



DISTRIBUTION DATE: 10.21.2021

MEMORANDUM

TO: HONORABLE MAYOR &
CITY COUNCIL

FROM: Erin Roseman,
Director of Finance

SUBJECT: Oakland PFRS's Investment
Portfolio Update

DATE: October 19, 2021

INFORMATION

As a continued best practice and in accordance with the City of Oakland Charter, the Finance Department will publish an informational report on the investment performance of the Oakland Police and Fire Retirement System's ("PFRS") investment portfolio to the City Council.

The Oakland Police and Fire Retirement System is a closed defined benefit plan established by the City of Oakland's (the "City") Charter. PFRS is governed by a board of seven trustees (the "PFRS Board"). PFRS covers the City's sworn police and fire employees hired prior to July 1, 1976. PFRS was closed to new members on June 30, 1976. As of June 30, 2021, PFRS had 723 retired members and no active members.

As of June 30, 2021 the PFRS Investment Portfolio had a balance of \$463.6 million and generated a quarterly return of 5.1 percent, gross of fees, underperforming its policy benchmark by -0.2 percent. The portfolio outperformed its benchmark by 1.9 percent over the one-year period and 0.5 percent over the five-year period. The portfolio matched its benchmark over the three-year period. This is discussed in more detail in the attached Investment report.

As of the most recent PFRS Actuarial Valuation report dated July 1, 2020, the PFRS Funded Ratio (market value of assets divided by present value of future benefits) is 63.5 percent. The City is currently making annual required contributions to PFRS. The required contribution for fiscal year 2021/2022 is \$43.82 million. The City funds these contributions from a voter approved ad valorem tax on all property within the City of Oakland. This tax is specifically dedicated to fund PFRS pension obligations.

The attached Investment Performance report (*Attachment A*) provided by the PFRS Investment Consultant, Meketa Investment Group (MIG) summarizes the performance of the PFRS investment portfolio as of June 30, 2021. The Investment report was approved by the PFRS Board at their August 25, 2021 PFRS Board meeting.

For questions regarding this report, please contact Teir Jenkins, Investment Officer, at (510) 238-6481.

Respectfully submitted,



[Erin Roseman \(Oct 25, 2021 12:32 PDT\)](#)

ERIN ROSEMAN
Director of Finance

Attachment A: Oakland Police and Fire System Investment Performance Report as of June 30, 2021

Oakland Police and Fire Retirement System

August 25, 2021

2Q 2021 Performance Report

1. Total Portfolio Summary
2. Asset Class and Manager Commentary
3. Performance as of June 30, 2021
4. Manager Monitoring / Probation List
5. Disclaimer, Glossary, and Notes

Total Portfolio Summary

Total Portfolio Summary

As of June 30, 2021, the City of Oakland Police and Fire Retirement System (OPFRS) portfolio had an aggregate value of \$463.6 million. This represents a \$23.4 million increase in investment value and (\$3.1) million in benefit payments funded from investments over the quarter. Over the one-year period, the OPFRS Total Portfolio value is higher by \$80.3 million, after withdrawals totaling (\$13.0) million for benefit payments.

Asset Allocation Trends

- The asset allocation targets throughout this report reflect those as of June 30, 2021. Target weightings reflect the interim phase (CRO = 10%) of the Plan's previously approved asset allocation (effective 5/31/2017).
- Relative to policy targets, the portfolio ended the latest quarter overweight Equities, Covered Calls and Cash, while underweight Crisis Risk Offset and Fixed Income. The Crisis Risk Offset asset class was below its acceptable ranges from the policy target.
- At the beginning of the quarter, previously approved managers – Brown Advisory and Wellington to manage small cap value and core fixed income mandates respectively – were added to the portfolio.

Recent Investment Performance

- During the most recent quarter, the OPFRS portfolio generated an absolute return of 5.1%, gross of fees, underperforming its policy benchmark by (0.2%). The portfolio also outperformed its benchmark over the 1- and 5-year periods, by 1.9% and 0.5% respectively, while keeping pace with the policy benchmark over the 3-year period.

Total Portfolio Summary

- The OPFRS portfolio underperformed the Median fund's return over the quarter by (0.2%), and by (3.4%) and (1.4%) over the one and three-year trailing periods respectively. Over the five-year trailing period, OPFRS portfolio is on par with its Median fund peers. Performance differences with respect to the Median Fund are attributed largely to differences in asset allocation.

	Quarter	CYTD	1 Year	3 Year	5 Year
Total Portfolio ¹	5.1	8.1	24.2	10.5	11.5
Policy Benchmark ²	5.3	7.4	22.3	10.5	11.0
Excess Return	-0.2	0.7	1.9	0.0	0.5
Reference: Median Fund ³	5.3	9.1	27.6	11.9	11.5
Reference: Total Net of Fees ⁴	5.1	7.9	23.9	10.1	11.1

- Over the quarter, positive absolute return was driven by Domestic Equity and Covered Calls segments each returning 6.6%. However, in terms of relative performance, Domestic Equity lagged behind its benchmark by (1.6%) while Covered Calls outperformed its benchmark by 1.5%.
- Although it was not the top performer, Crisis Risk Offset segment posted 5.9% return over the quarter, outperforming its benchmark by 3.2%, attributable to the slowly declining yields (which move inversely with bond prices) in the second half of the quarter. Likewise, Fixed Income registered positive performance of 2.5% over the quarter outperforming its benchmark by 0.5%.

¹ Gross of Fees. Performance since 2005 includes securities lending.

² Evolving Policy Benchmark consists of 40% Russell 3000, 12% MSCI ACWI ex U.S., 33% Bbg BC Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bbg BC Long Treasury.

³ Investment Metrics < \$1 Billion Public Plan Universe.

