

DELAWARE COLLEGE INVESTMENT PLAN

03.31.2019 – Fiduciary Due Diligence Report

Due Diligence Begins with Careful Oversight

CAMMACK RETIREMENT GROUP

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EXECUTIVE SUMMARY

Plan Information

- Total plan assets as of March 31, 2019 were \$662.9 million. Approximately \$505.3 million (76% of total plan assets) are allocated to an Age-Based option, and approximately \$157.6 million (24% of total assets) are allocated to static portfolios, individual funds, or a bank deposit portfolio. This report focuses on the Age-Based options of the Delaware College Investment Plan.
 - **Active Age-Based** option assets increased by 4.22% in Q1 (\$404.4 million), and the percentage of total plan assets decreased from 62.1% to 61.0%.
 - **Index Age-Based** option assets increased by 8.1% in Q1 (\$84.7 million), and the percentage of total plan assets increased from 12.6% to 12.8%.
 - **Multi-Fund Age-Based** option assets increased by 12.3% in Q1 (\$16.2 million), and the percent of total plan assets increased from 2.3% to 2.5%.

Peer Group Review

- All three of the Age-Based options struggled more this quarter than last versus the composite peer group. Only the **Active Age-Based** option performed in-line with composite peer score overall, though the **Multi-Fund Age-Based** option was close. The **Index Age-Based** option struggled to keep up with the peer group after its outperformance during the 2018 volatility.
- Lower equity totals have hurt relative performance. However, this approach appears to be the trend of the overall 529 landscape, as portfolio managers continue to reduce market risk during the late business cycle.

Underlying Holding Review

- The benchmark composite was created for each of the three Age-Based options. The composite mimics asset allocation for the given quarter, and weighs the aggregate performance for each underlying fund accordingly.
 - In the **Active Age-Based** option, 13 out of 29 funds (45%) outperformed their benchmark for the quarter.
 - In the **Index Age-Based** option, 2 out of 5 funds (40%) outperformed their benchmark for the quarter.
 - In the **Multi-Fund Age-Based** option, 20 out of 36 funds (56%) outperformed their benchmark for the quarter.

529 TREND ANALYSIS Q1 2019:

AGE-BASED OPTION STRUCTURE CASE STUDY

How Many Different Age-Based Options?

Cammack Retirement currently tracks the Age-Based option structure of all available direct-option 529 plans (total: 49 plans). The first metric examined was the average number of options used by 529 plans, which includes all investment styles (active, passive, blend), as well as different risk levels.

- On average, each direct-option 529 plan offers 2.4 Age-Based options.
- Of the 49 plans, there were 17 with only one Age-Based option (34.6%).
- The highest number of Age-Based options in one plan was 6, which two direct-option 529 plans offer.

Differentiating Glidepaths for Risk

While the average number of options are important, our team also wanted to analyze how the number of options relates to the availability of different risk options within those glidepaths. For the State of Delaware, while there are three different Age-Based options, they provide the same level of equity-based risk exposure.

- On average, each direct-option 529 plan offers 1.98 unique glidepaths.
- When excluding the plans with only one Age-Based option, however, the average rises to 2.5 unique glidepaths.
- This indicates that, with an increase in the number of Age-Based options, 529 plan managers start to consider the addition of multiple risk tolerance glidepaths.

Active, Passive, or Both?

- Of the total 119 Age-Based options included in the 49 direct-option 529 plans tracked, 10 are actively managed, 45 are passive, and 64 use a blend approach.
- Most of these blend approaches include a majority of passive exposure, with active allocations for only specific sectors (such as high yield, foreign world bond, or real estate).
- For plans with more than one Age-Based Option (32 plans), the majority (22) were concentrated in only one investment style (active, passive, or blend).

529 TREND ANALYSIS Q1 2019:

AGE-BASED OPTION STRUCTURE CASE STUDY (CONTINUED)

Manager Diversification

Cammack Retirement also analyzes the investment managers who make-up these different Age-Based options. As the average number of managers in an Age-Based option was 3.58, we questioned the impact that outlier Multi-firm options (those with over 15 investment managers) were having on the data.

- After removing the 4 outlying Age-Based options, the average number of investment managers drops to 2.55 per option.
- The average of 2.55 investment managers is more aligned with expectations, considering there are multiple blend Age-Based Options that only use two outside investment managers, each for a small specific sector allocation.

Investment Manager Presence in 529 Plans

Cammack Retirement also reviewed the typical investment managers found in 529 plans. Unsurprisingly, there is a significant amount of concentration among investment managers in this space.

