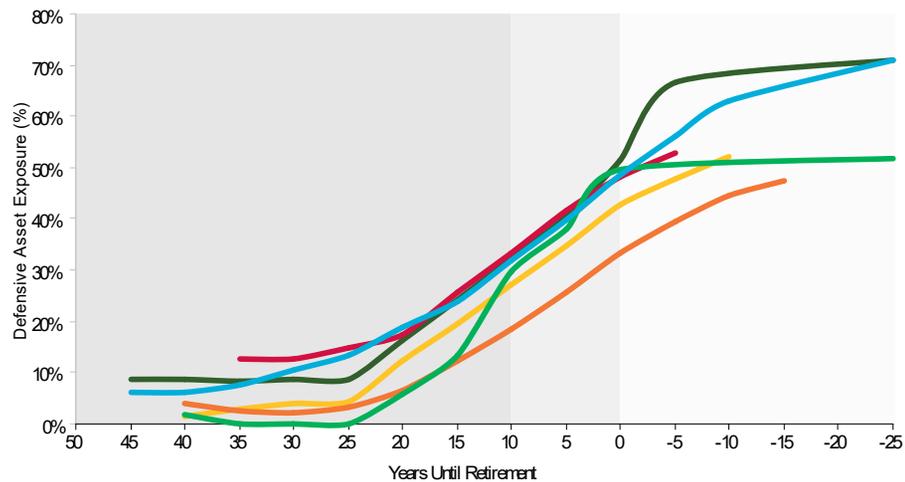


	Before Retirement Zone	Near Retirement Zone	In Retirement Zone
Great-West LT Series	4th Quartile	2nd Quartile	1st Quartile
JPMorgan SmartRetirement Series	1st Quartile	2nd Quartile	1st Quartile
Principal Lifetime Hybrid Target Series	3rd Quartile	2nd Quartile	3rd Quartile
T. Rowe Price Retirement Hybrid Series	1st Quartile	1st Quartile	1st Quartile
TIAA-CREF Lifecycle Series	1st Quartile	1st Quartile	1st Quartile
Vanguard Target Retirement Series	2nd Quartile	2nd Quartile	4th Quartile

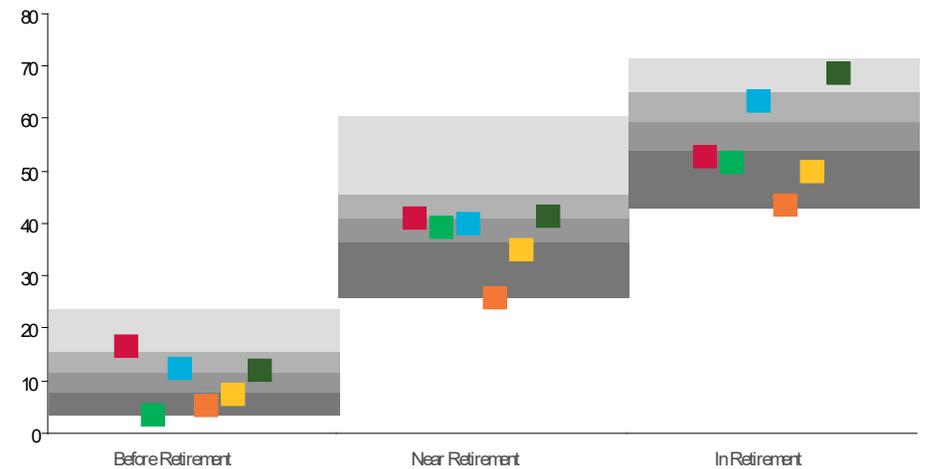
Defensive Asset Breakdown

Defensive assets are assets that mitigate Volatility risk, which is the risk of losing value due to market volatility. The purpose of these assets is to provide some insulation from poor market conditions and preserve the value of the portfolio. The asset classes that compose defensive assets are made up of Cash Equivalents, Developed Foreign Debt, Core US Fixed Income, Short-Term Corporate, TIPS, and Short-Term TIPS. There are three distinct stages where we look at the percentage of volatility assets that should be in a TDF for the participant; Before-retirement (<55), Near-retirement (55-65), and In-Retirement (>65).

DEFENSIVE ASSETS GLIDE PATH



AVERAGE DEFENSIVE ASSETS PER RETIREMENT REGION

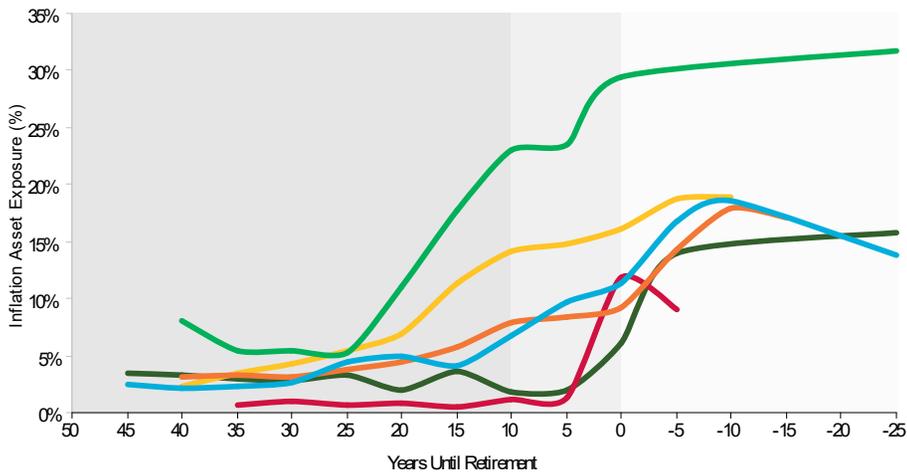


	Before Retirement Zone	Near Retirement Zone	In Retirement Zone
Great-West LT Series	1st Quartile	3rd Quartile	4th Quartile
JPMorgan SmartRetirement Series	4th Quartile	3rd Quartile	4th Quartile
Principal Lifetime Hybrid Target Series	2nd Quartile	3rd Quartile	2nd Quartile
T. Rowe Price Retirement Hybrid Series	4th Quartile	4th Quartile	4th Quartile
TIAA-CREF Lifecycle Series	4th Quartile	4th Quartile	4th Quartile
Vanguard Target Retirement Series	3rd Quartile	2nd Quartile	1st Quartile

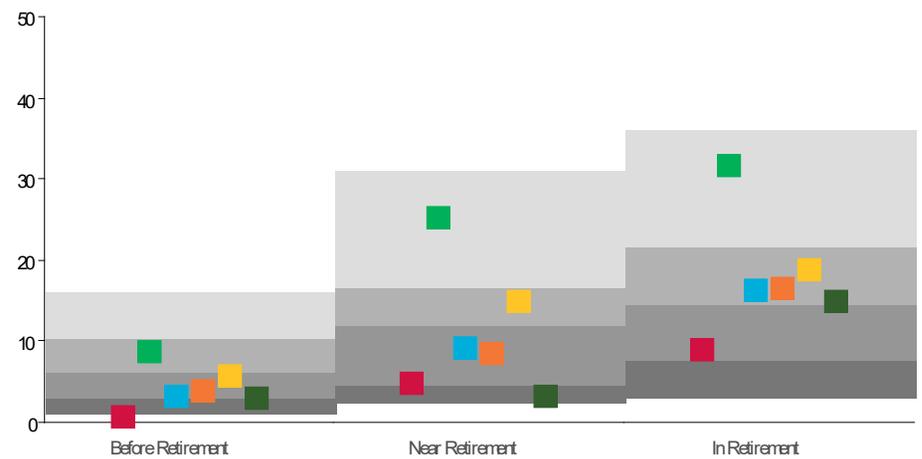
Inflation Asset Breakdown

Inflation assets are assets that mitigate Inflation risk, which is the risk of losing purchasing power. The purpose of these assets is to preserve the purchasing power of wealth that you have accumulated. The asset classes that compose inflation assets are made up of TIPS, Short Term TIPS, Commodities, and REITs. There are three distinct stages where we look at the percentage of inflation assets that should be in a TDF for a participant; Before-retirement (<55), Near-retirement (55-65), and In-Retirement (>65).

INFLATION ASSETS GLIDE PATH



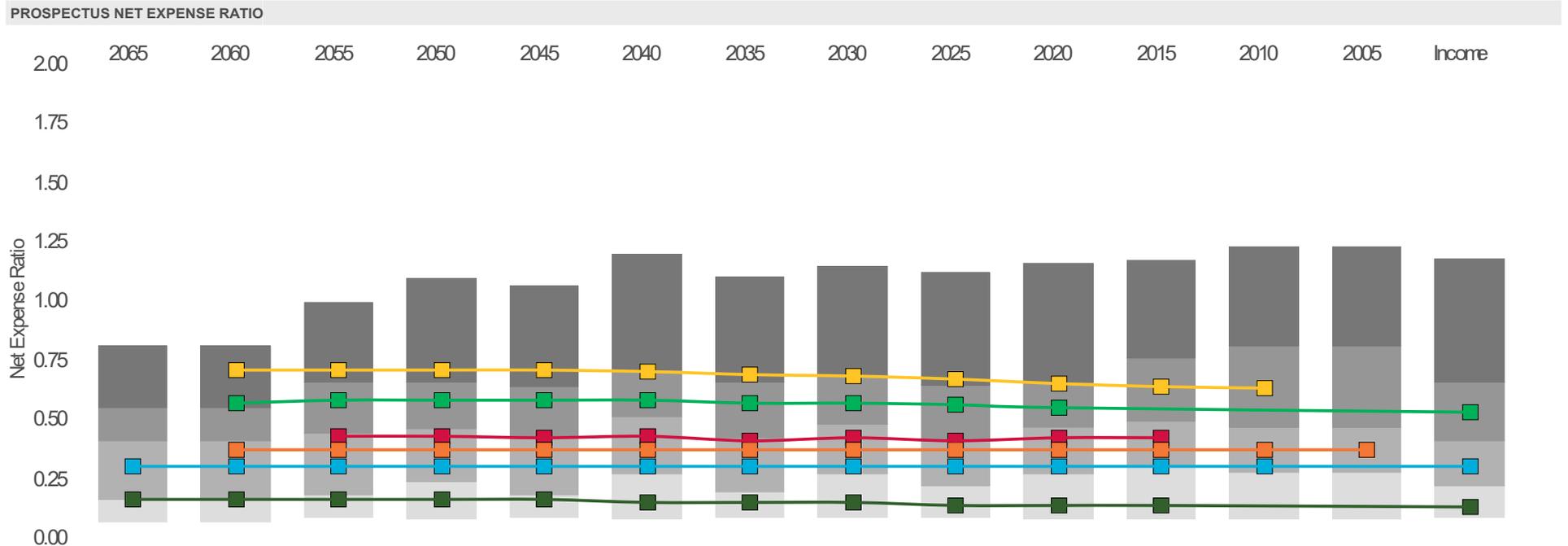
AVERAGE INFLATION ASSETS PER RETIREMENT REGION



	Before Retirement Zone	Near Retirement Zone	In Retirement Zone
Great-West LT Series	4th Quartile	4th Quartile	3rd Quartile
JPMorgan SmartRetirement Series	2nd Quartile	1st Quartile	1st Quartile
Principal Lifetime Hybrid Target Series	3rd Quartile	3rd Quartile	2nd Quartile
T. Rowe Price Retirement Hybrid Series	3rd Quartile	3rd Quartile	2nd Quartile
TIAA-CREF Lifecycle Series	3rd Quartile	2nd Quartile	2nd Quartile
Vanguard Target Retirement Series	4th Quartile	4th Quartile	2nd Quartile

Net Prospectus Expense Ratio

As of Jun 30, 2020*



Strategy Name	Share Class	2065	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	2010	2005	Income
Great-West LT Series				0.42	0.42	0.41	0.42	0.40	0.41	0.40	0.41	0.41			
JPMorgan SmartRetirement Series	R5		0.56	0.57	0.57	0.57	0.57	0.56	0.56	0.55	0.54				0.52
Principal Lifetime Hybrid Target Series	Z	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
T. Rowe Price Retirement Hybrid Series	T5		0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	
TIAA-CREF Lifecycle Series	Retire		0.70	0.70	0.70	0.70	0.69	0.68	0.67	0.66	0.64	0.63	0.62		
Vanguard Target Retirement Series	Inv	0.15	0.15	0.15	0.15	0.15	0.14	0.14	0.14	0.13	0.13	0.13			0.12
Morningstar Target Date Cat Avg		0.40	0.40	0.46	0.50	0.46	0.53	0.48	0.52	0.48	0.51	0.54	0.53	0.53	0.47

Prospectus Net Expense Ratio is based on the most recent prospectus from which Morningstar pulled their data. Please refer to each fund's current prospectus for the most recent information. Morningstar Category peer universe is based off of the oldest share class. Share classes being analyzed are selected by client.

Target Date Comparison

Performance

Annualized Performance

As of Sep 30, 2020

Great-West LT Series	2055	2050	2045	2040	2035	2030	2025	2020	2015
1 Year	7.64	7.92	8.10	8.25	8.58	8.05	8.51	7.54	8.13
3 Years	6.67	6.88	6.97	7.07	7.14	6.83	6.73	6.28	6.25
5 Years	10.05	--	10.19	--	9.89	--	8.64	--	7.53
10 Years	--	--	--	--	--	--	--	--	--
Since Inception	7.46	10.11	7.61	10.04	7.50	9.06	6.67	7.69	5.94
Inception Date	12/23/14	5/11/16	12/22/14	5/11/16	12/19/14	5/11/16	12/19/14	5/11/16	12/19/14

JPMorgan SmartRetirement Series	2060	2055	2050	2045	2040	2035	2030	2025	2020	Income
1 Year	7.65	7.77	7.76	7.80	7.85	7.58	6.45	6.34	5.93	5.49
3 Years	5.86	5.87	5.85	5.85	5.89	5.78	5.67	5.44	5.10	4.73
5 Years	--	8.83	8.80	8.81	8.82	8.43	8.03	7.45	6.76	5.78
10 Years	--	--	8.93	8.94	8.93	8.70	8.27	7.77	7.08	5.43
Since Inception	8.57	9.18	6.52	6.52	6.92	6.25	6.54	5.84	5.94	5.20
Inception Date	8/31/16	1/31/12	7/31/07	7/31/07	5/15/06	7/31/07	5/15/06	7/31/07	5/15/06	5/15/06

Principal Lifetime Hybrid Target Ser	2065	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	2010	Income
1 Year	9.94	9.57	9.44	9.70	9.74	9.80	9.79	9.78	9.42	9.03	8.36	8.06	7.58
3 Years	--	6.71	6.71	6.81	6.79	6.79	6.77	6.58	6.37	6.05	5.68	5.46	5.13
5 Years	--	9.97	9.94	9.90	9.70	9.49	9.20	8.76	8.25	7.63	6.90	6.31	5.34
10 Years	--	--	9.88	9.88	9.71	9.50	9.21	8.82	8.35	7.81	7.11	6.48	4.97
Since Inception	5.23	7.81	11.71	11.62	11.58	11.33	11.04	10.63	10.15	9.56	8.80	8.05	6.03
Inception Date	1/2/18	1/2/14	7/7/09	7/7/09	7/7/09	7/7/09	7/7/09	7/7/09	7/7/09	7/7/09	7/7/09	7/7/09	7/7/09

T. Rowe Price Retirement Hybrid Se	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	2010	2005
1 Year	10.68	10.74	10.75	10.81	10.67	10.44	10.16	9.85	9.25	8.89	8.71	8.41
3 Years	--	7.81	7.79	7.82	7.77	7.60	7.41	7.16	6.78	6.46	6.20	5.99
5 Years	--	10.87	10.87	10.89	10.79	10.45	10.03	9.49	8.84	8.10	7.49	7.06
10 Years	--	10.20	10.22	10.23	10.18	9.94	9.58	9.07	8.46	7.77	7.06	6.53
Since Inception	7.56											5.85
Inception Date	4/24/18	6/20/08	6/20/08	6/20/08	6/20/08	6/20/08	6/20/08	6/20/08	6/20/08	6/20/08	6/20/08	6/20/08