⁴ Longer-term (>1 year) Net of fee returns include estimates based on OPFRS manager fee schedule (approximately 34 bps).

Asset Class and Manager Commentary

Domestic Equity

Over the quarter ending June 30, 2021, Domestic Equity returned 6.6%, trailing the Russell 3000 benchmark by (1.6%). During the quarter, passive strategy Vanguard Russell 2000 Value was liquidated, and active Brown Fundamental Small Cap Value strategy was funded. Of three active managers, one outperformed its benchmark while the other two trailed their respective benchmarks. The passive managers/ strategies (Northern Trust Russell 1000 and iShares Edge MSCI Minimum Volatility) performed in line with their respective benchmarks with acceptable tracking error.

Earnest Partners, the Plan's active mid cap core manager, returned 4.1%, underperforming the Russell Midcap benchmark by (3.4%), and placing in the 80th percentile of its peer group for the quarter. Though the manager has underperformed its benchmark over the 1-year trailing period by (3.5%), it has outperformed over the longer 3- and 5-year trailing periods with excess returns of 2.7% and 3.7% respectively, putting it in the 1st quartile of its peer group.

Rice Hall James, the Plan's active small cap growth manager, returned 5.1%, outperforming the Russell 2000 Growth benchmark by 1.2%, and placing in the 58th percentile for the quarter. However, the manager has trailed its benchmark over the 1- and 3-year periods as well as since inception by (5.8%), (4.5%), and (1.9%) respectively. The manager is on watch status for performance concerns.

Brown Fundamental, the Plan's newly funded active small cap value manager, returned 3.3% over the quarter trailing its Russell 2000 Value benchmark by (1.3%), placing it in the 70th percentile.

International Equity

For the quarter, the International Equity portfolio returned 4.7%, trailing the MSCI ACWI ex US benchmark by (0.9%). Within this portfolio, the Vanguard passive international developed markets portfolio returned 4.9%. While it deviates from tracking index's return of 5.8%, this is due to the fair-value pricing methodology that Vanguard uses.

SGA MSCI ACWI ex US ETF, the Plan's active core international equity manager, returned 4.7%, trailing its benchmark by (0.9%) over the quarter, while trailing by (4.7%) over the one-year period.

Fixed Income

Over the quarter, the Fixed Income aggregate returned 2.5%, outperforming the Bloomberg Universal benchmark by 0.5%. The asset class posted positive gains amidst the slowly declining yields in the second half of the quarter. The Plan's passive fixed income strategy iShares Core US Aggregate Bond ETF was liquidated and replaced with Wellington Core Bond during this quarter. All the active managers in this portfolio posted positive returns, outperforming their respective benchmarks.

Ramirez returned 2.6% over the quarter, outperforming the benchmark by 0.8% placing in the 9th percentile of its peer group. Ramirez also outperformed its benchmark over the one and three-year trailing periods by 3.4% and 0.6% respectively, and by 0.7% since inception. Relative to the benchmark, Ramirez's performance was helped by positioning in Treasuries (underweight) and Municipal bonds (overweight).

Reams returned 2.1% for the quarter, outperforming its benchmark by 0.1% and placing in the 80th percentile of its peer group. It also outperformed its benchmark by 1.0%, 3.7%, 2.1%, and 1.0% over 1-, 3- and 5-year and since inception periods respectively. Relative to the benchmark, Reams' positioning in Investment Grade bonds (slight overweight) and MBS (underweight) contributed to the positive gains.

Wellington Core Bond, the Plan's newly funded core fixed income manager, returned 1.9% over the quarter outperforming its benchmark by 0.1% placing it in the 76th percentile.

Covered Calls

Over the quarter, the Covered Calls portfolio returned 6.6%, outperforming its benchmark by 1.5%.

Parametric BXM, the Plan's passive covered calls allocation returned 5.1%, keeping pace with its benchmark, the CBOE BXM index. The portfolio has kept pace with its benchmark over the most recent 1-year period and outperformed over the longer 3- and 5-year periods and since inception by 3.9%, 2.3%, and 1.7% respectively.

Parametric DeltaShift, the Plan's active covered calls allocation returned 7.9%, outperforming its benchmark, the CBOE BXM, index by 2.8% over the quarter. The portfolio has outperformed the benchmark over all the time periods measured. It outperformed by 12.0%, 11.4%, 8.4%, and 6.5% over 1-, 3-, 5-year trailing periods and since inception respectively.

Credit

With DDJ as the Plan's sole High Yield & Bank Loan manager, the Credit portfolio returned 3.3% over the quarter, outperforming its benchmark, Bloomberg US High Yield, by 0.6%. It outperformed the benchmark over the 1-year and 5-year periods by 8.3% and 1.0% respectively, but trailed the benchmark by (1.2%) over the 3-year trailing period. Since inception outperformance is 0.3%

Crisis Risk Offset

Over the quarter, the Crisis Risk Offset portfolio returned 5.9%, outperforming its benchmark by 3.8%.

Vanguard Long Duration ETF, the only funded component of the Crisis Risk Offset portfolio over the quarter, returned 5.9% as yields on longer dated treasuries slow declined in the second half of the quarter. Performance slightly trailed the benchmark.

Manager searches are underway to fund the Alternative Risk Premia and Systematic Trend Following components of the Crisis Risk Offset portfolio.