- Vanguard is the largest investment manager in the 529 space, with 25 Plans using their funds in Age-Based options (over 50% of direct-option 529 plans have exposure to Vanguard). Of the 25, 17 plans use Vanguard as the sole investment manager.
- The second most common investment manager is TIAA, with 9 plans. TIAA is far more likely to include other asset managers within its lineup, such as Franklin Templeton and T.Rowe. Both of these managers are also standalone investment managers for 529 direct-option plans.

Fee Analysis for Age-Based Options

The final piece of Cammack Retirement's research process is to analyze the total annual asset-based fees for each plan and to create a benchmarking index of comparison. There are three main time periods to this analysis: ages 0-4, 13-14, and 18+. The total annual asset-based fee includes both the cost of the underlying funds and the program management fee for non-residents:

- **0-4 Age-Band Average Fee:** 0.425%
 - Top 20th percentile: 0.164% | Top 10th percentile: 0.130%
- **13-14 Age-Band Average Fee:** 0.422%
 - Top 20th percentile: 0.180% | Top 10th percentile: 0.131%
- **18+ Age-Band Average Fee:** 0.369%
 - Top 20th percentile: 0.174% | Top 10th percentile: 0.132%

This information is gathered from 529 program websites and other written representations as of 03.31.2019. If any of the above information differs from these updated sources, the source document supersedes the above listing. Not all series update equity exposure and other metrics on a quarterly basis.