Annualized Performance

As of Sep 30, 2020

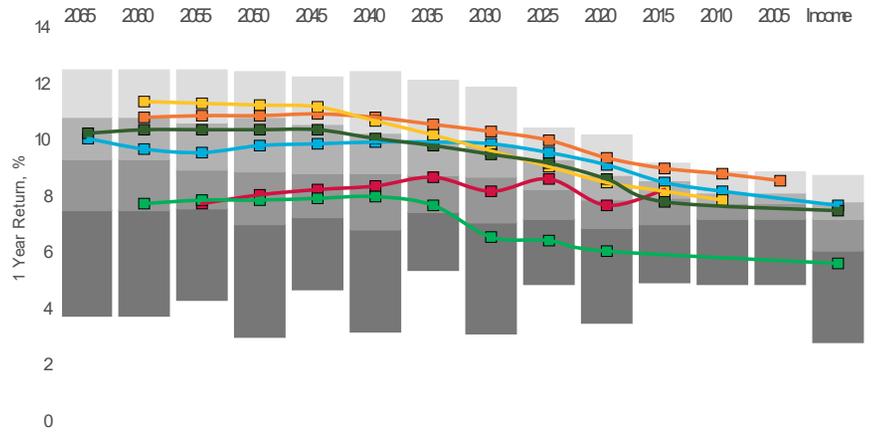
TIAA-CREF Lifecycle Series	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	2010
1 Year	11.24	11.18	11.15	11.07	10.59	10.06	9.52	8.96	8.39	8.04	7.74
3 Years	7.01	7.00	7.00	6.95	6.88	6.72	6.50	6.23	5.98	5.78	5.60
5 Years	10.27	10.20	10.14	10.06	9.84	9.38	8.88	8.31	7.75	7.25	6.88
10 Years	--	--	9.69	9.63	9.55	9.24	8.75	8.22	7.66	7.11	6.67
Since Inception	7.90	8.29	5.79	5.78	7.13	6.81	6.52	6.36	6.14	5.94	5.73
Inception Date	9/26/14	4/29/11	11/30/07	11/30/07	10/15/04	10/15/04	10/15/04	10/15/04	10/15/04	10/15/04	10/15/04

Vanguard Target Retirement Series	2065	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	Income
1 Year	10.11	10.25	10.25	10.26	10.27	9.96	9.71	9.38	9.04	8.51	7.68	7.35
3 Years	7.25	7.31	7.31	7.32	7.32	7.27	7.16	7.04	6.89	6.54	6.09	5.79
5 Years	--	10.12	10.12	10.13	10.13	9.97	9.53	9.07	8.60	7.96	7.04	6.03
10 Years	--	--	9.68	9.65	9.66	9.58	9.29	8.84	8.38	7.81	7.04	5.60
Since Inception	8.03	9.77	10.08	7.22	7.86	7.14	7.46	6.77	6.88	6.41	6.24	5.41
Inception Date	7/12/17	1/19/12	8/18/10	6/7/06	10/27/03	6/7/06	10/27/03	6/7/06	10/27/03	6/7/06	10/27/03	10/27/03

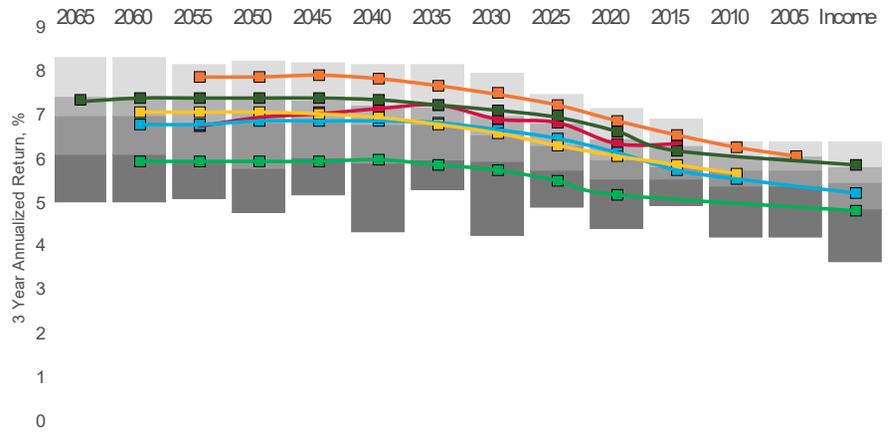
Performance vs Target Date Category Universe

As of Sep 30, 2020

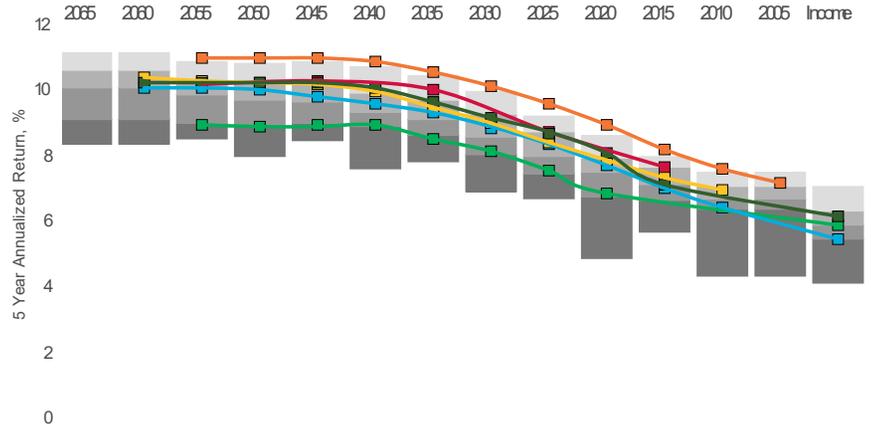
1-YEAR PERFORMANCE VS. MORNINGSTAR TARGET DATE CATEGORY UNIVERSE



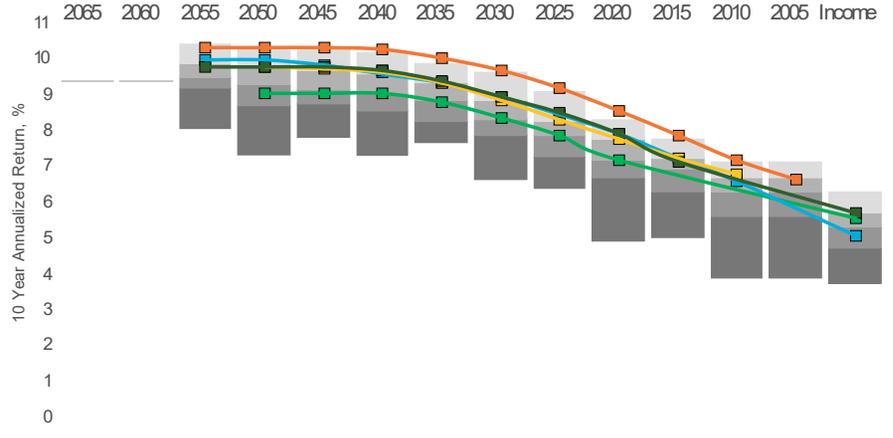
3-YEAR PERFORMANCE VS. MORNINGSTAR TARGET DATE CATEGORY UNIVERSE



5-YEAR PERFORMANCE VS. MORNINGSTAR TARGET DATE CATEGORY UNIVERSE



10-YEAR PERFORMANCE VS. MORNINGSTAR TARGET DATE CATEGORY UNIVERSE

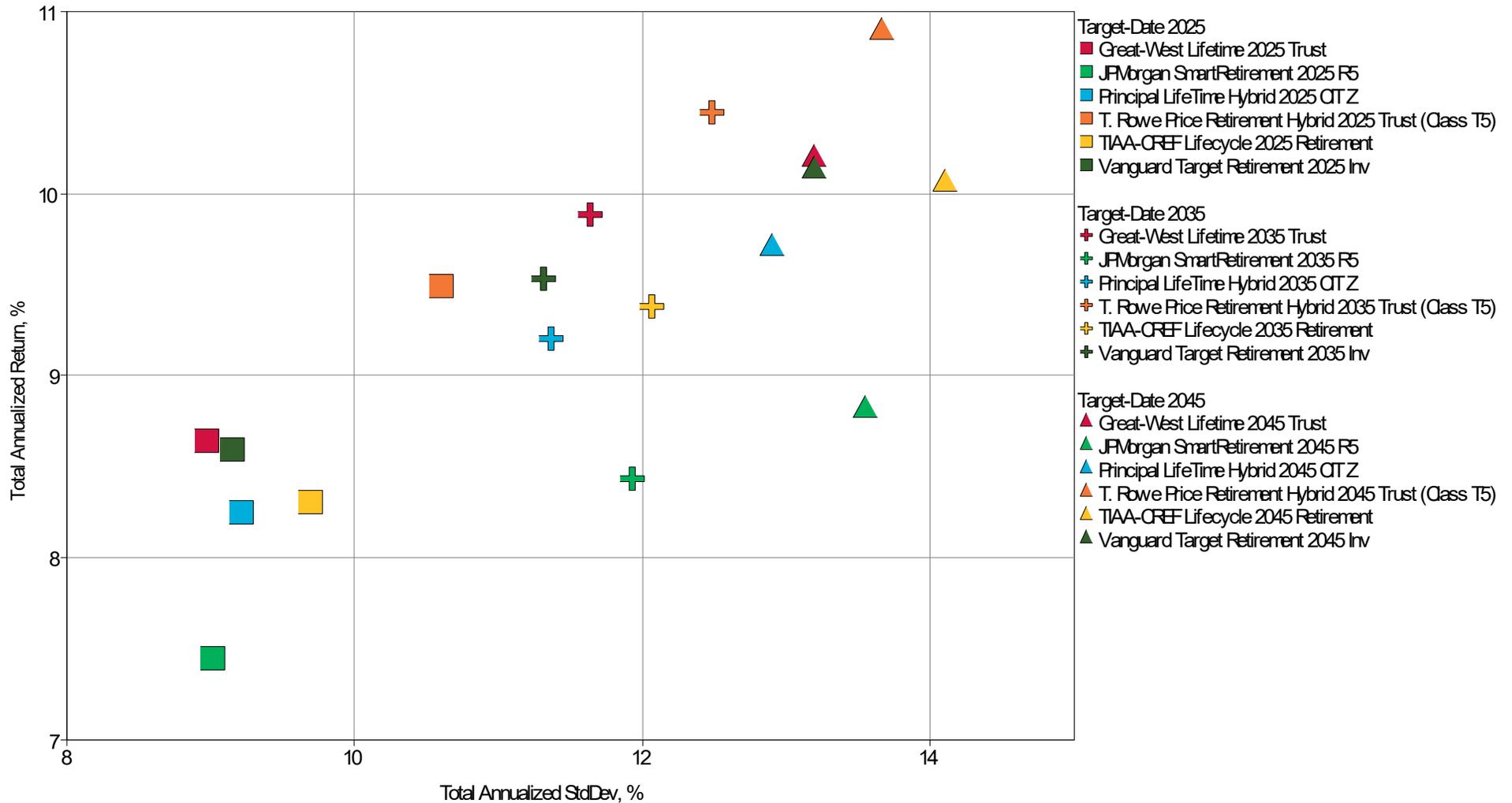


- Great-West LT Series
- JPMorgan Smart Retirement Series
- Principal Lifetime Hybrid Target Series
- T. Rowe Price Retirement Hybrid Series
- TIAA-CREF Lifecycle Series
- Vanguard Target Retirement Series

Morningstar Category peer universe is based off of the oldest share class.