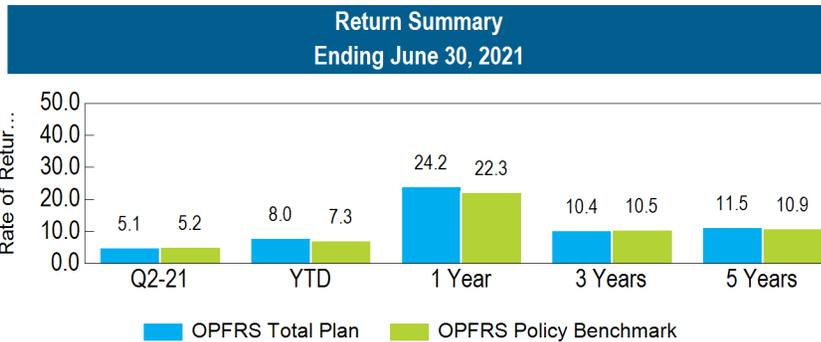
Performance Update

As of June 30, 2021

OPFRS Total Plan | As of June 30, 2021

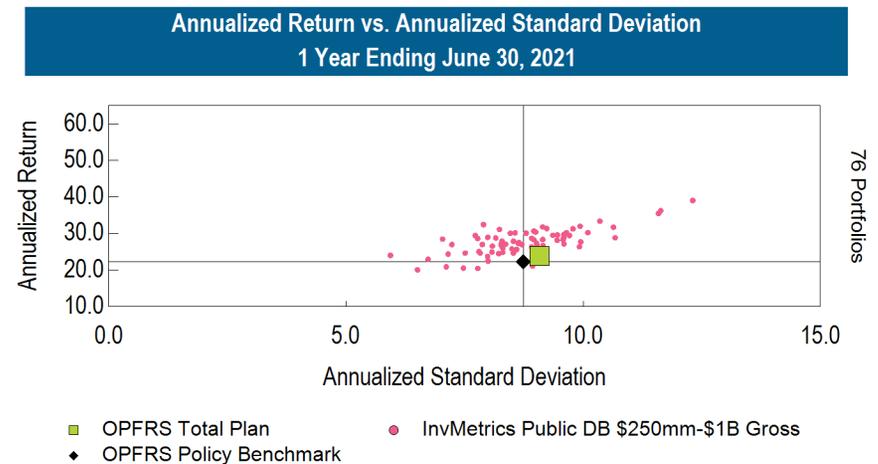
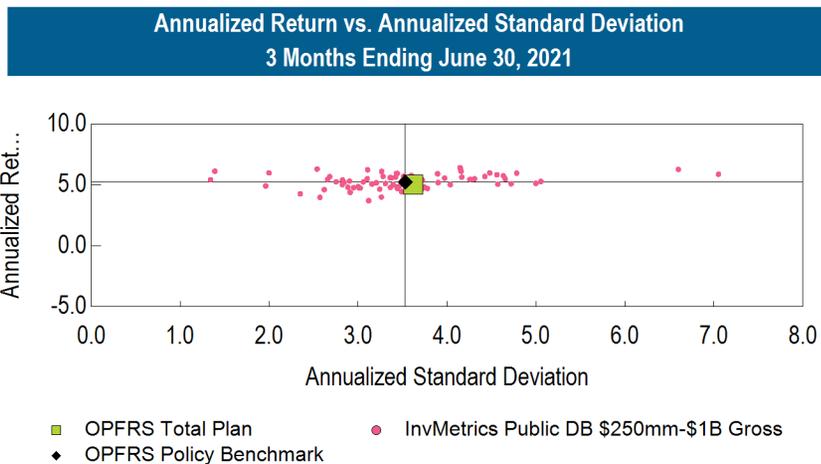
6 Months Ending June 30, 2021		
	Anlzd Return	Standard Deviation
OPFRS Total Plan	7.86%	1.08%
OPFRS Policy Benchmark	7.31%	1.06%
InvMetrics Public DB \$250mm-\$1B Gross Median	9.13%	1.10%

1 Year Ending June 30, 2021		
	Anlzd Return	Standard Deviation
OPFRS Total Plan	23.85%	2.62%
OPFRS Policy Benchmark	22.28%	2.52%
InvMetrics Public DB \$250mm-\$1B Gross Median	27.59%	2.49%



Summary of Cash Flows

	Quarter-To-Date	One Year
Beginning Market Value	\$443,301,342	\$383,325,294
Net Cash Flow	-\$3,110,171	-\$12,954,132
Capital Appreciation	\$23,449,157	\$93,269,167
Ending Market Value	\$463,640,323	\$463,640,323



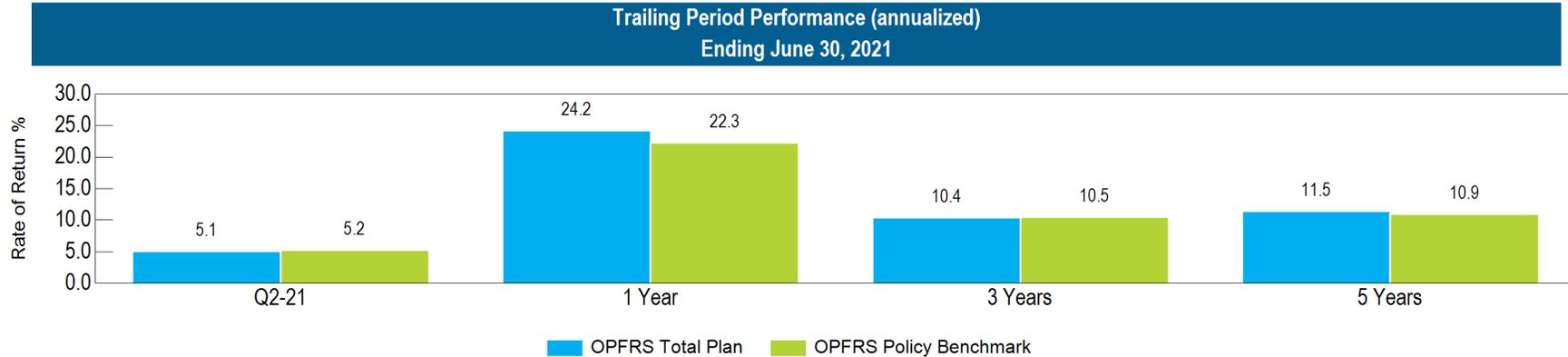
Evolving Policy Benchmark consists of 40% russell 3000, 12% MSCI ACWI ex U.S., 33% Bbg BC Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bbg BC Long Treasury.