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PEER GROUP ANALYSIS

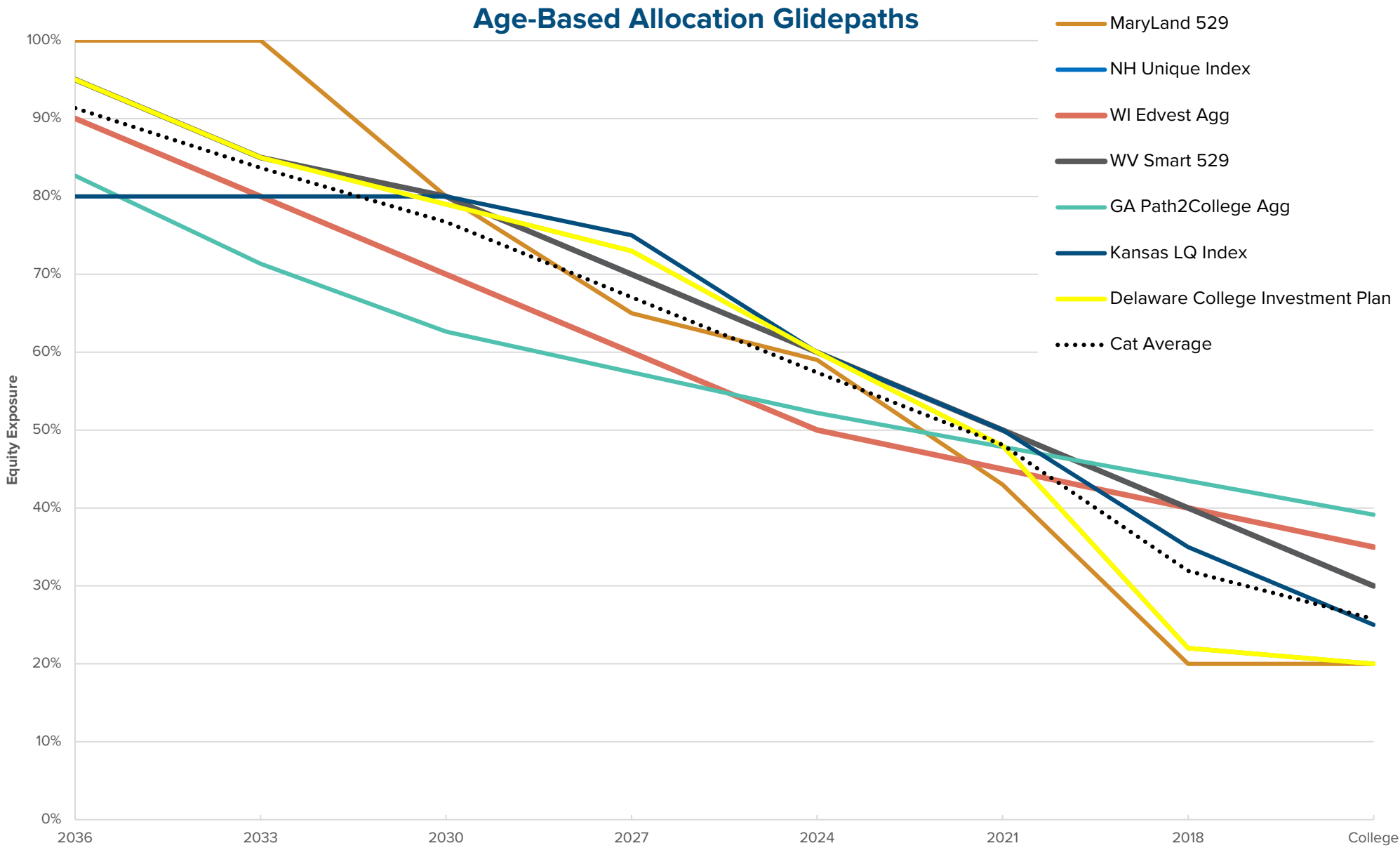
PEER GROUP ANALYSIS: EQUITY RISK EXPOSURE CATEGORY GROUPING

Fund Series	Total Equity Exposure Score	2036	2033	2030	2027	2024	2021	2018	College
Kansas LQ Index	72.04	80	80	80	75	60	50	35	25
MaryLand 529	68.77	100	100	80	65	59	43	20	20
WI Edvest Agg	68.24	90	80	70	60	50	45	40	35
NH Unique Index	66.67	95	85	79	73	60	48	22	20
Delaware College Investment Plan	66.67	95	85	79	73	60	48	22	20
SC Future Scholar Agg	60.91	93	83	83	63	58	53	33	17
GA Path2College Agg	60.14	82.65	71.34	62.64	57.42	52.2	47.85	43.5	39.15
WV Smart 529	59.13	80	80	80	65	65	50	25	25

- Based on glidepath information available as of Q4 2018, Delaware's College investment Plan was placed in the category grouping of similarly constructed peers, as shown above.
- The total equity exposure score represents a weighted representation of total equity exposure at various points of the Age-Based glidepath.
- Each score is multiplied by a weighted factor, placing a higher emphasis on the years closer to the equity landing point (2027, 2024, and 2021) as these are the years most affected by equity risk sensitivity.

This information is gathered from 529 program websites and other written representations as of 09.30.2018. Peer groups are rebalanced on an annual basis, underlying allocations are updated quarterly for performance data. If any of the above information differs from these updated sources, the source document supersedes the above listing. Not all series update equity exposure and other metrics on a quarterly basis.

PEER GROUP ANALYSIS:
CATEGORY GLIDEPATH COMPARISON



This information is gathered from 529 program websites and other written representations as of 09.30.2018. If any of the above information differs from these updated sources, the source document supersedes the above listing. Not all series update equity exposure and other metrics on a quarterly basis.

PEER GROUP ANALYSIS: INVESTMENT SUMMARY

Active Age-Based Option Review

- The **Active Age-Based** option outperformed in 50% (4 of 8) of the age-bands for the quarter, and performed the best out Delaware's three Age-Based options on an absolute basis.
- While the option's lower total equity exposure hurt relative performance, the allocation of equity to international and emerging markets bolstered performance throughout the entire glidepath. The majority of peers similarly lowered total equity exposure, which helped mitigate relative differences.
- The **Active Age-Based** option's allocation to diversified fixed income options continues to be additive on an absolute basis. However, as domestic fixed income saw a bounce back from Q4, peers with more concentrated positions in US fixed income benefited.

Index Age-Based Option Review

- The **Index Age-Based** option outperformed in 12.5% (1 of 8) of the age-bands for the quarter.
- Given the risk-on market environment for the quarter, it is unsurprising that the **Index Age-Based** option would underperform relative to peers. While the option's higher allocation to money markets earlier on in the glidepath benefited the option during Q4's volatility, this quarter that allocation detracted.
- The Global ex-US index continues to benefit the **Index Age-Based** option due the allocation to emerging markets; this coupled with the fund's overconcentration in US fixed income benefited performance towards the end of the glidepath.

Multi-Fund Age-Based Option Review

- The **Multi-fund Age-Based** option outperformed in 37.5% (3 of 8) of the age-bands for the quarter.
- The option yielded higher relative returns versus the underlying benchmarks than the **Active Age-Based** option, however, the **Active Age-Based** option had higher absolute returns than the **Multi-Fund Age-Based** option
- The option's new commodity addition (PIMCO Commodities Plus) had excellent relative and absolute outperformance for the quarter. The allocation to commodities benefited the option across the entire glidepath relative to peers.
- While US equities did perform well during Q1, some of the actively managed funds underperformed their benchmarks for the quarter. Being that this is where a majority of the portfolio is concentrated, it was detrimental to relative performance to have specific funds (such as AB Select Equity and Fidelity Real Estate Income) underperform their sector benchmarks following Q4's market volatility.