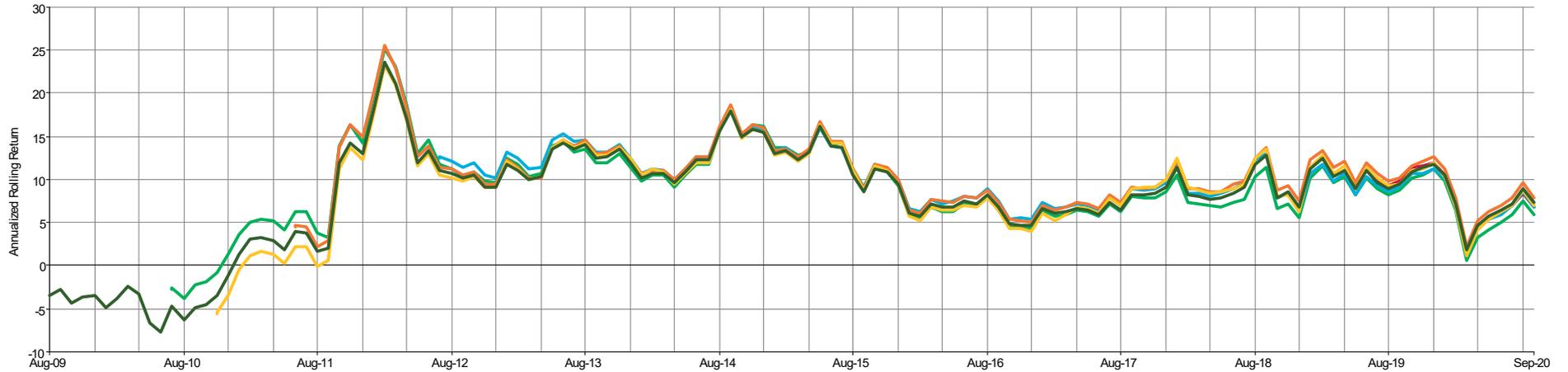
Risk / Return

5 YEAR RISK / RETURN

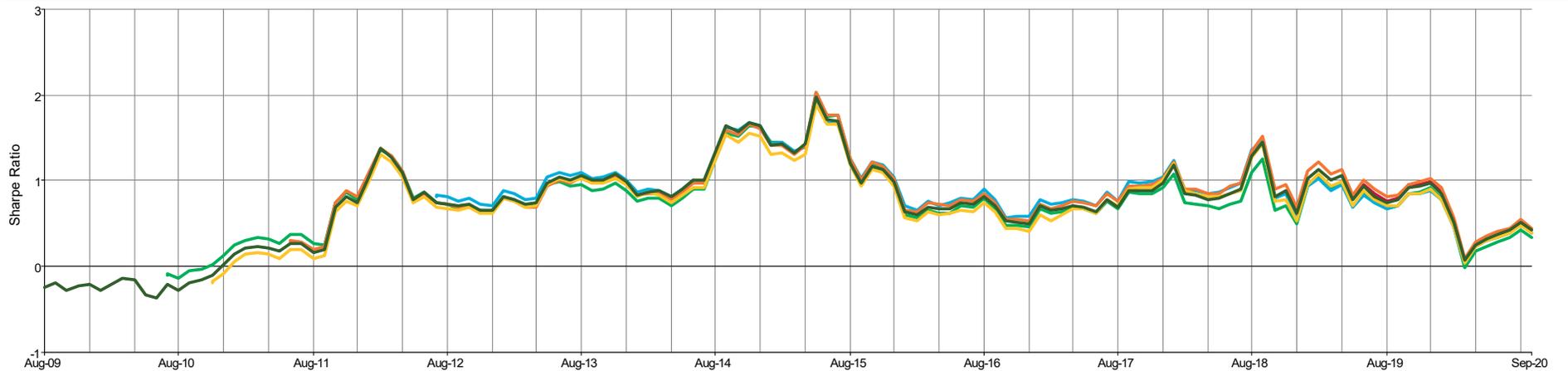


3-Year Rolling Period Returns & Risk Adjusted

3 YEAR ROLLING ANNUALIZED RETURNS



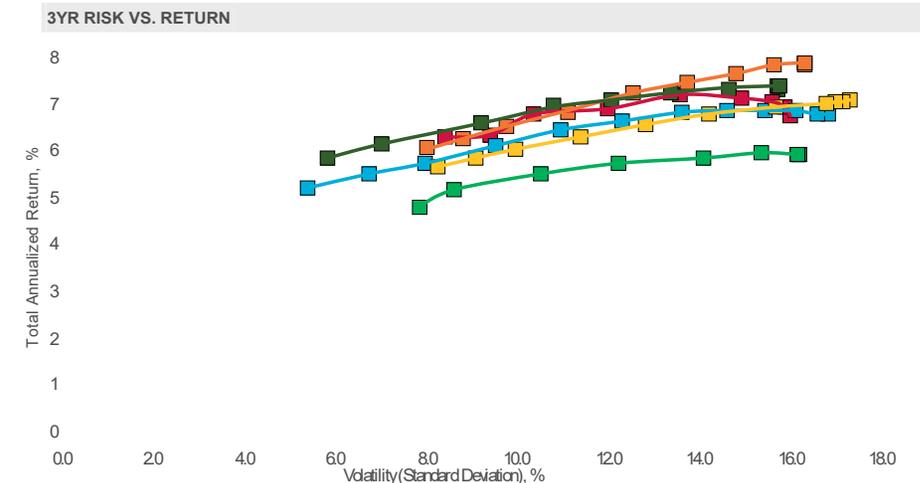
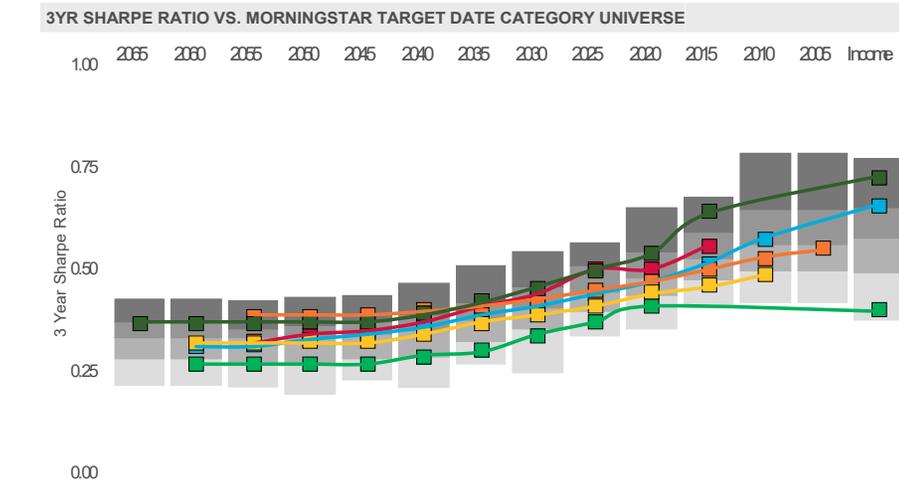
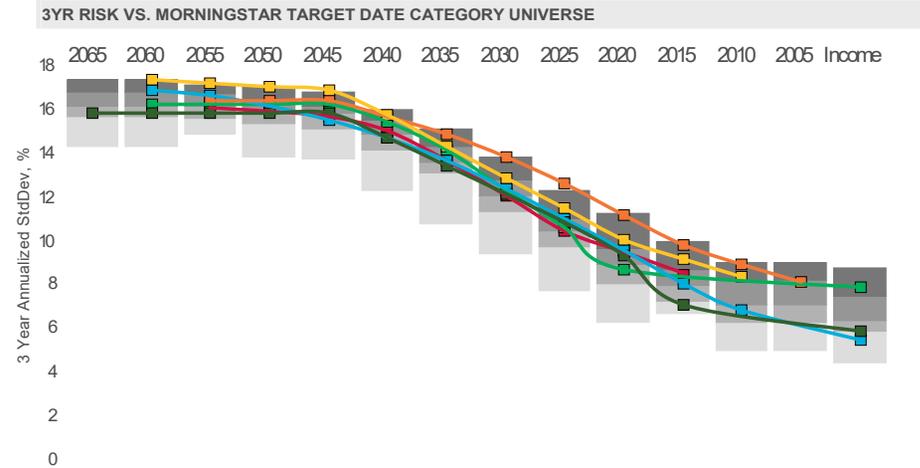
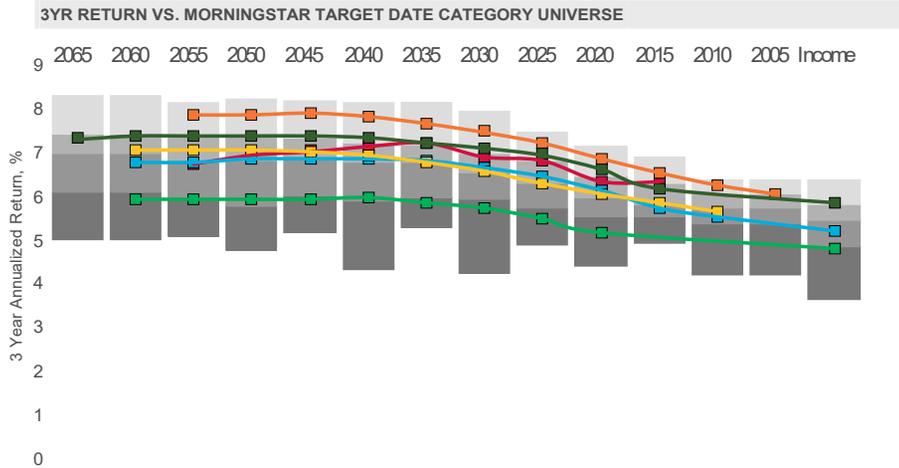
3 YEAR ROLLING SHARPE RATIO



- Great-West LT Series 2050
- JPMorgan SmartRetirement Series 2050
- Principal Lifetime Hybrid Target Series 2050
- T. Rowe Price Retirement Hybrid Series 2050
- TIAA-CREF Lifecycle Series 2050
- Vanguard Target Retirement Series 2050

3-Year Risk / Return Analysis

As of Sep 30, 2020



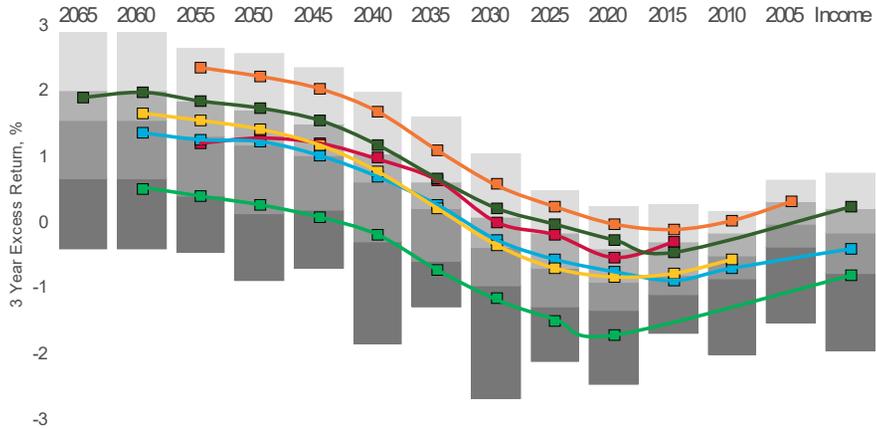
- Great-West LT Series
- JFMorgan Smart Retirement Series
- Principal Lifetime Hybrid Target Series
- T. Rowe Price Retirement Hybrid Series
- TIAA-CREF Lifecycle Series
- Vanguard Target Retirement Series

Morningstar Category peer universe is based off of the oldest share class.

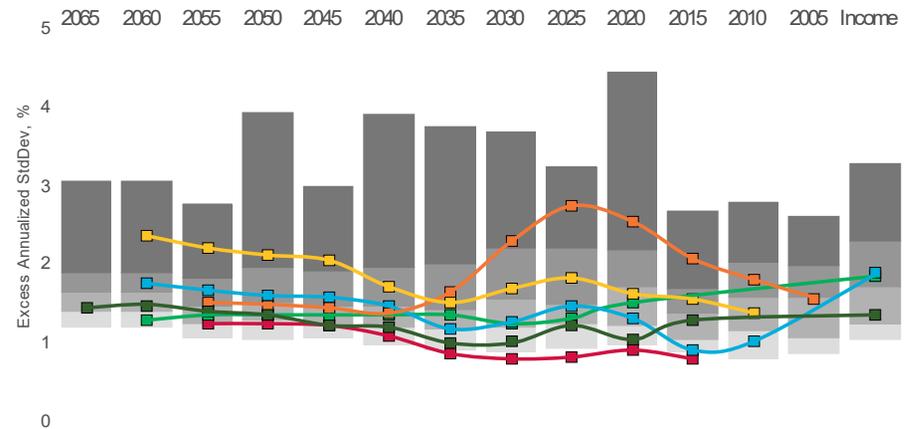
3-Year Relative Risk / Return Analysis

As of Sep 30, 2020

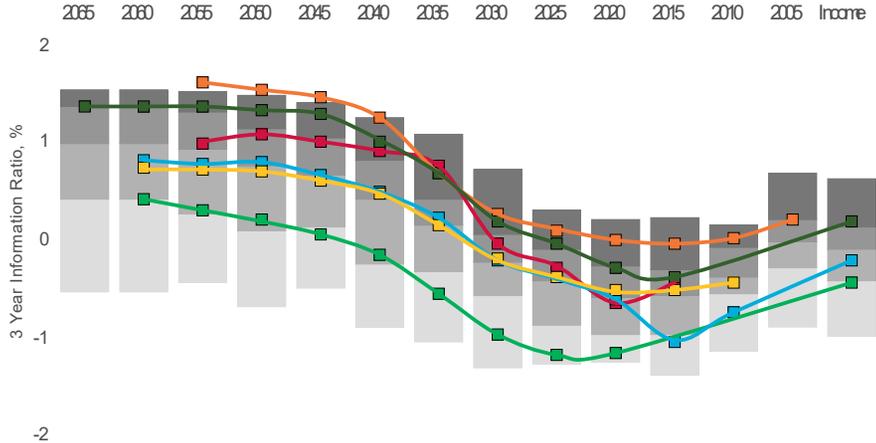
3YR EXCESS RETURN VS. MORNINGSTAR TARGET DATE CATEGORY UNIVERSE



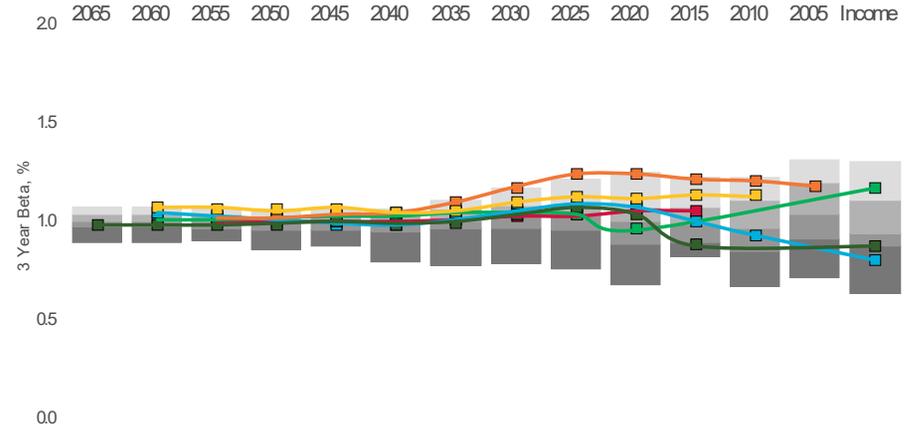
3YR TRACKING ERROR VS. MORNINGSTAR TARGET DATE CATEGORY UNIVERSE



3YR INFORMATION RATIO VS. MORNINGSTAR TARGET DATE CATEGORY UNIVERSE



3YR BETA VS. MORNINGSTAR TARGET DATE CATEGORY UNIVERSE

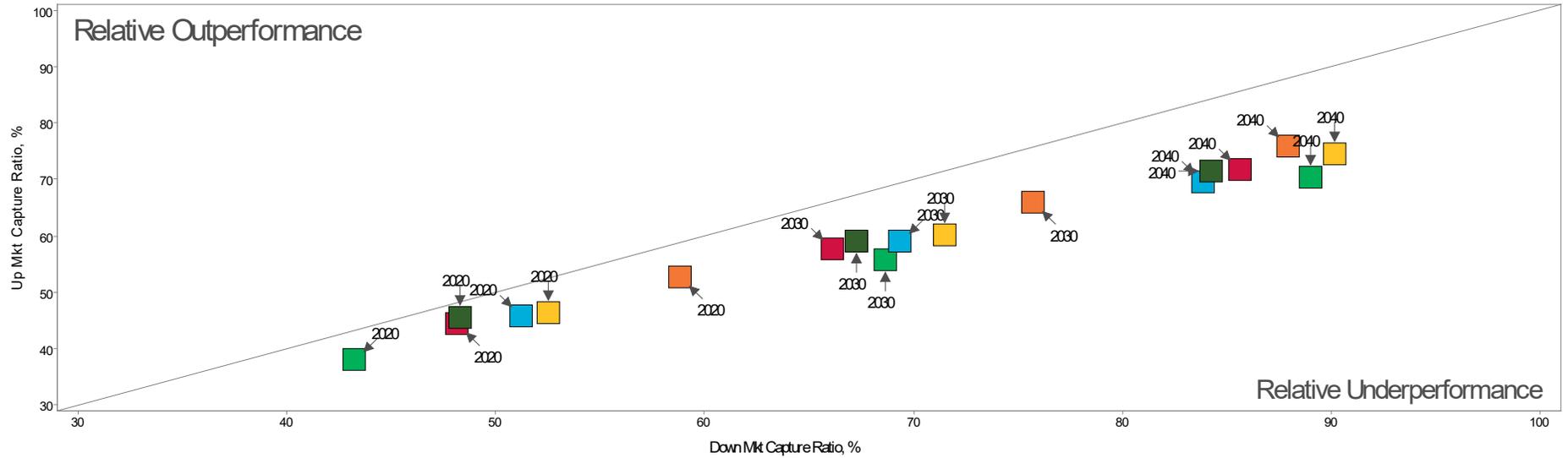


- Great-West LT Series
- JPMorgan SmartRetirement Series
- Principal Lifetime Hybrid Target Series
- T. Rowe Price Retirement Hybrid Series
- TIAA-CREF Lifecycle Series
- Vanguard Target Retirement Series

Benchmark series used is Morningstar Lifetime Moderate Indices. Specific benchmarks can be found in the disclosure section. Morningstar Category peer universe is based off of the oldest share class.

MPT Statistics vs S&P 500 Index

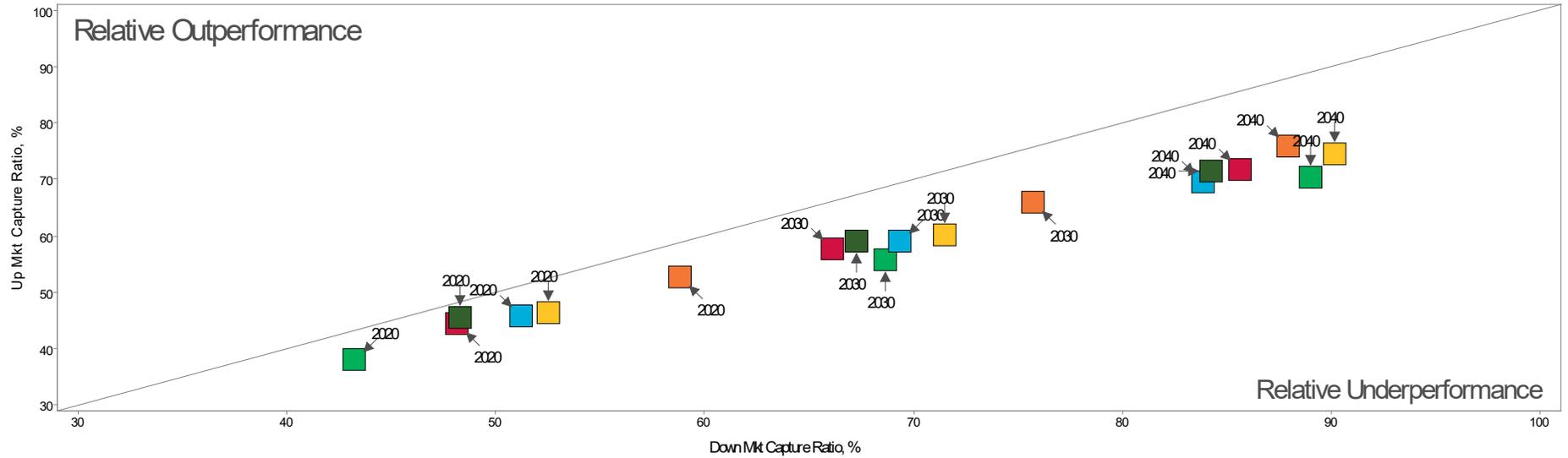
3-YEAR UP/DOWN-MARKET CAPTURE RATIO



	Up Market Capture Ratio	Down Market Capture Ratio	Up Market Average Return	Down Market Average Return	Number of Up Market Months	Number of Down Market Months	R-Squared
Great-West Lifetime 2040 Trust	71.81	85.64	2.66	-4.68	24.00	11.00	95.92
Great-West Lifetime 2030 Trust	57.65	66.08	2.18	-3.56	24.00	11.00	94.99
Great-West Lifetime 2020 Trust	44.58	48.16	1.72	-2.56	26.00	9.00	92.30
JPMorgan SmartRetirement 2040 R5	70.35	89.03	2.62	-4.87	23.00	13.00	94.54
JPMorgan SmartRetirement 2030 R5	55.64	68.61	2.11	-3.70	23.00	13.00	92.85
JPMorgan SmartRetirement 2020 R5	38.04	43.22	1.48	-2.29	25.00	11.00	86.33
Principal LifeTime Hybrid 2040 CIT Z	69.65	83.89	2.59	-4.57	24.00	12.00	97.12
Principal LifeTime Hybrid 2030 CIT Z	58.99	69.31	2.23	-3.74	24.00	12.00	96.56
Principal LifeTime Hybrid 2020 CIT Z	45.77	51.21	1.76	-2.73	25.00	11.00	94.66
T. Rowe Price Retirement Hybrid 2040 Trust (Class T5)	75.80	87.97	2.80	-4.81	25.00	11.00	96.52
T. Rowe Price Retirement Hybrid 2030 Trust (Class T5)	66.01	75.74	2.47	-4.11	25.00	11.00	95.72
T. Rowe Price Retirement Hybrid 2020 Trust (Class T5)	52.77	58.80	2.01	-3.15	25.00	11.00	93.62