Asset Class Performance (gross of fees) | As of June 30, 2021

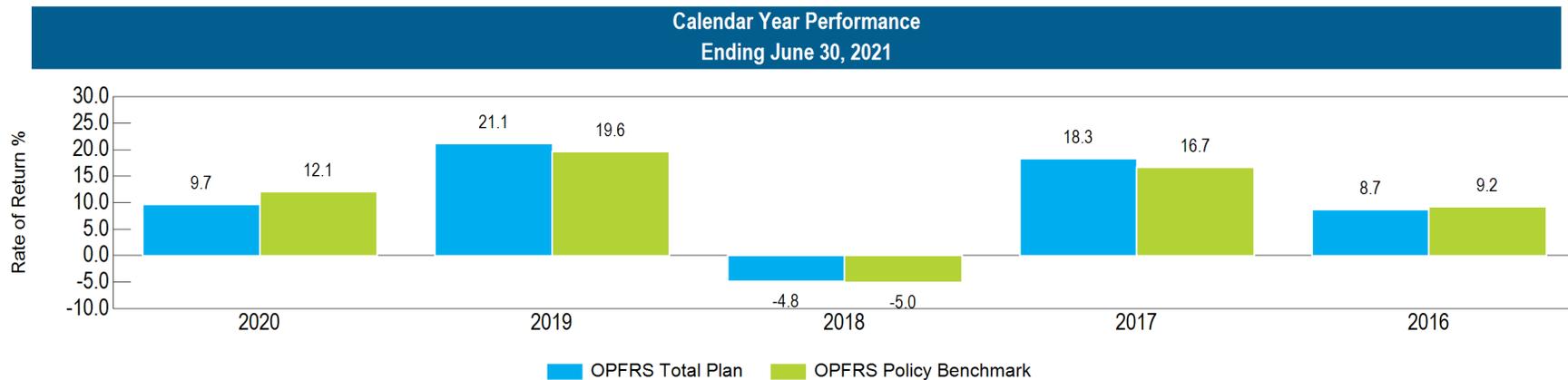
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
OPFRS Total Plan	5.1	8.0	24.2	10.4	11.5	8.6	8.7
<i>OPFRS Policy Benchmark</i>	<u>5.2</u>	<u>7.3</u>	<u>22.3</u>	<u>10.5</u>	<u>10.9</u>	<u>8.6</u>	<u>8.4</u>
Excess Return	-0.1	0.7	1.9	-0.1	0.6	0.0	0.3
Domestic Equity	6.6	14.3	42.6	16.6	17.2	13.3	14.2
<i>Russell 3000 (Blend)</i>	<u>8.2</u>	<u>15.1</u>	<u>44.2</u>	<u>18.7</u>	<u>17.9</u>	<u>14.0</u>	<u>14.7</u>
Excess Return	-1.6	-0.8	-1.6	-2.1	-0.7	-0.7	-0.5
International Equity	4.7	9.1	31.6	9.1	11.7	6.5	6.3
<i>MSCI ACWI ex US (Blend)</i>	<u>5.6</u>	<u>9.4</u>	<u>36.3</u>	<u>9.9</u>	<u>11.6</u>	<u>5.8</u>	<u>5.9</u>
Excess Return	-0.9	-0.3	-4.7	-0.8	0.1	0.7	0.4
Fixed Income	2.5	-0.6	2.7	5.9	4.1	4.0	4.1
<i>Blmbg BC Universal (Blend)</i>	<u>2.0</u>	<u>-1.1</u>	<u>1.1</u>	<u>5.6</u>	<u>3.5</u>	<u>3.5</u>	<u>3.7</u>
Excess Return	0.5	0.5	1.6	0.3	0.6	0.5	0.4
Credit	3.3	7.0	23.7	6.2	8.5	--	--
<i>BBgBarc US High Yield TR</i>	<u>2.7</u>	<u>3.6</u>	<u>15.4</u>	<u>7.4</u>	<u>7.5</u>	--	--
Excess Return	0.6	3.4	8.3	-1.2	1.0	--	--
Covered Calls	6.6	13.2	33.8	13.4	12.6	10.3	--
<i>CBOE S&P 500 BuyWrite USD</i>	<u>5.1</u>	<u>11.1</u>	<u>27.3</u>	<u>5.6</u>	<u>7.2</u>	<u>6.2</u>	--
Excess Return	1.5	2.1	6.5	7.8	5.4	4.1	--
Crisis Risk Offset	5.9	-8.5	-11.6	-9.6	--	--	--
<i>SG Multi Alternative Risk Premia Index</i>	<u>2.1</u>	<u>5.9</u>	<u>3.1</u>	--	--	--	--
Excess Return	3.8	-14.4	-14.7	--	--	--	--
Cash	0.0	0.0	0.1	1.6	1.4	1.0	0.7
<i>FTSE T-Bill 3 Months TR</i>	<u>0.0</u>	<u>0.0</u>	<u>0.1</u>	<u>1.3</u>	<u>1.1</u>	<u>0.8</u>	<u>0.6</u>
Excess Return	0.0	0.0	0.0	0.3	0.3	0.2	0.1

1. Evolving Policy Benchmark consists of 40% Russell 3000, 12% MSCI Acwi ex U.S., 33% Bbg BC Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bbg BC Long Treasury,
2. Domestic Equity Benchmark consists of S&P 500 thru 3/31/98 10% Russell 1000, 20% Russell 1000 Value, 5% RMC from 4/1/98 - 12/31/04 and Russell 3000 from 1/1/05 to present.
3. International Equity Benchmark consists of MSCI EAFE thru 12/31/04 and MSCI ACWI x US thereafter.
4. Fixed Income Benchmark consists of Bbg BC Aggregate prior to 4/1/06, and Bbg BC Universal thereafter.
5. Cash balances held in ETF accounts at the Custodian are reflected in the Cash account market value.