PEER GROUP ANALYSIS: PERFORMANCE DATA

Fund Series	2036		2033		2030		2027	
	Qtr	1-Year	Qtr	1-Year	Qtr	1-Year	Qtr	1-Year
Delaware College Investment Plan								
Active Age-Based Option	12.81	2.54	11.61	2.71	10.34	2.89	8.90	2.92
Multi-fund Age-Based Option	12.32	2.24	11.17	2.42	9.96	2.60	8.59	2.66
Index Age-Based Option	12.01	4.50	10.79	4.49	9.55	4.45	8.20	4.29
Peer Group Composite	12.13	4.84	11.01	4.80	10.04	4.67	9.02	4.51

Performance Difference:

Active Versus Peer Group	0.68	-2.30	0.60	-2.09	0.31	-1.78	-0.12	-1.59
Multi-fund Versus Peer Group	0.19	-2.60	0.16	-2.38	-0.07	-2.07	-0.44	-1.85
Index Age-Based Versus Peer Group	-0.11	-0.34	-0.22	-0.31	-0.48	-0.22	-0.83	-0.22

Fund Series	2024		2021		2018		College	
	Qtr	1-Year	Qtr	1-Year	Qtr	1-Year	Qtr	1-Year
Delaware College Investment Plan								
Active Age-Based Option	7.47	2.94	5.97	2.98	4.58	2.90	4.71	2.98
Multi-fund Age-Based Option	7.27	2.73	5.87	2.82	4.60	2.79	4.61	2.79
Index Age-Based Option	6.84	4.12	5.40	3.95	4.16	3.67	4.16	3.67
Peer Group Composite	7.81	4.34	6.50	4.08	5.19	3.93	3.92	3.65

Performance Difference:

Active Versus Peer Group	-0.34	-1.40	-0.53	-1.10	-0.61	-1.03	0.79	-0.67
Multi-fund Versus Peer Group	-0.54	-1.61	-0.63	-1.26	-0.59	-1.14	0.68	-0.86
Index Age-Based Versus Peer Group	-0.97	-0.22	-1.10	-0.13	-1.03	-0.26	0.24	0.03

Data Source: Morningstar and peers' source material as of 03.31.2019. If any of the above information differs from these updated sources, the source document supersedes the above listing. Not all series update equity exposure and other metrics on a quarterly basis.

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BENCHMARK ANALYSIS

BENCHMARK ANALYSIS:

INVESTMENT SUMMARY

Active Age-Based Option Review

- The **Active Age-Based** option outperformed the composite benchmark in 87.5% (7 of 8) of age-bands for Q1, with each fund averaging a gain of 0.14%.
- 44.8% of underlying funds (13 of 29) outperformed their respective benchmarks for Q1, with all funds averaging a loss of 0.27% under their respective benchmarks.
- The largest outperformance was from Fidelity Emerging Markets, which has an average weighting of 6.55% in each age-band, and outperformed its benchmark by 5.71%.
- The most substantial underperformance came from Fidelity Real Estate Income, which has an average weighting of 0.46% in each age-band, and underperformed its benchmark by 7.36%.

Index Age-Based Option Review

- The **Index Age-Based** option underperformed the composite benchmark in all age-bands for Q1, with each fund averaging a loss of 0.06%.
- 40% of underlying funds (2 of 5) outperformed their respective benchmarks for Q1, with all funds averaging a loss of 0.93% to their respective benchmarks.
- The largest outperformance was from Fidelity Total Market Index, which has an average weighting of 34.64% in each age-band, and outperformed its benchmark by 0.04%.
- The most substantial underperformance came from Fidelity Series Commodity Strategy, which has an average weighting of 1.14% in each age-band, and underperformed its benchmark by 4.46%.

Multi-Fund Age-Based Option Review

- The **Multi-Fund Age-Based** option outperformed the composite benchmark in all age-bands for Q1 2019, with each option averaging a gain of 0.29%.
- 55.6% of underlying funds (20 of 36) outperformed their respective benchmarks for Q1, with all funds averaging a return of 0.16% over their respective benchmarks.
- The largest outperformance was from PIMCO Commodities Plus Strategy, which has an average weighting of 0.62% in each age-band, and outperformed its benchmark by 5.16%.
- The most substantial underperformance came from Fidelity Real Estate Income, which has an average weighting of 0.47% in each age-band, and underperformed its benchmark by 7.36%.