MPT Statistics vs S&P 500 Index

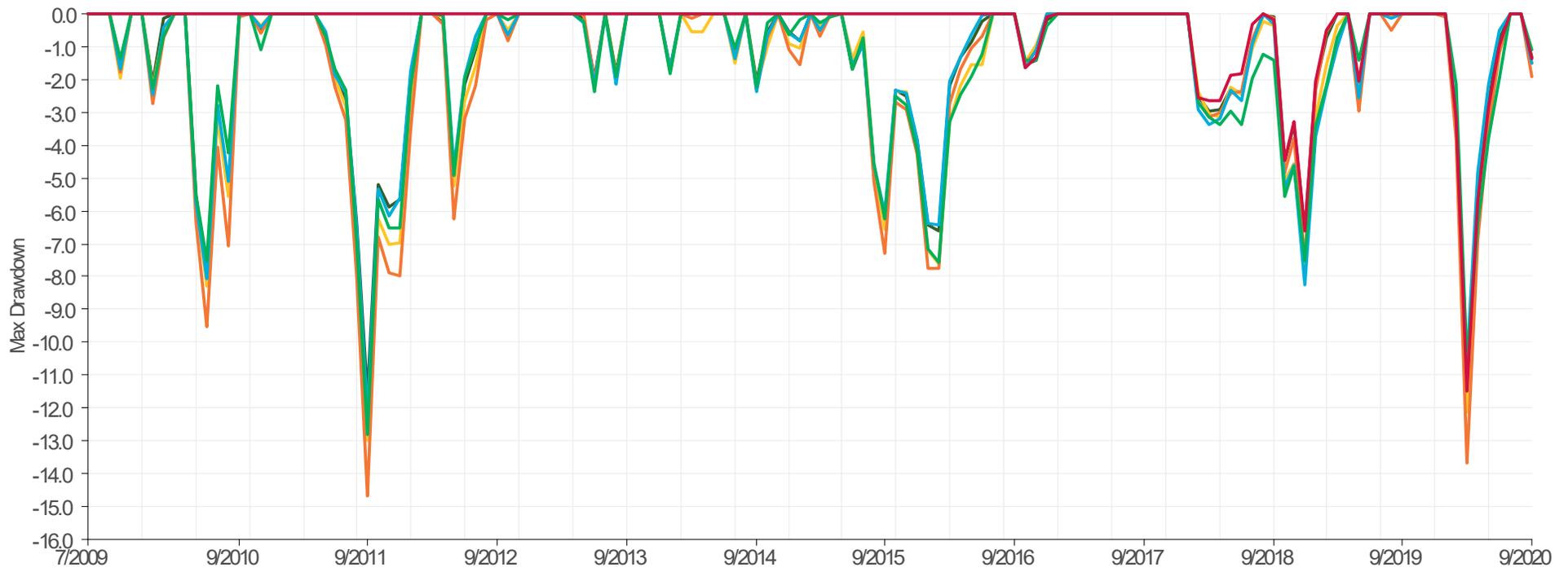
3-YEAR UP/DOWN-MARKET CAPTURE RATIO



	Up Market Capture Ratio	Down Market Capture Ratio	Up Market Average Return	Down Market Average Return	Number of Up Market Months	Number of Down Market Months	R-Squared
TIAA-CREF Lifecycle 2040 Retirement	74.44	90.17	2.75	-4.94	24.00	12.00	97.01
TIAA-CREF Lifecycle 2030 Retirement	60.20	71.51	2.27	-3.87	24.00	12.00	95.78
TIAA-CREF Lifecycle 2020 Retirement	46.36	52.53	1.78	-2.81	24.00	12.00	93.11
Vanguard Target Retirement 2040 Inv	71.45	84.22	2.65	-4.59	25.00	11.00	96.73
Vanguard Target Retirement 2030 Inv	59.11	67.28	2.23	-3.63	25.00	11.00	95.91
Vanguard Target Retirement 2020 Inv	45.50	48.32	1.75	-2.57	26.00	10.00	94.10

Max Drawdown

MAX DRAWDOWN



	Max Drawdown Return	Max Drawdown Duration	Recovery Duration	Max Drawdown Period	Recovery Period	Worst Monthly Return	Worst Month	95% VaR
Great-West Lifetime 2020 Trust	-11.50	2 Months	4 Months	2/2020 - 3/2020	4/2020 - 7/2020	-8.56	3/2020	3.77
JPMorgan SmartRetirement 2020 R5	-12.79	5 Months	5 Months	5/2011 - 9/2011	10/2011 - 2/2012	-8.66	3/2020	4.11
Principal LifeTime Hybrid 2020 CIT Z	-12.21	5 Months	5 Months	5/2011 - 9/2011	10/2011 - 2/2012	-7.78	3/2020	4.11
T. Rowe Price Retirement Hybrid 2020 Trust (C)	-14.67	5 Months	5 Months	5/2011 - 9/2011	10/2011 - 2/2012	-10.22	3/2020	4.81
TIAA-CREF Lifecycle 2020 Retirement	-12.98	5 Months	5 Months	5/2011 - 9/2011	10/2011 - 2/2012	-9.17	3/2020	4.30
Vanguard Target Retirement 2020 Inv	-11.62	5 Months	5 Months	5/2011 - 9/2011	10/2011 - 2/2012	-7.99	3/2020	4.04

Target Date Comparison

Allocation Breakdown

Asset Allocation (holdings-based)

Holdings As of Jun 30, 2020

Great-West LT Series	2055	2050	2045	2040	2035	2030	2025	2020	2015
Equities	90.57	90.11	88.37	83.36	74.46	63.65	53.56	46.47	40.86
Bonds	4.94	5.30	6.58	10.23	16.80	24.86	32.60	38.19	42.81
Cash	2.28	2.29	2.39	2.59	3.03	3.75	4.69	5.65	6.67
Other	2.21	2.29	2.66	3.82	5.71	7.74	9.15	9.69	9.65

Holdings As of Aug 31, 2020

JPMorgan SmartRetirement Series	2060	2055	2050	2045	2040	2035	2030	2025	2020	Income
Equities	81.94	83.80	84.48	84.09	78.22	69.79	55.23	44.88	31.85	29.14
Bonds	10.57	10.66	10.05	9.94	16.30	24.49	35.47	46.00	57.87	59.72
Cash	7.21	5.26	5.27	5.76	5.14	5.18	7.99	7.59	8.36	9.20
Other	0.28	0.27	0.20	0.20	0.34	0.54	1.31	1.53	1.91	1.94

Holdings As of Sep 30, 2020

Principal Lifetime Hybrid Target Series	2065	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	2010	Income
Equities	88.28	87.89	86.36	83.77	80.20	75.74	70.06	59.10	50.86	42.01	33.88	26.99	19.77
Bonds	3.79	4.43	6.01	8.76	12.54	17.29	23.29	31.80	39.28	47.00	55.09	61.87	68.99
Cash	1.92	1.97	1.97	1.96	1.95	1.92	1.89	4.74	5.80	7.58	8.13	8.66	9.18
Other	6.01	5.71	5.66	5.51	5.31	5.05	4.76	4.36	4.06	3.42	2.90	2.48	2.06

Holdings As of Sep 30, 2020

T. Rowe Price Retirement Hybrid	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	2010	2005
Equities	90.72	90.75	90.71	90.72	87.44	81.68	75.00	66.84	57.12	47.29	42.22	37.01
Bonds	5.39	5.33	5.28	5.27	8.82	14.17	20.38	27.98	37.19	46.17	50.99	55.94
Cash	3.75	3.78	3.87	3.87	3.57	3.94	4.35	4.83	5.23	5.99	6.16	6.38
Other	0.14	0.14	0.14	0.14	0.17	0.21	0.27	0.35	0.46	0.56	0.63	0.68

Morningstar Target Date Cat Avg	2065	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	2010	2005	Income
Equities	87.09	87.09	85.33	82.77	81.94	74.72	69.18	59.39	50.95	41.47	37.83	31.60	31.60	28.78
Bonds	6.57	6.57	6.96	8.60	9.64	14.85	19.51	28.91	33.77	44.82	47.50	49.24	49.24	49.02
Cash	3.90	3.90	4.29	4.95	4.55	5.76	6.32	7.08	8.87	8.70	8.11	11.72	11.72	14.33
Other	2.44	2.44	3.41	3.68	3.87	4.67	4.99	4.62	6.40	5.02	6.56	7.45	7.45	7.87

Morningstar Category peer universe is based off of the oldest share class.

Allocations and holdings are subject to change. The above sector weights data are based on a Broad Asset Class Breakdown. Please see Important Information section for detailed information.

Asset Allocation (holdings-based)

											Holdings As of Aug 31, 2020	
TIAA-CREF Lifecycle Series	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	2010	
■ Equities	92.14	90.93	89.68	88.23	79.31	70.45	61.69	53.06	44.46	39.64	34.76	
■ Bonds	2.46	3.63	4.80	6.12	14.22	22.26	30.35	38.46	46.42	51.05	55.65	
■ Cash	1.34	1.35	1.42	1.52	2.22	2.88	3.46	3.93	4.47	4.60	4.86	
■ Other	4.06	4.09	4.11	4.13	4.27	4.39	4.49	4.55	4.65	4.71	4.73	

												Holdings As of Aug 31, 2020	
Vanguard Target Retirement Seri	2065	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	Income	
■ Equities	90.34	90.19	90.49	90.77	90.83	82.94	75.53	68.28	60.52	49.94	35.27	30.43	
■ Bonds	9.12	9.28	8.99	8.72	8.67	16.27	23.42	30.44	38.98	48.10	63.63	66.92	
■ Cash	0.44	0.43	0.42	0.41	0.40	0.63	0.84	1.04	0.17	1.63	0.69	2.25	
■ Other	0.10	0.10	0.10	0.10	0.10	0.16	0.21	0.25	0.33	0.33	0.41	0.40	

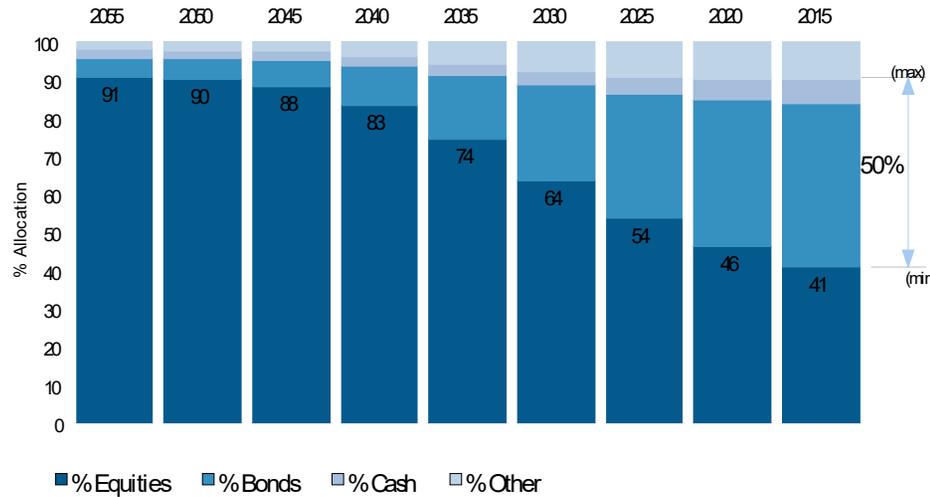
Morningstar Target Date Cat Avg	2065	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	2010	2005	Income
■ Equities	87.09	87.09	85.33	82.77	81.94	74.72	69.18	59.39	50.95	41.47	37.83	31.60	31.60	28.78
■ Bonds	6.57	6.57	6.96	8.60	9.64	14.85	19.51	28.91	33.77	44.82	47.50	49.24	49.24	49.02
■ Cash	3.90	3.90	4.29	4.95	4.55	5.76	6.32	7.08	8.87	8.70	8.11	11.72	11.72	14.33
■ Other	2.44	2.44	3.41	3.68	3.87	4.67	4.99	4.62	6.40	5.02	6.56	7.45	7.45	7.87

Morningstar Category peer universe is based off of the oldest share class.

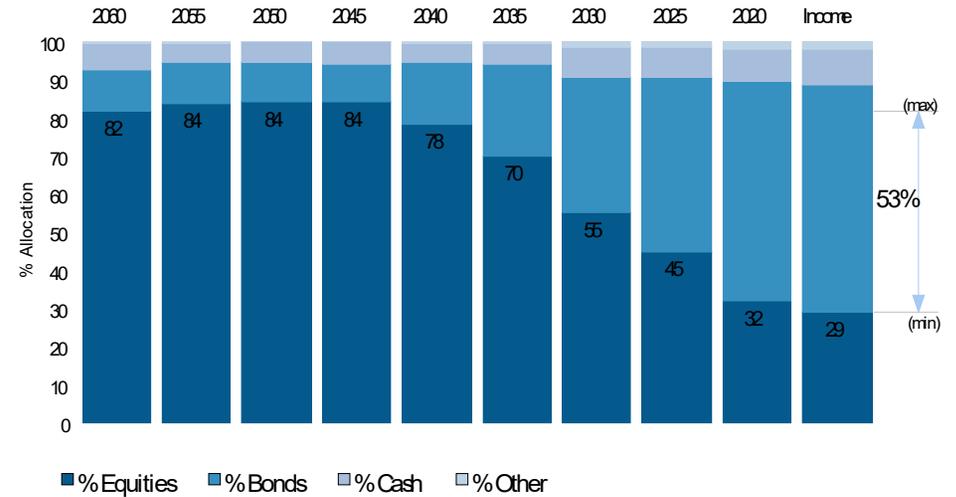
Allocations and holdings are subject to change. The above sector weights data are based on a Broad Asset Class Breakdown. Please see Important Information section for detailed information.