Portfolio Relative Performance Results | As of June 30, 2021



	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	2016 (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)
OPFRS Total Plan	5.1	8.0	24.2	10.4	11.5	8.7	18.3	-4.8	21.1	9.7
<i>OPFRS Policy Benchmark</i>	<i>5.2</i>	<i>7.3</i>	<i>22.3</i>	<i>10.5</i>	<i>10.9</i>	<i>9.2</i>	<i>16.7</i>	<i>-5.0</i>	<i>19.6</i>	<i>12.1</i>
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>	<i>5.3</i>	<i>9.1</i>	<i>27.6</i>	<i>11.9</i>	<i>11.5</i>	<i>7.8</i>	<i>15.8</i>	<i>-4.1</i>	<i>18.6</i>	<i>13.1</i>

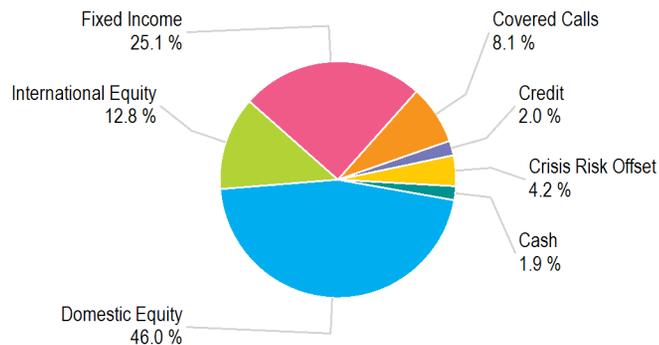


Asset Allocation vs. Target

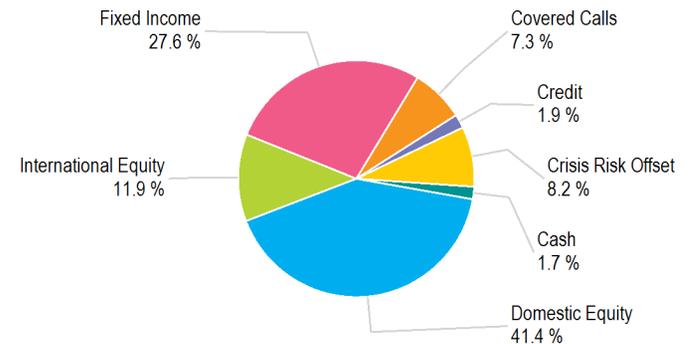
As Of June 30, 2021

	Current	%	Policy	Difference*
Domestic Equity	\$213,198,031	46.0%	40.0%	6.0%
International Equity	\$59,292,971	12.8%	12.0%	0.8%
Fixed Income	\$116,313,531	25.1%	31.0%	-5.9%
Covered Calls	\$37,328,619	8.1%	5.0%	3.1%
Credit	\$9,177,102	2.0%	2.0%	0.0%
Crisis Risk Offset	\$19,507,725	4.2%	10.0%	-5.8%
Cash	\$8,822,344	1.9%	0.0%	1.9%
Total	\$463,640,323	100.0%	100.0%	

June 30, 2021: \$463,640,323



June 30, 2020: \$341,533,320



Cash balances held in ETF accounts at the Custodian are reflected in the Cash account market value.

Target weightings reflect the Plan's evolving asset allocation (effective 5/31/2017.)

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Domestic Equity	213,198,037	100.0	6.6	14.3	42.6	16.6	17.2	9.6	Jun-97
<i>Russell 3000 (Blend)</i>			8.2	15.1	44.2	18.7	17.9	9.8	Jun-97
Excess Return			-1.6	-0.8	-1.6	-2.1	-0.7	-0.2	
Northern Trust Russell 1000	117,334,896	55.0	8.5	15.0	43.0	19.1	18.0	15.6	Jun-10
<i>Russell 1000</i>			8.5	15.0	43.1	19.2	18.0	15.6	Jun-10
Excess Return			0.0	0.0	-0.1	-0.1	0.0	0.0	
<i>eV US Large Cap Core Equity Gross Rank</i>			37	55	30	34	35	36	Jun-10
EARNEST Partners	46,751,372	21.9	4.1	14.1	46.3	19.1	19.3	11.5	Apr-06
<i>Russell MidCap</i>			7.5	16.2	49.8	16.4	15.6	10.2	Apr-06
Excess Return			-3.4	-2.1	-3.5	2.7	3.7	1.3	
<i>eV US Mid Cap Core Equity Gross Rank</i>			80	61	58	19	10	32	Apr-06
iShares Edge MSCI Min Vol ETF	20,949,332	9.8	6.7	9.2	23.4	--	--	30.3	Apr-20
<i>MSCI USA Minimum Volatility GR USD</i>			6.8	9.3	23.6	--	--	30.5	Apr-20
Excess Return			-0.1	-0.1	-0.2			-0.2	
<i>eV US Low Volatility Equity Gross Rank</i>			44	86	81	--	--	79	Apr-20
Rice Hall James	17,077,517	8.0	5.1	13.8	45.6	11.4	--	15.5	Jul-17
<i>Russell 2000 Growth</i>			3.9	9.0	51.4	15.9	--	17.4	Jul-17
Excess Return			1.2	4.8	-5.8	-4.5		-1.9	
<i>eV US Small Cap Growth Equity Gross Rank</i>			58	39	82	94	--	93	Jul-17
Brown Fundamental Small Cap Value	11,084,914	5.2	3.3	--	--	--	--	3.3	Apr-21
<i>Russell 2000 Value</i>			4.6	--	--	--	--	4.6	Apr-21
Excess Return			-1.3					-1.3	
<i>eV US Small Cap Value Equity Gross Rank</i>			70	--	--	--	--	70	Apr-21