BENCHMARK ANALYSIS: PERFORMANCE DATA

Fund Series	2036		2033		2030		2027	
	Qtr	1-Year	Qtr	1-Year	Qtr	1-Year	Qtr	1-Year
Active Age-Based Option	12.81	2.54	11.61	2.71	10.34	2.89	8.90	2.92
Active Benchmark	12.83	4.54	11.58	4.42	10.22	4.29	8.74	4.06
Multi-fund Age-Based Option	12.32	2.24	11.17	2.42	9.96	2.60	8.59	2.66
Multi-fund Benchmark	12.10	3.55	10.94	3.57	9.68	3.58	8.29	3.48
Index Age-Based Option	12.01	4.50	10.79	4.49	9.55	4.45	8.20	4.29
Index Benchmark	12.08	5.04	10.85	4.95	9.60	4.83	8.25	4.62

Performance Difference:

Active Versus Benchmark	-0.02	-2.00	0.04	-1.71	0.12	-1.41	0.16	-1.14
Multi-fund Versus Benchmark	0.22	-1.31	0.24	-1.15	0.28	-0.98	0.30	-0.82
Index Age-Based Versus Benchmark	-0.06	-0.54	-0.05	-0.46	-0.05	-0.38	-0.05	-0.34

Fund Series	2024		2021		2018		College	
	Qtr	1-Year	Qtr	1-Year	Qtr	1-Year	Qtr	1-Year
Active Age-Based Option	7.47	2.94	5.97	2.98	4.58	2.90	4.71	2.98
Active Benchmark	7.28	3.83	5.74	3.61	4.40	3.36	4.49	3.39
Multi-fund Age-Based Option	7.27	2.73	5.87	2.82	4.60	2.79	4.61	2.79
Multi-fund Benchmark	6.96	3.39	5.54	3.32	4.29	3.17	4.29	3.17
Index Age-Based Option	6.84	4.12	5.40	3.95	4.16	3.67	4.16	3.67
Index Benchmark	6.90	4.41	5.47	4.19	4.23	3.91	4.23	3.91

Performance Difference:

Active Versus Benchmark	0.19	-0.89	0.23	-0.63	0.18	-0.46	0.22	-0.40
Multi-fund Versus Benchmark	0.31	-0.67	0.33	-0.50	0.31	-0.38	0.31	-0.38
Index Age-Based Versus Benchmark	-0.06	-0.29	-0.06	-0.24	-0.08	-0.23	-0.08	-0.23

Data Source: Morningstar and peers' source material as of 03.31.2019. If any of the above information differs from these updated sources, the source document supersedes the above listing. Not all series update equity exposure and other metrics on a quarterly basis.

APPENDIX

ASSET ALLOCATION:

AGE-BASED OPTIONS – Q1 2019

Active Age-Based Option	Ticker	2036	2033	2030	2027	2024	2021	2018	College	Benchmark
	FDSCX	2.97%	2.54%	2.11%	1.67%	1.25%	0.80%	0.45%	0.45%	Benchmark 1: Russell 2000 TR USD
	FLCSX	5.65%	4.83%	4.01%	3.18%	2.37%	1.52%	0.85%	0.85%	Benchmark 1: Russell 1000 TR USD
	FDSSX	10.81%	9.24%	7.68%	6.09%	4.53%	2.90%	1.62%	1.62%	Benchmark 1: Russell 1000 Growth TR USD
	FCNTX	3.63%	3.10%	2.58%	2.04%	1.52%	0.97%	0.55%	0.54%	Benchmark 1: Russell 1000 Growth TR USD
	FSLVX	7.71%	6.58%	5.47%	4.34%	3.23%	2.07%	1.16%	1.16%	Benchmark 1: Russell 1000 Value TR USD
	FRESX	0.91%	0.77%	0.65%	0.51%	0.38%	0.24%	0.14%	0.14%	Benchmark 1: S&P United States REIT TR USD
	FGRTX	4.18%	3.57%	2.97%	2.36%	1.75%	1.12%	0.63%	0.63%	Benchmark 1: Russell 1000 TR USD
	FDGRX	7.99%	6.80%	5.65%	4.48%	3.34%	2.13%	1.20%	1.19%	Benchmark 1: Russell 1000 Growth TR USD
	FLPSX	2.97%	2.51%	2.09%	1.66%	1.23%	0.79%	0.44%	0.44%	Benchmark 1: Russell Mid Cap Value TR USD
	FVDFX	7.69%	6.60%	5.48%	4.35%	3.24%	2.07%	1.16%	1.16%	Benchmark 1: Russell 1000 Value TR USD
	FBGRX	5.48%	4.69%	3.89%	3.09%	2.30%	1.47%	0.82%	0.82%	Benchmark 1: Russell 1000 Growth TR USD
	FICDX	0.91%	0.79%	0.68%	0.57%	0.45%	0.33%	0.24%	0.24%	Benchmark 1: MSCI ACWI Ex USA NR USD
	FDIVX	10.43%	9.10%	7.78%	6.47%	5.17%	3.79%	2.71%	2.71%	Benchmark 1: MSCI ACWI Ex USA Growth NR USD
	FOSFX	10.34%	9.03%	7.73%	6.43%	5.13%	3.76%	2.69%	2.69%	Benchmark 1: MSCI ACWI Ex USA Growth NR USD
	FEMKX	9.97%	9.12%	8.12%	7.07%	6.02%	4.78%	3.67%	3.67%	Benchmark 1: MSCI EM NR USD
	FBNDX	1.48%	11.01%	21.67%	28.31%	26.19%	27.67%	26.82%	42.13%	Benchmark 1: BBgBarc US Agg Bond TR USD
	FCBFX	0.00%	0.00%	0.11%	0.02%	1.44%	1.93%	2.93%	0.00%	Benchmark 1: BBgBarc US Agg Bond TR USD
	FGOVX	0.00%	0.00%	0.55%	0.55%	4.91%	6.59%	10.03%	0.00%	Benchmark 1: BBgBarc US Government TR USD
	FMSFX	0.00%	0.00%	0.11%	0.10%	1.15%	1.54%	2.34%	0.00%	Benchmark 1: BBgBarc US Agg Bond TR USD
	FTBFX	0.00%	0.00%	0.00%	0.00%	1.80%	4.44%	0.00%	0.00%	Benchmark 1: BBgBarc US Agg Bond TR USD
	FNBGX	1.28%	2.83%	2.77%	2.34%	2.03%	1.81%	1.58%	1.59%	Benchmark 1: BBgBarc US Government Long TR USD
	FRGXX	1.37%	1.67%	2.46%	7.45%	11.42%	15.98%	23.97%	23.96%	Benchmark 1: ICE BofAML USD 3M Dep OR CM TR USD
	FSHBX	0.34%	0.42%	0.62%	1.87%	2.87%	4.01%	6.02%	6.01%	Benchmark 1: BBgBarc US Govt/Credit 1-5 Yr TR USD
	FCSSX	2.12%	2.49%	2.50%	2.51%	2.50%	2.51%	2.49%	2.50%	Benchmark 1: Morningstar Lng-Only Cmdty TR USD
	SPHIX	0.53%	0.75%	0.75%	0.75%	0.76%	0.76%	0.75%	0.75%	Benchmark 1: ICE BofAML US High Yield TR USD
	FFRHX	0.12%	0.15%	0.15%	0.15%	0.15%	0.15%	0.14%	0.14%	Benchmark 1: S&P/LSTA Leveraged Loan TR
	FNMIX	0.48%	0.59%	0.59%	0.59%	0.60%	0.61%	0.63%	0.64%	Benchmark 1: JPM EMBI Global TR USD
	FRIFX	0.39%	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%	Benchmark 1: S&P United States REIT TR USD
	FIPDX	0.25%	0.30%	0.30%	0.50%	1.70%	2.67%	3.35%	3.35%	Benchmark 1: BBgBarc US Treasury US TIPS TR USD

Index Age-Based Option	Ticker	2036	2033	2030	2027	2024	2021	2018	College	Benchmark
	FSKAX	63.34%	54.75%	46.14%	37.68%	29.13%	20.09%	12.99%	12.98%	Benchmark 1: US Fund Large Blend
	FSGGX	27.52%	23.87%	20.21%	16.55%	12.90%	9.03%	6.01%	6.01%	Benchmark 1: US Fund Foreign Large Blend
	FXNAX	7.77%	20.09%	31.46%	37.37%	43.54%	50.20%	50.22%	50.22%	Benchmark 1: US Fund Intermediate-Term Bond
	FRGXX	0.00%	0.00%	0.90%	7.20%	13.23%	19.53%	29.60%	29.60%	Benchmark 1: US Fund Money Market - Taxable
	FCSSX	1.36%	1.25%	1.22%	1.12%	1.08%	1.02%	1.03%	1.03%	Benchmark 1: US Fund Commodities Broad Basket