Glide Path (holdings-based)

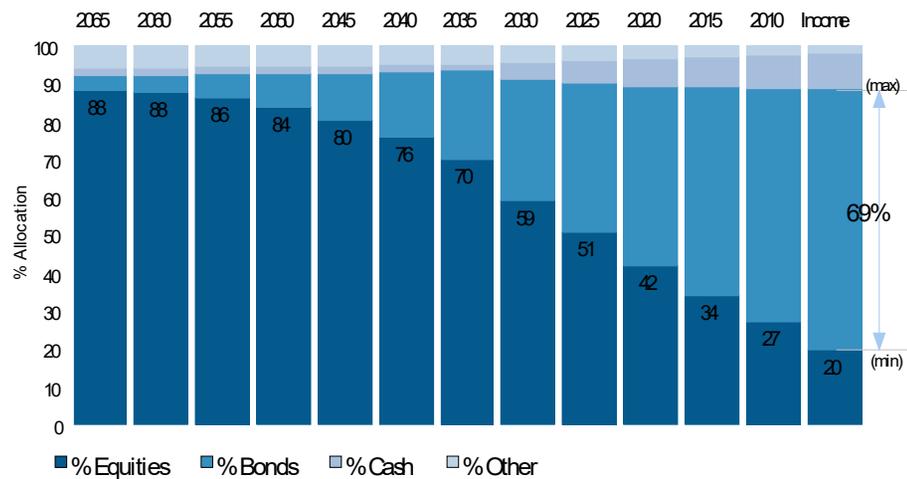
Great-West LT Series



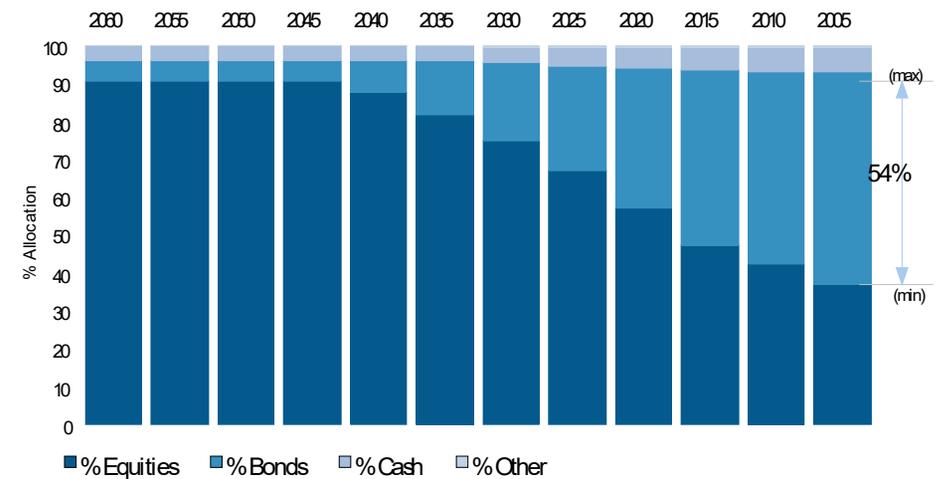
JPMorgan SmartRetirement Series



Principal Lifetime Hybrid Target Series



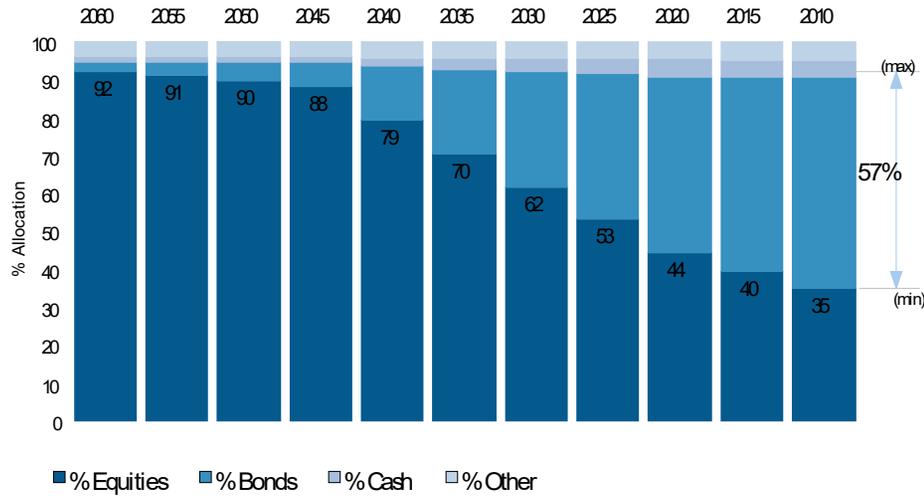
T. Rowe Price Retirement Hybrid Series



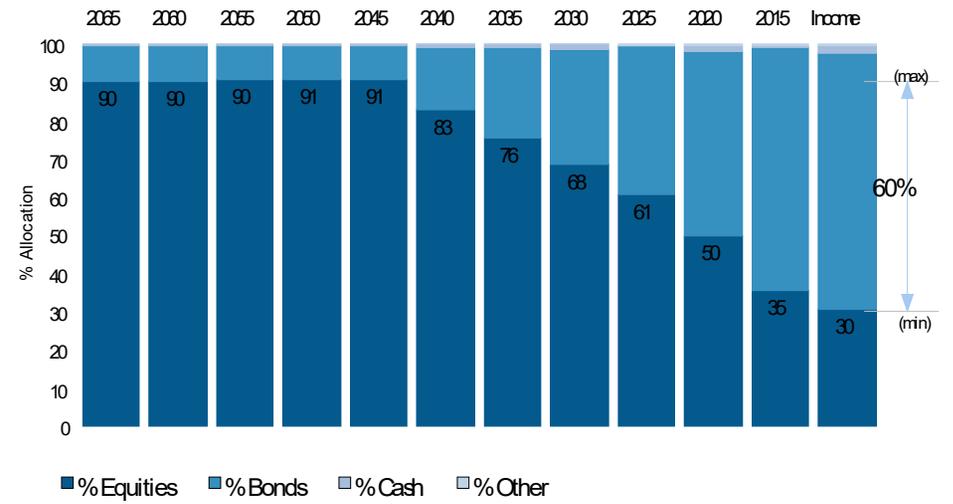
Allocations and holdings are subject to change. The above sector weights data are based on a Broad Asset Class Breakdown. Please see Important Information section for detailed information.

Glide Path (holdings-based)

TIAA-CREF Lifecycle Series

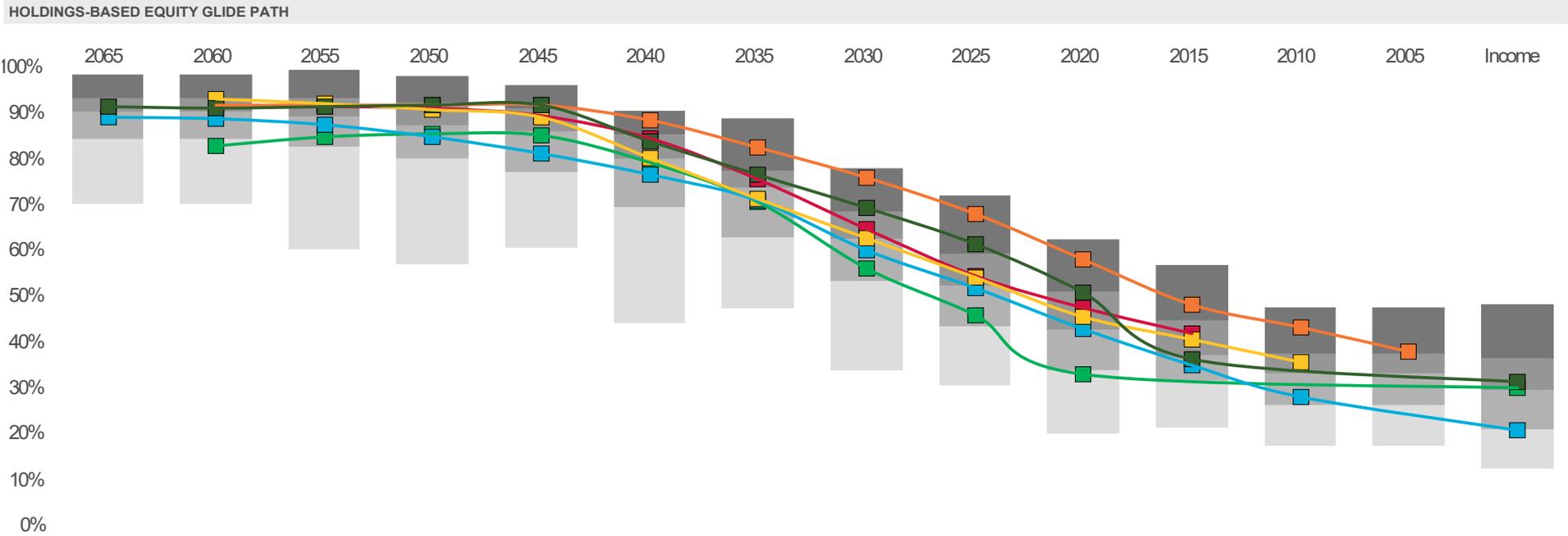


Vanguard Target Retirement Series



Allocations and holdings are subject to change. The above sector weights data are based on a Broad Asset Class Breakdown. Please see Important Information section for detailed information.

Equity Glide Path (holdings-based)



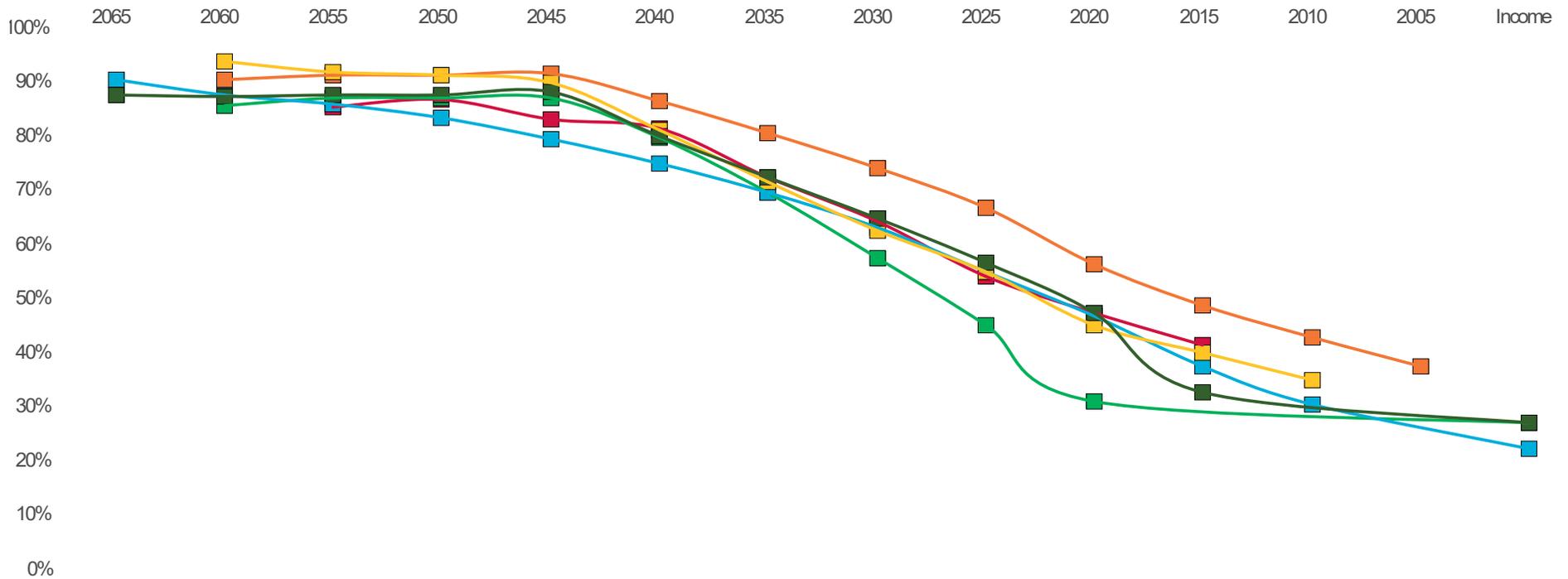
Strategy Name	As of Date	2065	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	2010	2005	Income
Great-West LT Series	06/30/2020			90.57	90.11	88.37	83.36	74.46	63.65	53.56	46.47	40.86			
JPMorgan SmartRetirement Series	08/31/2020		81.94	83.80	84.48	84.09	78.22	69.79	55.23	44.88	31.85				29.14
Principal Lifetime Hybrid Target Series	09/30/2020	88.28	87.89	86.36	83.77	80.20	75.74	70.06	59.10	50.86	42.01	33.88	26.99		19.77
T. Rowe Price Retirement Hybrid Series	09/30/2020		90.72	90.75	90.71	90.72	87.44	81.68	75.00	66.84	57.12	47.29	42.22	37.01	
TIAA-CREF Lifecycle Series	08/31/2020		92.14	90.93	89.68	88.23	79.31	70.45	61.69	53.06	44.46	39.64	34.76		
Vanguard Target Retirement Series	08/31/2020	90.34	90.19	90.49	90.77	90.83	82.94	75.53	68.28	60.52	49.94	35.27			30.43
Morningstar Target Date Cat Avg		87.09	87.09	85.33	82.77	81.94	74.72	69.18	59.39	50.95	41.47	37.83	31.60	31.60	28.78
Morningstar Target Date Cat Median		89.46	89.46	88.36	86.36	85.25	79.16	72.99	61.83	51.34	41.80	36.44	32.47	32.47	28.60

Morningstar Category peer universe is based off of the oldest share class.

Allocations and holdings are subject to change. Equity Holdings are measured as the sum of U.S. Equity and Non-U.S. Equity.

Equity Glide Path (holdings-based)

RETURNS-BASED EQUITY EXPOSURE GLIDE PATH



Strategy Name	As of Date	2065	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	2010	2005	Income
Great-West LT Series	09/30/20			84.46	85.84	82.33	80.60	71.54	63.32	53.30	46.40	40.65			
JPMorgan SmartRetirement Series	09/30/20		84.72	86.07	86.32	86.25	78.89	68.84	56.57	44.11	30.18				26.21
Principal Lifetime Hybrid Target Series	09/30/20	89.44	86.64	85.05	82.59	78.65	74.06	68.70	62.33	54.16	45.96	36.70	29.47		21.36
T. Rowe Price Retirement Hybrid Series	09/30/20		89.55	90.35	90.46	90.66	85.69	79.64	73.24	65.78	55.52	47.87	41.84	36.52	
TIAA-CREF Lifecycle Series	09/30/20		93.08	91.04	90.37	89.05	80.17	70.65	61.58	53.99	44.31	39.25	34.19		
Vanguard Target Retirement Series	09/30/20	86.84	86.60	86.68	86.78	87.21	79.09	71.60	63.86	55.75	46.47	31.86			26.29

Returns based Total Equity Exposure is the result of multi-variate regression of each product to five equity indices that comprise both US and Non-US Equity.

Equity Allocation Breakdown (holdings-based)

2025	Holdings Date	Equity (%)		Regional Exposure (%)		Market Cap (%)					
		US Equity	Non-US Equity	Emerging Market	Developed Country	Giant Cap	Large Cap	Medium Cap	Small Cap	Micro Cap	
	Great-West LT Series	06/30/2020	35.73	17.84	6.04	93.96	32.07	31.33	26.03	9.53	1.05
	JPMorgan SmartRetirement Series	08/31/2020	24.07	20.81	9.18	90.82	46.73	33.98	15.46	3.49	0.34
	Principal Lifetime Hybrid Target Series	09/30/2020	36.02	14.84	4.09	95.91	44.71	27.81	19.65	7.17	0.66
	T. Rowe Price Retirement Hybrid Series	09/30/2020	44.61	22.23	7.38	92.62	39.68	32.99	20.79	5.69	0.85
	TIAA-CREF Lifecycle Series	08/31/2020	35.84	17.22	7.08	92.92	42.76	31.41	18.49	6.43	0.92
	Vanguard Target Retirement Series	08/31/2020	36.33	24.19	8.44	91.56	43.00	31.80	18.83	5.51	0.87
	Morningstar Target Date Cat Avg	09/30/2020	32.61	17.07	6.75	93.25	39.26	31.50	20.73	7.36	1.15

2035	Date	US Equity	Non-US Equity	Emerging Market	Developed Country	Giant Cap	Large Cap	Medium Cap	Small Cap	Micro Cap	
	Great-West LT Series	06/30/2020	47.73	26.73	7.00	93.00	32.57	31.10	25.13	10.01	1.18
	JPMorgan SmartRetirement Series	08/31/2020	40.26	29.53	9.97	90.03	44.57	31.30	20.09	3.84	0.21
	Principal Lifetime Hybrid Target Series	09/30/2020	49.58	20.48	5.27	94.73	43.84	27.48	20.85	7.19	0.64
	T. Rowe Price Retirement Hybrid Series	09/30/2020	54.84	26.84	7.30	92.70	39.68	32.98	20.79	5.70	0.86
	TIAA-CREF Lifecycle Series	08/31/2020	47.62	22.83	7.06	92.94	42.71	31.44	18.52	6.41	0.92
	Vanguard Target Retirement Series	08/31/2020	45.39	30.14	8.42	91.58	43.00	31.80	18.82	5.51	0.87
	Morningstar Target Date Cat Avg	09/30/2020	43.62	24.16	7.11	92.89	39.32	31.49	20.89	7.19	1.10

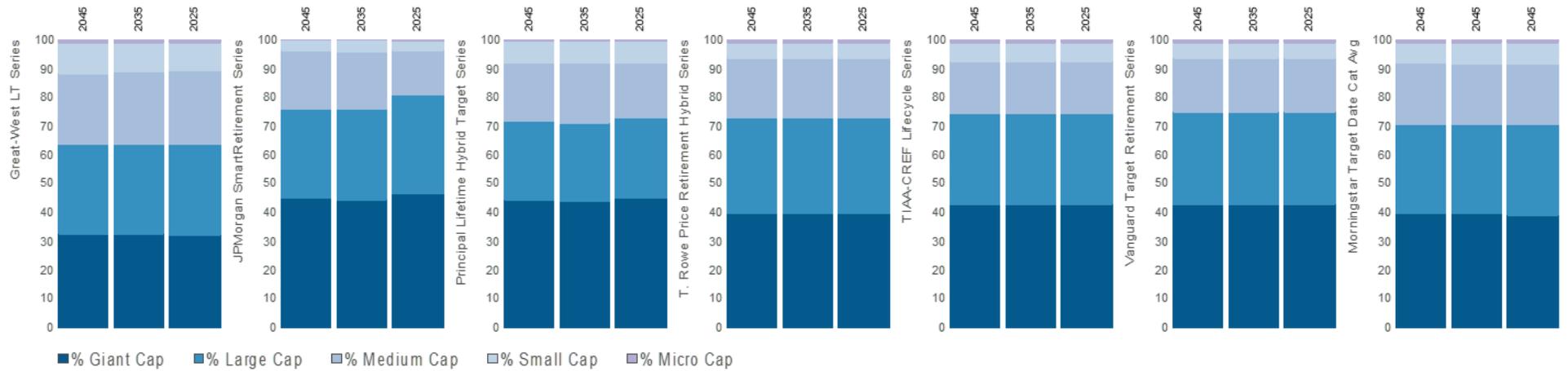
2045	Date	US Equity	Non-US Equity	Emerging Market	Developed Country	Giant Cap	Large Cap	Medium Cap	Small Cap	Micro Cap	
	Great-West LT Series	06/30/2020	54.58	33.78	7.96	92.04	32.73	30.93	24.63	10.41	1.29
	JPMorgan SmartRetirement Series	08/31/2020	48.64	35.45	9.96	90.04	44.68	31.38	19.95	3.79	0.20
	Principal Lifetime Hybrid Target Series	09/30/2020	56.71	23.50	5.54	94.46	44.13	27.51	20.49	7.22	0.65
	T. Rowe Price Retirement Hybrid Series	09/30/2020	61.12	29.60	7.26	92.74	39.67	32.97	20.79	5.71	0.86
	TIAA-CREF Lifecycle Series	08/31/2020	59.65	28.58	7.06	92.94	42.68	31.44	18.55	6.42	0.91
	Vanguard Target Retirement Series	08/31/2020	55.00	35.83	8.33	91.67	43.02	31.79	18.81	5.51	0.87
	Morningstar Target Date Cat Avg	09/30/2020	50.38	29.86	7.50	92.50	39.32	31.53	20.96	7.13	1.06

Morningstar Category peer universe is based off of the oldest share class.