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
International Equity	59,292,971	100.0	4.7	9.1	31.6	9.1	11.7	5.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>5.6</i>	<i>9.4</i>	<i>36.3</i>	<i>9.9</i>	<i>11.6</i>	<i>6.2</i>	<i>Jan-98</i>
Excess Return			-0.9	-0.3	-4.7	-0.8	0.1	-0.3	
SGA ACWI ex-U.S. Equity	41,485,309	70.0	4.2	8.4	30.9	--	--	10.6	Dec-19
<i>MSCI ACWI ex USA Gross</i>			<i>5.6</i>	<i>9.4</i>	<i>36.3</i>	--	--	<i>16.3</i>	<i>Dec-19</i>
Excess Return			-1.4	-1.0	-5.4			-5.7	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>90</i>	<i>73</i>	<i>92</i>	--	--	<i>99</i>	<i>Dec-19</i>
Vanguard Developed Markets ETF	17,252,245	29.1	4.9	9.2	32.8	--	--	16.3	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>			<i>5.8</i>	<i>10.2</i>	<i>36.8</i>	--	--	<i>18.2</i>	<i>Sep-19</i>
Excess Return			-0.9	-1.0	-4.0			-1.9	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>80</i>	<i>69</i>	<i>92</i>	--	--	<i>92</i>	<i>Sep-19</i>

Total International Equity market value includes cash held in closed accounts Fisher and Hansberger.

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Fixed Income	116,313,531	100.0	2.5	-0.6	2.7	5.9	4.1	5.5	Dec-93
<i>Blmbg BC Universal (Blend)</i>			<i>2.0</i>	<i>-1.1</i>	<i>1.1</i>	<i>5.6</i>	<i>3.5</i>	<i>5.3</i>	<i>Dec-93</i>
Excess Return			0.5	0.5	1.6	0.3	0.6	0.2	
Ramirez	79,233,829	68.1	2.6	-0.1	3.1	5.9	--	4.7	Jan-17
<i>BBgBarc US Aggregate TR</i>			<i>1.8</i>	<i>-1.6</i>	<i>-0.3</i>	<i>5.3</i>	--	<i>4.0</i>	<i>Jan-17</i>
Excess Return			0.8	1.5	3.4	0.6		0.7	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>9</i>	<i>8</i>	<i>10</i>	<i>62</i>	--	<i>31</i>	<i>Jan-17</i>
Reams	29,440,041	25.3	2.1	-1.6	2.1	9.3	5.6	6.0	Feb-98
<i>Blmbg BC Universal (Blend)</i>			<i>2.0</i>	<i>-1.1</i>	<i>1.1</i>	<i>5.6</i>	<i>3.5</i>	<i>5.0</i>	<i>Feb-98</i>
Excess Return			0.1	-0.5	1.0	3.7	2.1	1.0	
<i>eV US Core Plus Fixed Inc Gross Rank</i>			<i>80</i>	<i>97</i>	<i>78</i>	<i>1</i>	<i>7</i>	<i>40</i>	<i>Feb-98</i>
Wellington Core Bond	7,639,617	6.6	1.9	--	--	--	--	1.9	Apr-21
<i>BBgBarc US Aggregate TR</i>			<i>1.8</i>	--	--	--	--	<i>1.8</i>	<i>Apr-21</i>
Excess Return			0.1					0.1	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>76</i>	--	--	--	--	<i>76</i>	<i>Apr-21</i>

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Covered Calls	37,328,619	100.0	6.6	13.2	33.8	13.4	12.6	10.5	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>5.1</i>	<i>11.1</i>	<i>27.3</i>	<i>5.6</i>	<i>7.2</i>	<i>6.5</i>	<i>Apr-14</i>
Excess Return			1.5	2.1	6.5	7.8	5.4	4.0	
Parametric DeltaShift	20,930,443	56.1	7.9	15.2	39.3	17.0	15.6	13.0	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>5.1</i>	<i>11.1</i>	<i>27.3</i>	<i>5.6</i>	<i>7.2</i>	<i>6.5</i>	<i>Apr-14</i>
Excess Return			2.8	4.1	12.0	11.4	8.4	6.5	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>54</i>	<i>51</i>	<i>62</i>	<i>64</i>	<i>76</i>	<i>70</i>	<i>Apr-14</i>
Parametric BXM	16,398,176	43.9	5.1	10.8	27.3	9.5	9.5	8.2	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>5.1</i>	<i>11.1</i>	<i>27.3</i>	<i>5.6</i>	<i>7.2</i>	<i>6.5</i>	<i>Apr-14</i>
Excess Return			0.0	-0.3	0.0	3.9	2.3	1.7	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>95</i>	<i>93</i>	<i>96</i>	<i>98</i>	<i>99</i>	<i>99</i>	<i>Apr-14</i>