ASSET ALLOCATION: AGE-BASED OPTIONS – Q1 2019

Multi-Fund Age-Based Option	Ticker	2036	2033	2030	2027	2024	2021	2018	College	Benchmark
	QUERX	3.03%	2.60%	2.16%	1.71%	1.27%	0.81%	0.46%	0.46%	Benchmark 1: Russell 1000 TR USD
	LSVEX	6.16%	5.24%	4.34%	3.44%	2.56%	1.64%	0.91%	0.92%	Benchmark 1: Russell 1000 Value TR USD
	AUUIX	4.86%	4.15%	3.44%	2.73%	2.03%	1.30%	0.73%	0.73%	Benchmark 1: Russell 1000 TR USD
	FDGRX	6.15%	5.26%	4.37%	3.46%	2.58%	1.65%	0.92%	0.92%	Benchmark 1: Russell 1000 Growth TR USD
	JUEMX	17.15%	14.63%	12.15%	9.63%	7.17%	4.59%	2.56%	2.56%	Benchmark 1: Russell 1000 TR USD
	LBISX	7.42%	6.34%	5.27%	4.18%	3.11%	1.99%	1.11%	1.11%	Benchmark 1: Russell 1000 Value TR USD
	LSGRX	4.61%	3.94%	3.27%	2.59%	1.93%	1.24%	0.69%	0.69%	Benchmark 1: Russell 1000 Growth TR USD
	PSPTX	3.04%	2.60%	2.16%	1.71%	1.27%	0.81%	0.45%	0.46%	Benchmark 1: Russell 1000 TR USD
	VSENX	7.73%	6.59%	5.48%	4.34%	3.23%	2.07%	1.15%	1.16%	Benchmark 1: Russell 2000 TR USD
	BIGIX	3.95%	3.44%	2.94%	2.45%	1.95%	1.43%	1.02%	1.02%	Benchmark 1: MSCI ACWI Ex USA Growth NR USD
	CIVIX	3.83%	3.34%	2.85%	2.37%	1.89%	1.39%	0.99%	0.99%	Benchmark 1: MSCI ACWI Ex USA Value NR USD
	FICDX	1.38%	1.21%	1.03%	0.86%	0.69%	0.50%	0.36%	0.36%	Benchmark 1: MSCI ACWI Ex USA NR USD
	MINIX	4.21%	3.66%	3.13%	2.60%	2.07%	1.52%	1.08%	1.08%	Benchmark 1: MSCI ACWI Ex USA NR USD
	MRSIX	4.01%	3.49%	2.99%	2.48%	1.98%	1.45%	1.04%	1.04%	Benchmark 1: MSCI ACWI Ex USA NR USD
	TROIX	4.28%	3.75%	3.22%	2.67%	2.13%	1.56%	1.12%	1.12%	Benchmark 1: MSCI ACWI Ex USA NR USD
	AEMGX	4.84%	4.40%	3.91%	3.40%	2.89%	2.30%	1.75%	1.76%	Benchmark 1: MSCI EM NR USD
	PRZIX	4.90%	4.50%	4.01%	3.49%	2.97%	2.35%	1.81%	1.81%	Benchmark 1: MSCI EM NR USD
	FBNDX	0.13%	1.11%	2.24%	2.91%	3.57%	4.21%	4.21%	4.21%	Benchmark 1: BBgBarc US Agg Bond TR USD
	FTBFX	0.22%	1.66%	3.38%	4.36%	5.33%	6.33%	6.33%	6.33%	Benchmark 1: BBgBarc US Agg Bond TR USD
	MWTIX	0.30%	2.22%	4.51%	5.81%	7.12%	8.45%	8.44%	8.44%	Benchmark 1: BBgBarc US Agg Bond TR USD
	PTTRX	0.30%	2.21%	4.49%	5.79%	7.09%	8.41%	8.41%	8.41%	Benchmark 1: BBgBarc US Agg Bond TR USD
	PDBZX	0.23%	1.67%	3.39%	4.37%	5.35%	6.36%	6.35%	6.35%	Benchmark 1: BBgBarc US Agg Bond TR USD
	WATFX	0.30%	2.22%	4.51%	5.81%	7.12%	8.45%	8.45%	8.45%	Benchmark 1: BBgBarc US Agg Bond TR USD
	FNBGX	1.29%	2.85%	2.78%	2.35%	2.04%	1.81%	1.58%	1.58%	Benchmark 1: BBgBarc US Government Long TR USD
	FRGXX	0.51%	0.63%	0.93%	2.80%	4.30%	6.01%	9.01%	9.01%	Benchmark 1: ICE BofAML USD 3M Dep OR CM TR USD
	FCNVX	0.86%	1.05%	1.55%	4.67%	7.16%	10.01%	15.02%	15.02%	Benchmark 1: BBgBarc Govt/Corp 1 Yr Duration TR USD
	PTSHX	0.34%	0.42%	0.62%	1.87%	2.86%	4.00%	6.01%	6.01%	Benchmark 1: BBgBarc Govt/Corp 1 Yr Duration TR USD
	CRSOX	1.63%	1.88%	1.88%	1.88%	1.88%	1.88%	1.87%	1.87%	Benchmark 1: Morningstar Lng-Only Cmdty TR USD
	PCLIX	0.53%	0.63%	0.63%	0.63%	0.63%	0.63%	0.63%	0.63%	Benchmark 1: Morningstar Lng-Only Cmdty TR USD
	BHYIX	0.18%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	Benchmark 1: ICE BofAML US High Yield TR USD
	HWHIX	0.18%	0.26%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%	Benchmark 1: ICE BofAML US High Yield TR USD
	MHYIX	0.16%	0.23%	0.23%	0.23%	0.23%	0.23%	0.23%	0.23%	Benchmark 1: ICE BofAML US High Yield TR USD
	FFRHX	0.12%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	Benchmark 1: S&P/LSTA Leveraged Loan TR
	FNMIIX	0.49%	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%	Benchmark 1: JPM EMBI Global TR USD
	FRIFX	0.39%	0.48%	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%	Benchmark 1: S&P United States REIT TR USD
	PRRIX	0.25%	0.30%	0.30%	0.50%	1.71%	2.68%	3.36%	3.36%	Benchmark 1: BBgBarc US Treasury US TIPS TR USD