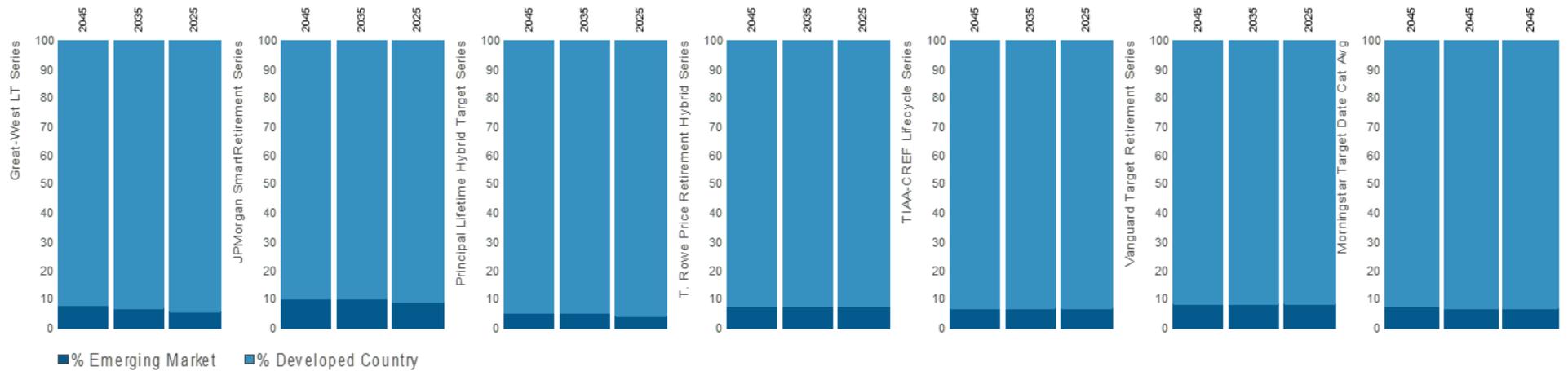
Allocations and holdings are subject to change. The above sector weights data are based on a Broad Asset Class Breakdown. Please see Important Information section for detailed information.

Equity Allocation Breakdown (holdings-based)

MARKET CAP BREAKDOWN



REGION BREAKDOWN

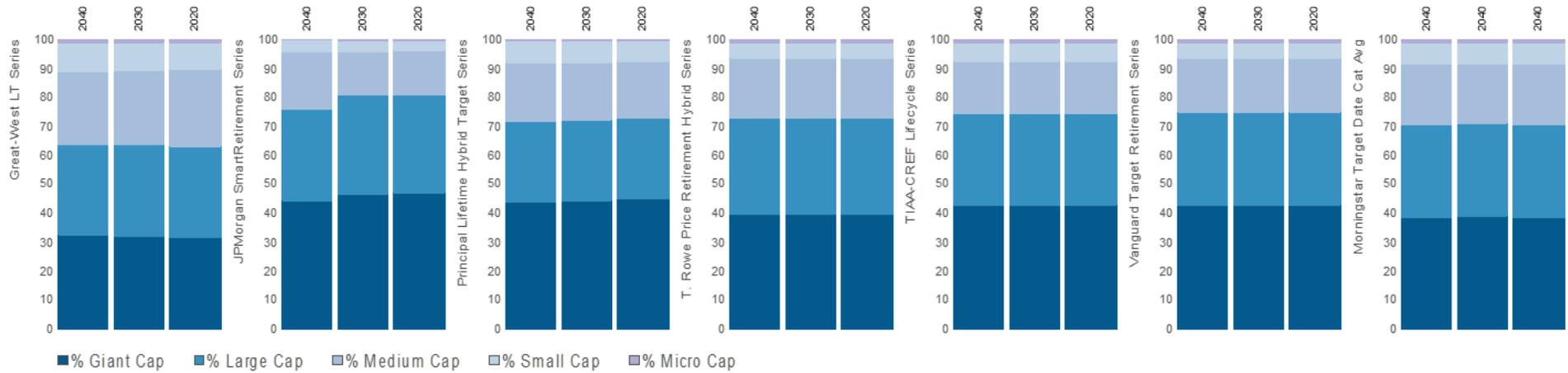


Morningstar Category peer universe is based off of the oldest share class.

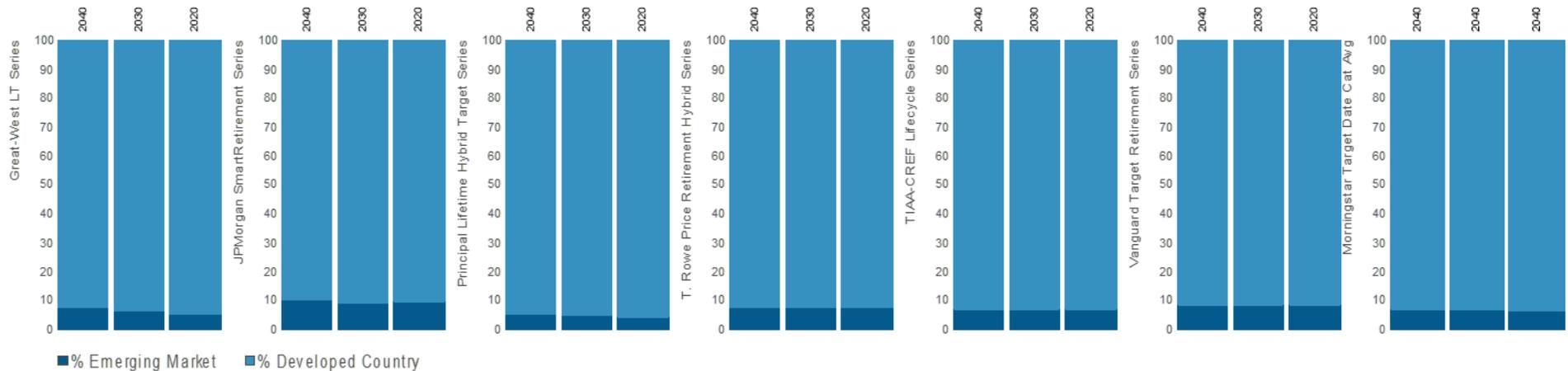
Allocations and holdings are subject to change. The above sector weights data are based on a Broad Asset Class Breakdown. Please see Important Information section for detailed information.

Equity Allocation Breakdown (holdings-based)

MARKET CAP BREAKDOWN



REGION BREAKDOWN



Morningstar Category peer universe is based off of the oldest share class.

Allocations and holdings are subject to change. The above sector weights data are based on a Broad Asset Class Breakdown. Please see Important Information section for detailed information.

Fixed Income Allocation Breakdown (holdings-based)

2025	Holdings Date	Regional (%)		Sector (%)						Credit Quality (%)					
		US Bonds	Non-US Bonds	Govt	Muni	Corp	Securitized	Cash	Other	AAA	AA	A	BBB	Below Inv Grade	Not Rated
Great-West LT Series	06/30/2020	30.54	2.07	39.07	0.26	27.52	19.53	12.06	1.56	70.63	4.54	11.23	12.18	1.70	0.00
JPMorgan SmartRetirement Series	08/31/2020	39.22	6.78	15.86	0.16	42.38	27.80	13.79	0.01	37.76	3.88	17.29	19.29	21.79	0.00
Principal Lifetime Hybrid Target Series	09/30/2020	36.21	3.07	36.76	0.42	29.98	19.70	11.99	1.14	62.28	3.86	10.53	13.81	9.53	0.65
T. Rowe Price Retirement Hybrid Series	09/30/2020	18.83	9.16	36.11	1.45	30.01	17.71	14.66	0.06	48.89	4.61	9.92	15.84	20.73	3.09
TIAA-CREF Lifecycle Series	08/31/2020	31.35	7.11	24.06	2.77	36.69	27.34	9.14	0.00	42.99	6.67	14.26	20.55	15.53	0.00
Vanguard Target Retirement Series	08/31/2020	25.66	13.32	55.84	0.53	25.38	17.81	0.43	0.00	50.60	10.41	16.16	22.83	0.00	0.00
Morningstar Target Date Cat Avg	09/30/2020	28.06	4.87	36.96	0.38	25.54	16.33	19.22	1.57	58.60	3.89	13.30	14.85	9.43	0.50

2035	Date	US Bonds	Non-US Bonds	Govt	Muni	Corp	Securitized	Cash	Other	AAA	AA	A	BBB	Below Inv Grade	Not Rated
JPMorgan SmartRetirement Series	08/31/2020	21.67	2.82	16.16	0.15	40.08	26.40	17.20	0.01	36.90	4.44	16.32	16.50	25.83	0.00
Principal Lifetime Hybrid Target Series	09/30/2020	21.31	1.98	34.07	0.58	34.83	23.08	7.41	0.03	61.06	2.50	10.34	12.71	13.38	0.44
T. Rowe Price Retirement Hybrid Series	09/30/2020	9.23	4.94	30.63	1.49	29.06	17.11	21.65	0.06	50.39	4.60	9.90	15.40	19.71	3.20
TIAA-CREF Lifecycle Series	08/31/2020	17.69	4.57	15.15	3.08	41.05	29.42	11.30	0.00	35.50	6.66	15.62	23.48	18.74	0.00
Vanguard Target Retirement Series	08/31/2020	15.13	8.29	54.06	0.50	24.88	17.13	3.44	0.00	53.62	10.14	15.42	20.82	0.00	0.00
Morningstar Target Date Cat Avg	09/30/2020	16.01	3.11	34.00	0.38	25.68	15.45	22.72	1.78	57.07	4.02	12.94	14.84	11.16	0.61

2045	Date	US Bonds	Non-US Bonds	Govt	Muni	Corp	Securitized	Cash	Other	AAA	AA	A	BBB	Below Inv Grade	Not Rated
JPMorgan SmartRetirement Series	08/31/2020	8.84	1.10	16.15	0.09	32.33	15.09	36.33	0.01	30.03	3.73	14.73	13.88	37.63	0.00
Principal Lifetime Hybrid Target Series	09/30/2020	11.46	1.08	30.65	0.52	34.70	20.77	13.32	0.03	58.87	2.40	9.93	12.22	16.58	0.54
T. Rowe Price Retirement Hybrid Series	09/30/2020	3.61	1.66	23.90	1.10	20.09	12.96	41.90	0.04	66.53	3.43	7.36	10.97	11.71	2.38
TIAA-CREF Lifecycle Series	08/31/2020	4.60	1.52	14.83	2.48	39.34	23.64	19.69	0.02	31.48	6.02	14.28	22.86	25.36	0.00
Vanguard Target Retirement Series	08/31/2020	5.36	3.31	54.62	0.47	24.19	16.35	4.38	0.00	52.02	10.91	15.91	21.16	0.00	0.00
Morningstar Target Date Cat Avg	09/30/2020	7.79	1.65	30.07	0.33	23.38	13.11	31.46	1.66	57.03	4.09	12.50	14.34	12.07	0.60

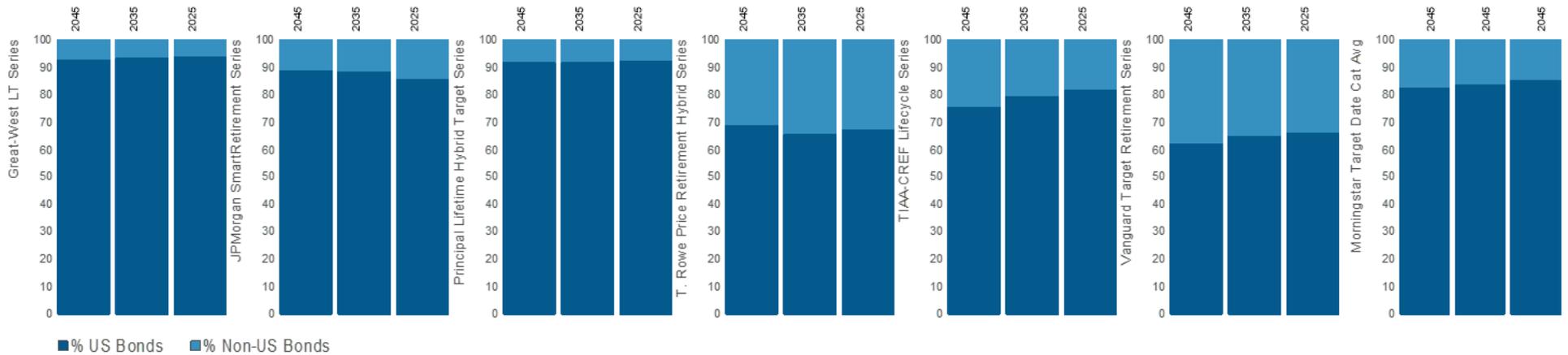
For more information on the calculation of Credit Quality, please see Important Information section.

Morningstar Category peer universe is based off of the oldest share class.

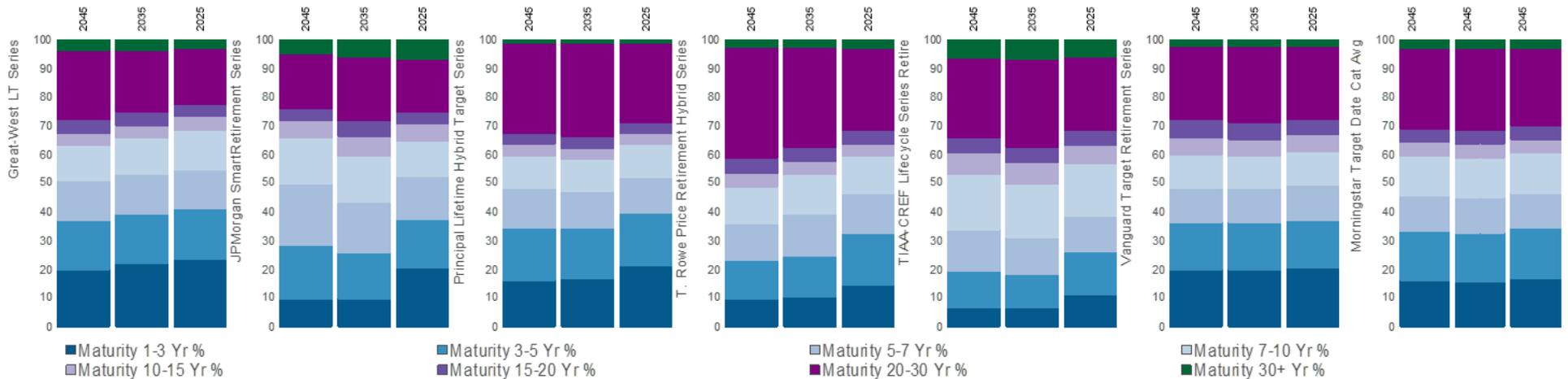
Allocations and holdings are subject to change. The above sector weights data are based on a Broad Asset Class Breakdown. Please see Important Information section for detailed information.