Manager Performance - Gross of Fees | As of June 30, 2021

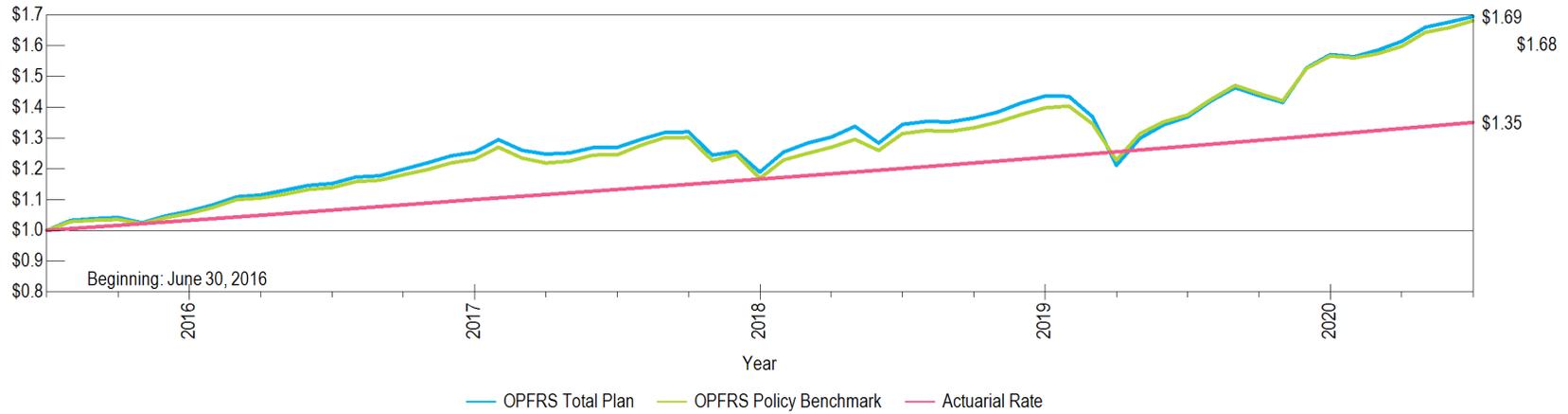
	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Credit	9,177,102	100.0	3.3	7.0	23.7	6.2	8.5	6.7	Feb-15
<i>BBgBarc US High Yield TR</i>			<i>2.7</i>	<i>3.6</i>	<i>15.4</i>	<i>7.4</i>	<i>7.5</i>	<i>6.4</i>	<i>Feb-15</i>
Excess Return			0.6	3.4	8.3	-1.2	1.0	0.3	
DDJ Capital	9,177,102	100.0	3.3	7.0	23.7	6.2	8.5	6.7	Feb-15
<i>ICE BofA High Yield Master TR</i>			<i>2.8</i>	<i>3.7</i>	<i>15.6</i>	<i>7.2</i>	<i>7.3</i>	<i>6.2</i>	<i>Feb-15</i>
Excess Return			0.5	3.3	8.1	-1.0	1.2	0.5	
<i>eV US High Yield Fixed Inc Gross Rank</i>			<i>11</i>	<i>6</i>	<i>5</i>	<i>81</i>	<i>13</i>	<i>30</i>	<i>Feb-15</i>

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Crisis Risk Offset	19,507,725	100.0	5.9	-8.5	-11.6	-9.6	--	-9.9	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<i>2.1</i>	<i>5.9</i>	<i>3.1</i>	<i>--</i>	<i>--</i>	<i>-2.9</i>	<i>Aug-18</i>
Excess Return			3.8	-14.4	-14.7			-7.0	
Vanguard Long-Term Treasury ETF	19,507,725	100.0	5.9	-8.5	-10.8	--	--	5.6	Jul-19
<i>BBgBarc US Govt Long TR</i>			<i>6.4</i>	<i>-7.8</i>	<i>-10.4</i>	<i>--</i>	<i>--</i>	<i>5.9</i>	<i>Jul-19</i>
Excess Return			-0.5	-0.7	-0.4			-0.3	
<i>eV US Long Duration - Gov/Cred Fixed Inc Net Rank</i>			<i>88</i>	<i>99</i>	<i>99</i>	<i>--</i>	<i>--</i>	<i>99</i>	<i>Jul-19</i>

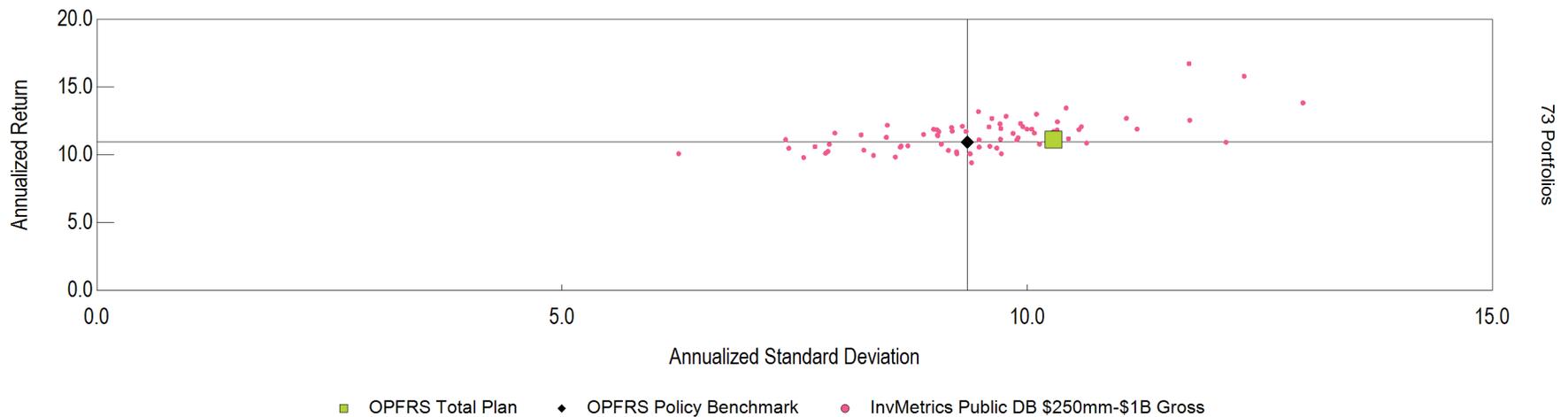
Total Portfolio 5-Year Performance | As of June 30, 2021