CREATING CAMMACK LARHETTE ADVISOR’S PROPRIETARY 529 AGE-BASED ALLOCATION UNIVERSE ANALYSIS

STEP 1: Research the largest (30) direct 529 plans and aggregate each Age-Based option’s glide-path and underlying fund publicly available data.

STEP 2: Average the equity exposure for each Age-Based option category & calculate the deviation from that average for each Age-Based option.

STEP 3: Weight the deviations based on the position within the glide path (e.g., weighting the age 11-12 period more heavily than deviations at younger ages).

STEP 4: Calculate a score (higher score meaning more total equity risk exposure) for each Age-Based option allocation based on the individual asset weighting scores (standard deviation x weighting) for each fund within the Age-Based Allocation Option.

Assign each Age-Based allocation to one of the nine risk based categories, based on their relative scores from highest to lowest:

STEP 5:

Aggressive – High Equity (9)	Aggressive – Mid Equity (8)	Aggressive – Low Equity (7)
Moderate – High Equity (6)	Moderate – Mid Equity (5)	Moderate – Low Equity (6)
Conservative – High Equity (3)	Conservative – Mid Equity (2)	Conservative – Low Equity (1)

The 529 program information compiled to create this report and the Cammack 529 Age-Based Allocation Universe is gathered from publicly available program sources as of the date of this report, unless otherwise stated. The 529 programs that make up the Cammack 529 Age-Based Allocation Universe each release equity exposure and other data at varying internals. If any of the information within this report differs from updated sources, the updated source document supersedes the data in this report.

GLOSSARY AND STANDARD DISCLOSURES

DEFINITIONS

Terms	Definition & Application
Composite Benchmark	The composite benchmark is a weighted metric used to compare the relative performance of the underlying funds within an Age-Based option against those funds respective benchmarks. The performance of each is weighted against the actual weighting of each Age-Based option. These values are not reflective of the portfolio's actual performance; rather, the performance solely of the underlying funds in isolation.
Composite Data Points	All data points (performance metrics/risk metrics/manager tenure/expense ratios) are provided via Morningstar and are shown as weighted composites relative to the stated allocations.
Peer Group	Peer group is determined by comparing equity exposures for similar Age-Based options within the Cammack Age-Based Allocation Universe. The performance of each Age-Based option is first weighted relative to the exposure of each underlying fund. This value is then equally weighted against each other fund within the respective proprietary ranked subgroup.
Standard Deviation	Statistical measurement of dispersion about an average, which, for a mutual fund, depicts how widely the returns varied over a certain period of time. This metric is used to try and predict the range of returns for a given fund. A high value signifies greater volatility, as the predicted range of performance is wide. A low value signifies lower volatility, as the predicted range of performance is more focused.

GLOSSARY AND STANDARD DISCLOSURES

Morningstar information was obtained from "Morningstar, Inc."

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The asset information included in this report is provided by the plan vendor(s) based on raw data. It has not been subjected to a validation process or any manual controls. There may be variances between the raw data reports and the comparative financials that are subjected to the processes detailed in an SSAE 16 (formerly SAS 70 report). The information should be used for the purposes of this report alone, and cannot be relied upon for other usages.

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