Fixed Income Allocation Breakdown (holdings-based)

REGIONAL BREAKDOWN



MATURITY BREAKDOWN

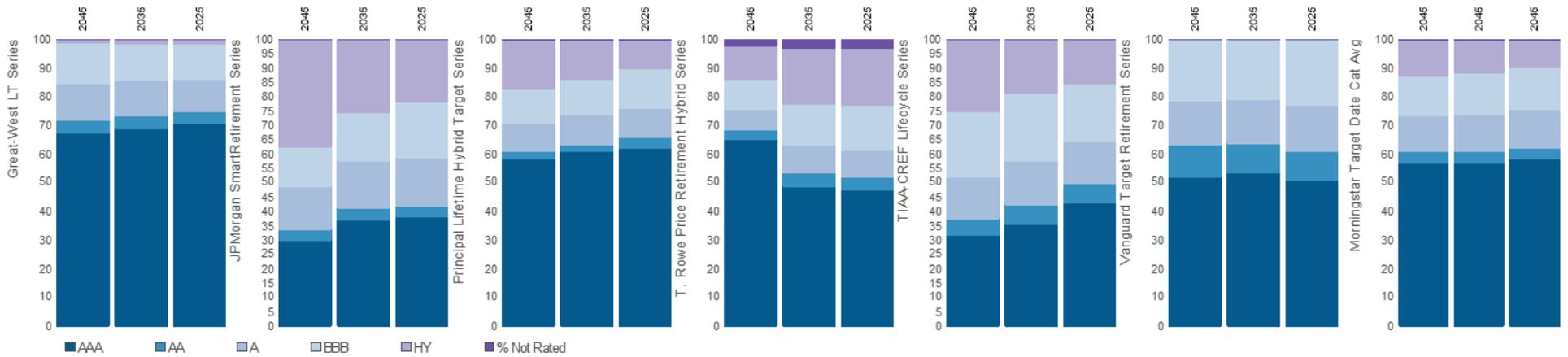


Morningstar Category peer universe is based off of the oldest share class.

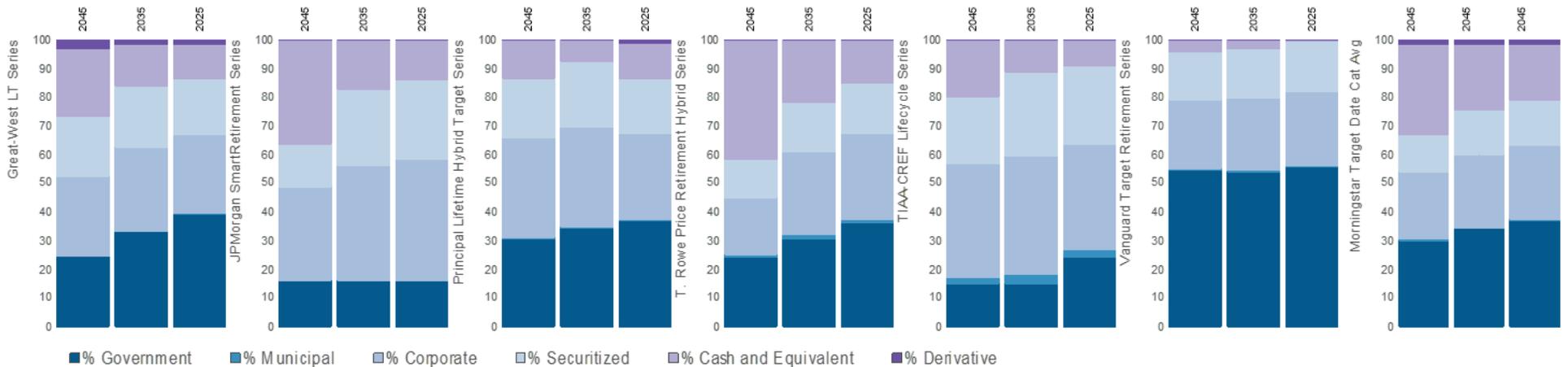
Allocations and holdings are subject to change. The above sector weights data are based on a Broad Asset Class Breakdown. Please see Important Information section for detailed information.

Fixed Income Allocation Breakdown (holdings-based)

QUALITY BREAKDOWN



SECTOR BREAKDOWN



Morningstar Category peer universe is based off of the oldest share class.

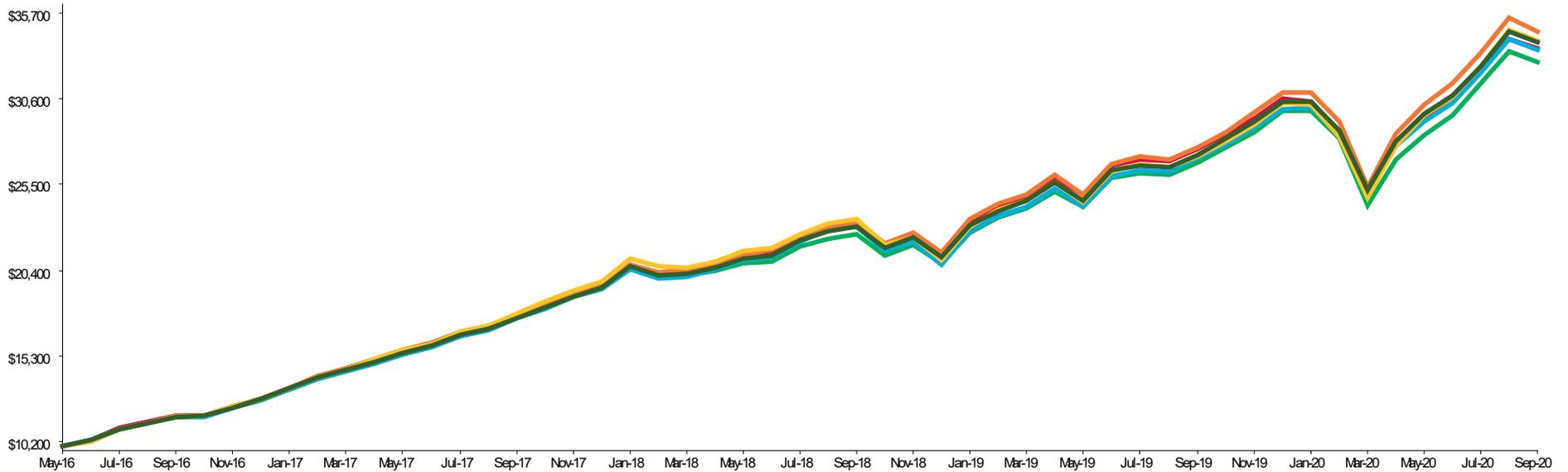
Allocations and holdings are subject to change. The above sector weights data are based on a Broad Asset Class Breakdown. Please see Important Information section for detailed information.

Target Date Comparison

Hypothetical Investment

Investment of \$10,000 & Monthly Contribution of \$300

CUMULATIVE PERFORMANCE OF \$10,000 (May-16 - Sep-20)

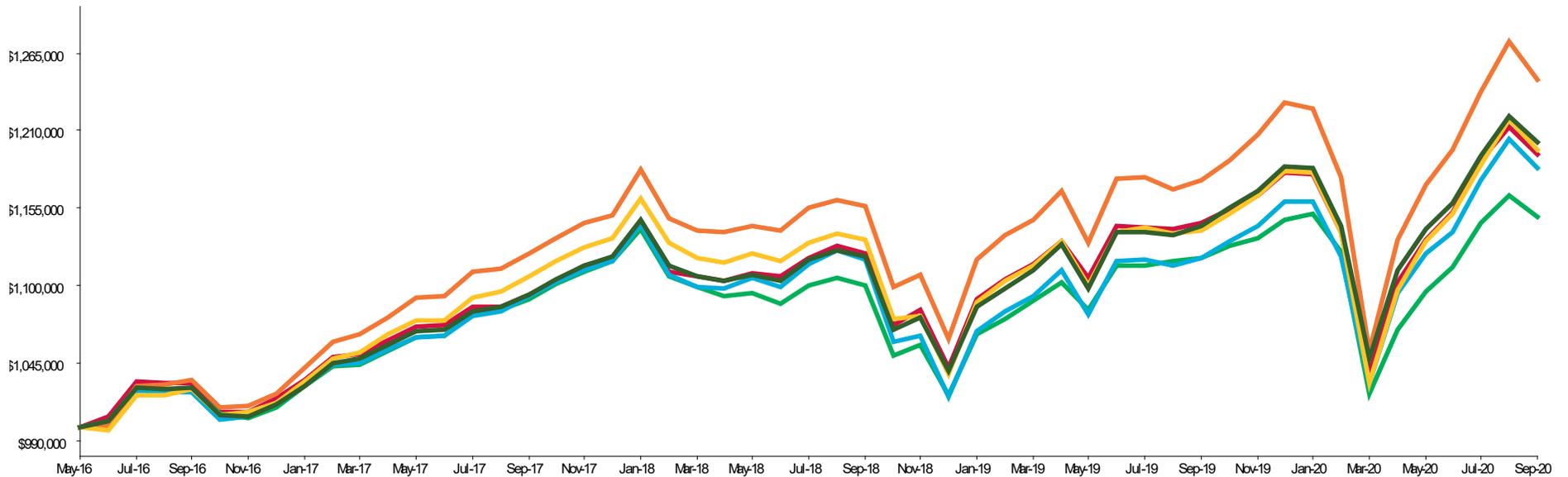


	Great-West Lifetime 2050 Trust	JPMorgan SmartRetirement 2050 R5	Principal LifeTime Hybrid 2050 CIT Z	T. Rowe Price Retirement Hybrid 2050 Trust (Class T5)	TIAA-CREF Lifecycle 2050 Retirement	Vanguard Target Retirement 2050 Inv
Initial Investment (May-16)	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Ending Value (Sep-20)	\$33,612	\$32,737	\$33,525	\$34,581	\$34,035	\$33,951
Total Annualized Return	9.89%	8.90%	9.57%	10.71%	10.18%	10.04%
Total Cumulative Return	50.49%	44.69%	48.59%	55.41%	52.20%	51.35%
Best Monthly Return	10.39% (Apr-20)	9.84% (Apr-20)	10.39% (Apr-20)	11.13% (Apr-20)	11.08% (Apr-20)	10.26% (Apr-20)
Worst Monthly Return	-13.76% (Mar-20)	-14.93% (Mar-20)	-13.39% (Mar-20)	-14.07% (Mar-20)	-13.85% (Mar-20)	-13.26% (Mar-20)
Max Drawdown Return	-20.86%	-21.34%	-19.74%	-20.47%	-20.99%	-19.86%
Max Drawdown Period	Jan-20 - Mar-20 (3)	Jan-20 - Mar-20 (3)	Jan-20 - Mar-20 (3)	Jan-20 - Mar-20 (3)	Jan-20 - Mar-20 (3)	Jan-20 - Mar-20 (3)
Recovery Period	Apr-20 - Aug-20 (5)	Apr-20 - Aug-20 (5)	Apr-20 - Aug-20 (5)	Apr-20 - Jul-20 (4)	Apr-20 - Aug-20 (5)	Apr-20 - Aug-20 (5)

This chart represents historical performance and does not assume the effects of sales charges. If shown with sales charges, performance would have been lower. Values for strategies will only be shown here if the strategy has a product associated with the selected Morningstar Category of *Target Date 2050*

Investment of \$1,000,000 & Monthly Contribution of \$3,000

CUMULATIVE PERFORMANCE OF \$1,000,000 (May-16 - Sep-20)



	Great-West Lifetime 2020 Trust ■	JPMorgan SmartRetirement 2020 R5 ■	Principal LifeTime Hybrid 2020 CIT Z ■	T. Rowe Price Retirement Hybrid 2020 Trust (Class T5) ■	TIAA-CREF Lifecycle 2020 Retirement ■	Vanguard Target Retirement 2020 Inv ■
Initial Investment (May-16)	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
Ending Value (Sep-20)	\$1,193,158	\$1,148,383	\$1,183,093	\$1,245,837	\$1,196,341	\$1,201,546
Total Annualized Return	7.61%	6.73%	7.44%	8.62%	7.69%	7.80%
Total Cumulative Return	37.44%	32.60%	36.50%	43.09%	37.85%	38.48%
Best Monthly Return	6.58% (Apr-20)	4.75% (Apr-20)	6.48% (Apr-20)	7.83% (Apr-20)	6.64% (Apr-20)	6.30% (Apr-20)
Worst Monthly Return	-8.56% (Mar-20)	-8.66% (Mar-20)	-7.78% (Mar-20)	-10.22% (Mar-20)	-9.17% (Mar-20)	-7.99% (Mar-20)
Max Drawdown Return	-11.50%	-10.61%	-10.61%	-13.67%	-12.13%	-10.95%
Max Drawdown Period	Feb-20 - Mar-20 (2)	Feb-20 - Mar-20 (2)	Feb-20 - Mar-20 (2)	Jan-20 - Mar-20 (3)	Feb-20 - Mar-20 (2)	Feb-20 - Mar-20 (2)
Recovery Period	Apr-20 - Jul-20 (4)	Apr-20 - Jul-20 (4)	Apr-20 - Jul-20 (4)	Apr-20 - Jul-20 (4)	Apr-20 - Jul-20 (4)	Apr-20 - Jul-20 (4)

This chart represents historical performance and does not assume the effects of sales charges. If shown with sales charges, performance would have been lower. Values for strategies will only be shown here if the strategy has a product associated with the selected Morningstar Category of *Target Date 2020*

Target Date Comparison

Expenses and Disclosures

Expense Ratio Information

	Net Expense Ratio	Gross Expense Ratio	Exp Ratio Waiver Type	Exp Ratio Waiver Amount	Exp Ratio Waiver Expir Date	Mgt Fee Waiver Type	Mgt Fee Waiver Amount	Mgt Fee Waiver Expir Date
Great-West Lifetime 2015 Trust	0.41	0.41						
Great-West Lifetime 2020 Trust	0.41	0.41						
Great-West Lifetime 2025 Trust	0.40	0.40						
Great-West Lifetime 2030 Trust	0.41	0.41						
Great-West Lifetime 2035 Trust	0.40	0.40						
Great-West Lifetime 2040 Trust	0.42	0.42						
Great-West Lifetime 2045 Trust	0.41	0.41						
Great-West Lifetime 2050 Trust	0.42	0.42						
Great-West Lifetime 2055 Trust	0.42	0.42						
JPMorgan SmartRetirement 2020 R5	0.54	0.55	Contractual	0.01	10/31/2020			
JPMorgan SmartRetirement 2025 R5	0.55	0.56	Contractual	0.01	10/31/2020			
JPMorgan SmartRetirement 2030 R5	0.56	0.57	Contractual	0.01	10/31/2020			
JPMorgan SmartRetirement 2035 R5	0.56	0.57	Contractual	0.01	10/31/2020			
JPMorgan SmartRetirement 2040 R5	0.57	0.59	Contractual	0.02	10/31/2020			
JPMorgan SmartRetirement 2045 R5	0.57	0.59	Contractual	0.02	10/31/2020			
JPMorgan SmartRetirement 2050 R5	0.57	0.59	Contractual	0.02	10/31/2020			
JPMorgan SmartRetirement 2055 R5	0.57	0.60	Contractual	0.03	10/31/2020			
JPMorgan SmartRetirement 2060 R5	0.56	0.69	Contractual	0.13	10/31/2020			
JPMorgan SmartRetirement Income R5	0.52	0.55	Contractual	0.03	10/31/2020			
Principal LifeTime Hybrid 2010 CIT Z	0.29	0.29						
Principal LifeTime Hybrid 2015 CIT Z	0.29	0.29						
Principal LifeTime Hybrid 2020 CIT Z	0.29	0.29						
Principal LifeTime Hybrid 2025 CIT Z	0.29	0.29						
Principal LifeTime Hybrid 2030 CIT Z	0.29	0.29						
Principal LifeTime Hybrid 2035 CIT Z	0.29	0.29						
Principal LifeTime Hybrid 2040 CIT Z	0.29	0.29						
Principal LifeTime Hybrid 2045 CIT Z	0.29	0.29						
Principal LifeTime Hybrid 2050 CIT Z	0.29	0.29						
Principal LifeTime Hybrid 2055 CIT Z	0.29	0.29						
Principal LifeTime Hybrid 2060 CIT Z	0.29	0.29						
Principal LifeTime Hybrid 2065 CIT Z	0.29	0.29						

Expense Ratio Information

	Net Expense Ratio	Gross Expense Ratio	Exp Ratio Waiver Type	Exp Ratio Waiver Amount	Exp Ratio Waiver Expir Date	Mgt Fee Waiver Type	Mgt Fee Waiver Amount	Mgt Fee Waiver Expir Date
Principal LifeTime Hybrid Income CIT Z	0.29	0.29						
T. Rowe Price Retirement Hybrid 2005 Trust (Class T5)	0.36	0.36						
T. Rowe Price Retirement Hybrid 2010 Trust (Class T5)	0.36	0.36						
T. Rowe Price Retirement Hybrid 2015 Trust (Class T5)	0.36	0.36						
T. Rowe Price Retirement Hybrid 2020 Trust (Class T5)	0.36	0.36						
T. Rowe Price Retirement Hybrid 2025 Trust (Class T5)	0.36	0.36						
T. Rowe Price Retirement Hybrid 2030 Trust (Class T5)	0.36	0.36						
T. Rowe Price Retirement Hybrid 2035 Trust (Class T5)	0.36	0.36						
T. Rowe Price Retirement Hybrid 2040 Trust (Class T5)	0.36	0.36						
T. Rowe Price Retirement Hybrid 2045 Trust (Class T5)	0.36	0.36						
T. Rowe Price Retirement Hybrid 2050 Trust (Class T5)	0.36	0.36						
T. Rowe Price Retirement Hybrid 2055 Trust (Class T5)	0.36	0.36						
T. Rowe Price Retirement Hybrid 2060 Trust (Class T5)	0.36	0.36						
TIAA-CREF Lifecycle 2010 Retirement	0.62	0.77	Contractual	0.15	09/30/2021			
TIAA-CREF Lifecycle 2015 Retirement	0.63	0.77	Contractual	0.14	09/30/2021			
TIAA-CREF Lifecycle 2020 Retirement	0.64	0.78	Contractual	0.14	09/30/2021			
TIAA-CREF Lifecycle 2025 Retirement	0.66	0.80	Contractual	0.14	09/30/2021			
TIAA-CREF Lifecycle 2030 Retirement	0.67	0.81	Contractual	0.14	09/30/2021			
TIAA-CREF Lifecycle 2035 Retirement	0.68	0.83	Contractual	0.15	09/30/2021			
TIAA-CREF Lifecycle 2040 Retirement	0.69	0.85	Contractual	0.16	09/30/2021			
TIAA-CREF Lifecycle 2045 Retirement	0.70	0.86	Contractual	0.16	09/30/2021			
TIAA-CREF Lifecycle 2050 Retirement	0.70	0.87	Contractual	0.17	09/30/2021			
TIAA-CREF Lifecycle 2055 Retirement	0.70	0.89	Contractual	0.19	09/30/2021			
TIAA-CREF Lifecycle 2060 Retirement	0.70	0.97	Contractual	0.27	09/30/2021			
Vanguard Target Retirement 2015 Inv	0.13	0.13						
Vanguard Target Retirement 2020 Inv	0.13	0.13						
Vanguard Target Retirement 2025 Inv	0.13	0.13						
Vanguard Target Retirement 2030 Inv	0.14	0.14						
Vanguard Target Retirement 2035 Inv	0.14	0.14						
Vanguard Target Retirement 2040 Inv	0.14	0.14						
Vanguard Target Retirement 2045 Inv	0.15	0.15						

Expense Ratio Information

	Net Expense Ratio	Gross Expense Ratio	Exp Ratio Waiver Type	Exp Ratio Waiver Amount	Exp Ratio Waiver Expir Date	Mgt Fee Waiver Type	Mgt Fee Waiver Amount	Mgt Fee Waiver Expir Date
Vanguard Target Retirement 2050 Inv	0.15	0.15						
Vanguard Target Retirement 2055 Inv	0.15	0.15						
Vanguard Target Retirement 2060 Inv	0.15	0.15						
Vanguard Target Retirement 2065 Inv	0.15	0.15						
Vanguard Target Retirement Income Inv	0.12	0.12						

Definitions and Important Information

Note on Data: All information was sourced through the Morningstar database, and all data was analyzed through MPI Stylus Software. Morningstar is an unaffiliated third-party data provider. Information contained herein is based upon sources we consider to be reliable. Risk/return statistics are calculated using monthly data and are net of fees. All calculated statistics are as of September 30, 2020. Specific Target-Date Fund Strategy level holding and other information, provided by Morningstar, is as of the following dates: Great-West LT Series: 06/30/2020, JPMorgan SmartRetirement Series: 08/31/2020, Principal Lifetime Hybrid Target Series: 09/30/2020, T. Rowe Price Retirement Hybrid Series: 09/30/2020, TIAA-CREF Lifecycle Series: 08/31/2020, Vanguard Target Retirement Series: 08/31/2020.

Beta: Beta is defined as a Manager's sensitivity to market movements and is used to evaluate market related, or systematic risk. Beta is a measure of the linear relationship, over time, of the Manager's returns and those of the Benchmark. Beta is computed by regressing the Manager's excess returns over the risk free rate (cash proxy) against the excess returns of the Benchmark over the risk free rate. An investment that is as equally volatile as the market will have a Beta of 1.0; an investment half as volatile as the market will have a Beta of 0.5; and so on. Thus, Betas higher than 1.0 indicate that the fund is more volatile than the market.

Broad Asset Class Breakdown: Broad Asset Class Breakdown is based on underlying holdings classified by Morningstar into four general investment groups. They are calculated using long-only rescaled position holdings, as of the portfolio holdings date indicated. In a rare instance, the portfolio date across vintage years within may differ.

- **% Equities:** Equities include only common stocks (U.S. and Non-U.S. Equities).
- **% Bonds:** Bonds include everything from government notes to high-yield corporate bonds (U.S. and Non-U.S. Bonds).
- **% Cash:** Cash encompasses both actual cash and cash equivalents (fixed-income securities with a maturity of one year or less) held by the portfolio plus receivables minus payables.
- **% Other:** Other includes preferred stocks (equity securities that pay dividends at a specific rate) as well as convertible bonds and convertible preferreds, which are corporate securities that are exchangeable for a set amount of another form of security (usually common shares) at a pre-stated price. Other also denotes all those not-so-neatly categorized securities, such as warrants and options.

Credit Quality: Credit quality is calculated using the highest rating assigned by a nationally recognized statistical rating organization (NRSRO) such as Moody's, S&P, or Fitch. The Not Rated category consists of securities that have not been rated by an NRSRO. Credit ratings are subject to change. Morningstar's database ranges from AAA (highest) to B (lowest). U.S. Government bonds carry the highest credit rating, while bonds issued by speculative companies usually carry the lowest credit ratings. For taxable bonds, anything at or below BB is considered a high-yield or junk bond. For municipal bonds, anything at or below BBB is considered a high-yield or junk bond. For the purpose of Morningstar's calculations, U.S. government bonds are considered AAA. Nonrated municipal bonds generally are classified as BBB. Other nonrated bonds generally are considered B.

Down Market Average Return: Average monthly return over the time period analyzed in which the market (benchmark) earned a negative return.

Down Market (Mkt) Capture Ratio: Down Market Capture Ratio is a measure of an investment's performance in down markets relative to the market itself. A down market is one in which the market's return is less than zero. The lower the investment's Down Market Capture Ratio, the better the investment protected capital during a market decline. A negative Down Market Capture Ratio indicates that an investment's returns rose while the market declined.

Equity Sector Allocations: The percentage a manager has allocated to specific GICS classified economic sectors. Sectors are based on what companies actually do. That is, unlike some standard sector classification systems, sectors aren't based on expected behavior of the stocks of these companies. This is calculated for all stock portfolios based on the securities in the most recent portfolio. For domestic-stock portfolios, this statistic shows the percentage of the domestic stock assets invested in each of the 11 GICS sector classifications.

Excess: Denotes that a statistic is being measured relative to the Market Index selected. The data set analyzed consists of the periodic differences between the investment's measure and the selected Market Index's definition.

Definitions and Important Information

Fixed Income Super Sector Allocations: The fixed-income securities and fixed-income derivative exposures within a portfolio are rolled up into one of the following super sectors.

- **% Government:** This Super Sector includes all conventional debt issued by governments, bonds issued by a Central Bank or Treasury, and bonds issued by local governments, cantons, regions and provinces.
- **%Municipal:** The Municipal Super Sector includes taxable and tax-exempt debt obligations issued under the auspices of states, cities, counties, provinces, and other non-federal government entities.
- **%Corporate:** This Super Sector includes bank loans, convertible bonds, conventional debt securities issued by corporations, and preferred stock.
- **%Securitized:** The Securitized Super Sector includes all types of mortgage-backed securities, covered bonds and asset-backed securities.
- **%Cash:** This Super Sector includes cash in the bank, certificates of deposit, currency, and money market holdings. Cash can also be any fixed-income securities that mature in less than 12 months. This Super Sector also includes commercial paper and any repurchase agreements held by the fund.
- **%Other:** The Derivatives Super Sector includes the common types of fixed-income derivative contracts: futures and forwards, options and swaps. For display purposes products may elect to identify this sector as Other.

Information Ratio: The Information Ratio is a measure of value added by an investment manager. It is the ratio of (annualized) excess return above the selected Market Index to (annualized) Tracking Error. Excess return is calculated by linking the difference of the manager's return for each period minus the selected Market Index return for each period, then annualizing the result.

Market Cap: Morningstar separates stock portfolio holdings into five market-capitalization groups: Giant, Large, Mid, Small, and Micro. Of the 5000 largest domestic stocks in the equities database, the top 1% are categorized as Giant, the next 4% are Large, the next 15% are Mid, the next 30% are Small, and the remaining 50% are Micro. Stocks outside of the largest 5000 are also classified as Micro.

Max Drawdown: Is the maximum loss incurred by a portfolio during a specified time period. It is used to measure the 'worst case scenario' of investing in a portfolio at the worst possible time.

Morningstar Target Date Cat Avg: This is the arithmetic (holdings based data points) or geometric (time series data points) average which is computed by MPI Stylus based on Morningstar's assigned Morningstar Category.

Morningstar Target Date Cat Med: This is the arithmetic (holdings based data points) or geometric (time series data points) median which is computed by MPI Stylus based on Morningstar's assigned Morningstar Category.

Peer Group Data: Peer group data throughout the report is calculated by MPI based on Morningstar categories. As Target Date funds span across a number of vintages (years to retirement) each vintage is calculated using its unique peer group. A single graph will combine multiple peer group categories which can be visually seen by the date in the column which is associated with the fund and category of the same name. Peer groups contain both Mutual Funds and Collective Investment Trusts (CITs).

Prospectus Net Expense Ratio: Morningstar pulls the net prospectus expense ratio from the fund's prospectus. Prospectus-report expense ratios reflect the actual fees charged during a particular fiscal year. The prospectus expense ratio for a fund of funds is the wrap or sponsor fee only. The expense ratio expresses the percentage of assets deducted each fiscal year for fund expenses, including 12b-1 fees, management fees, administrative fees, operating costs, and all other asset-based costs incurred by the fund. Portfolio transaction fees, or brokerage costs, as well as initial or deferred sales charges are not included in the expense ratio. The expense ratio, which is deducted from the fund's average net assets, is accrued on a daily basis. If the fund's assets are small, its expense ratio can be quite high because the fund must meet its expenses from a restricted asset base. Conversely, as the net assets of the fund grow, the expense percentage should ideally diminish as expenses are spread across the wider base. Funds may also opt to waive all or a portion of the expenses that make up their overall expense ratio. The Morningstar peer universe is based off all available share classes.

Definitions and Important Information

R-Squared (R2): The diversification measure R2 indicates the percentage of volatility in portfolio returns which can be “explained” by market volatility. This statistic indicates the degree to which the observed values of one variable, such as the returns of a managed portfolio, can be explained by, or are associated with the values of another variable, such as a Market Index. The R2 values generally range from 0.0 to 1.0. An investment with an R2 of 1.0 is perfectly correlated with the market whereas an investment with an R2 of 0.0 will behave independently of the market. An R2 of 0.95, for example, implies that 95% of the fluctuations in a portfolio are explained by fluctuations in the market.

Recovery Period: The time it takes for the asset to recover all value that was lost during its Max Drawdown period.

Regional Allocation: This data set provides a breakdown of the geographical exposure of a fund's stock assets. Regional exposure summarizes a portfolio's exposure to geopolitical risk, and it also provides a reference point for understanding fund returns. Morningstar Categories are assigned based on three years of regional exposure.

- **% Emerging Market:** This data set provides a broad breakdown of an investment's geographical exposure in the Emerging Market region. Each region's exposure is presented as a percentage of non-cash equity assets held by the fund. Regional exposure information summarizes a portfolio's exposure to geopolitical risk.
- **% Developed Country:** This data set provides a broad breakdown of an investment's geographical exposure in the Developed Country region. Each region's exposure is presented as a percentage of non-cash equity assets held by the fund. Regional exposure information summarizes a portfolio's exposure to geopolitical risk.

Return: Expressed in percentage terms, Morningstar's calculation of total return is determined each month by taking the change in monthly net asset value, reinvesting all income and capital-gains distributions during that month, and dividing by the starting NAV. Reinvestments are made using the actual reinvestment NAV, and daily payoffs are reinvested monthly. Unless otherwise noted, Morningstar does not adjust total returns for sales charges (such as front-end loads, deferred loads and redemption fees), preferring to give a clearer picture of a fund's performance. The total returns do account for management, administrative, 12b-1 fees and other costs taken out of fund assets. Total returns for periods longer than one year are expressed in terms of compounded average annual returns (also known as geometric total returns), affording a more meaningful picture of fund performance than non-annualized figures.

Standard Deviation (StdDev): A measure of the extend to which observations in a series vary from the arithmetic mean of the series. The Standard Deviation of a series of asset returns is a measure of volatility or risk of the asset.

Sharpe Ratio: The Sharpe Ratio indicates the excess return per unit of total risk as measured by Standard Deviation. It is a ratio of the arithmetic average of excess returns over the risk free rate to the Standard Deviation. The Sharpe Ratio is a measure of the premium earned for the risk incurred by the portfolio.

Tracking Error (Excess Standard Deviation): Tracking Error is a measure of how closely an investment's returns track the returns of the selected Market Index. It is the annualized Standard Deviation of the differences between the investment's and the associated index's returns. If an investment tracks its associated index closely, then Tracking Error will be low. If an investment tracks its associated index perfectly, then Tracking Error will be zero.

Up Market (Mkt) Capture Ratio: Up Market Capture Ratio is a measure of a product's performance in up markets relative to the market itself. An up market is one in which the market's return is greater than or equal to zero. The higher the investment's Up Market Capture Ratio, the better the investment capitalized on a rising market.

Up Market Average Return: Average monthly return over the time period analyzed in which the market (benchmark) earned a positive return.

Definitions and Important Information

S&P Target Date Index Series: Comprises twelve multi-asset class indices, each corresponding to a particular target retirement date. The asset allocation for each index in the series is determined once a year through survey of large fund management companies that offer target date products. Each index is fully investable, with varying levels of exposure to equities, fixed income and commodities.

Dow Jones Target Date Indices: Comprise a series of risk allocations corresponding to target date years. They are composed of sub-indices ranging across several asset classes. The indices serve as market risk-sensitive benchmarks for target date, or "lifecycle", funds, which are typically used within defined contribution retirement plans or to meet other long-term capital accumulation goals. The indices adjust their asset allocations over time to reflect reductions in potential risk as an investor's target date approaches. This aspect of asset class exposure is frequently referred to as a "target date glide path", wherein total equity exposure typically lessens with the passage of time.

Morningstar Lifetime Allocation Index Family: The index family is designed to meet the benchmarking needs of target-date investors by offering an objective yardstick for performance comparison. Conceptually, the Morningstar Lifetime Allocation Index family are indexes of indexes. These are a broadly diversified set of indices that helps investors mitigate the challenges related to rising life expectancies, evolving risk appetites, inflation in major retirement expense categories, and postretirement income investing.

Category Universe / Benchmark Assignments:

Target Date	Morningstar Category	Benchmark
2065	Target-Date 2060+	Morningstar Lifetime Mbd 2060
2060	Target-Date 2060+	Morningstar Lifetime Mbd 2060
2055	Target-Date 2055	Morningstar Lifetime Mbd 2055
2050	Target-Date 2050	Morningstar Lifetime Mbd 2050
2045	Target-Date 2045	Morningstar Lifetime Mbd 2045
2040	Target-Date 2040	Morningstar Lifetime Mbd 2040
2035	Target-Date 2035	Morningstar Lifetime Mbd 2035
2030	Target-Date 2030	Morningstar Lifetime Mbd 2030
2025	Target-Date 2025	Morningstar Lifetime Mbd 2025
2020	Target-Date 2020	Morningstar Lifetime Mbd 2020
2015	Target-Date 2015	Morningstar Lifetime Mbd 2015
2010	Target-Date 2000-2010	Morningstar Lifetime Mbd 2010
2005	Target-Date 2000-2010	Morningstar Lifetime Mbd 2005
Income	Target-Date Retirement	Morningstar Lifetime Mbd Incm