Growth of a Dollar

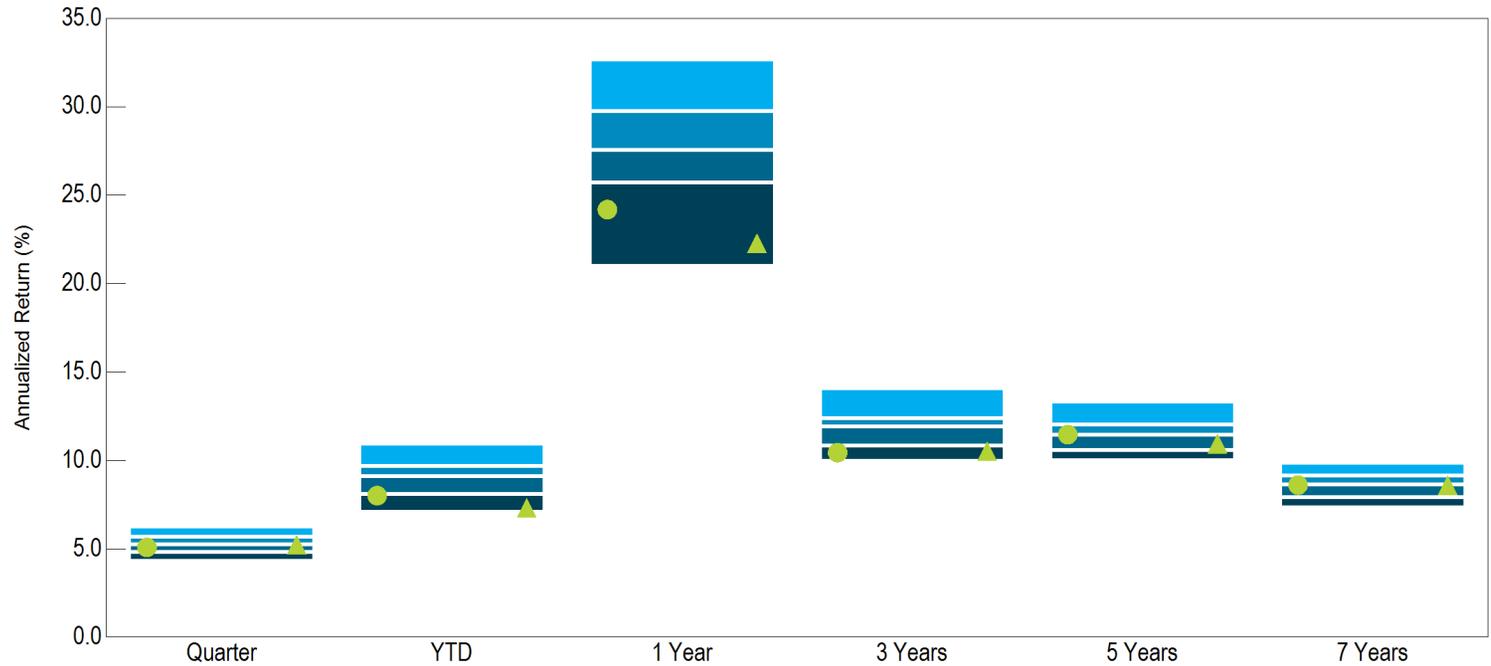


The actuarial expected rate of return was 8% through 6/30/2009, 7.5% through 6/30/2010, 7% through 6/30/2011, 6.75% through 6/30/2014, 6.5% through 2/31/2017 and 6.0% currently

Annualized Return vs. Annualized Standard Deviation 5 Years Ending June 30, 2021



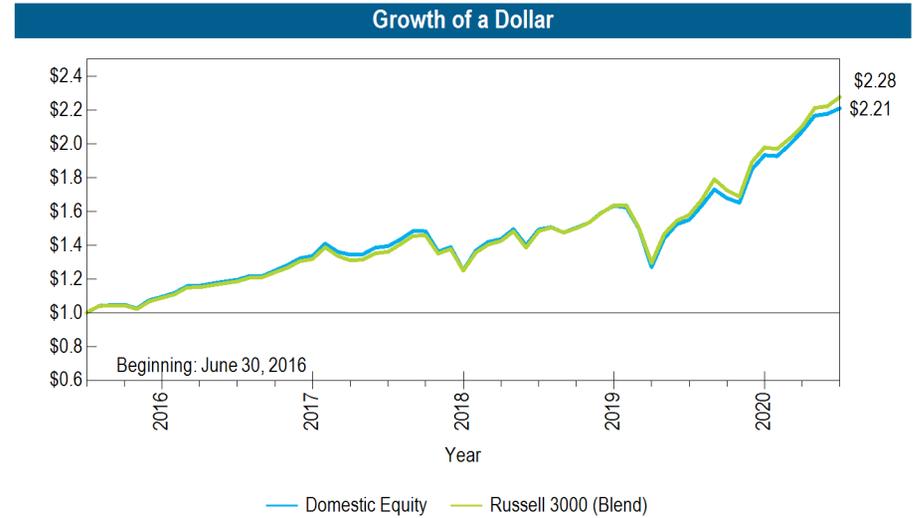
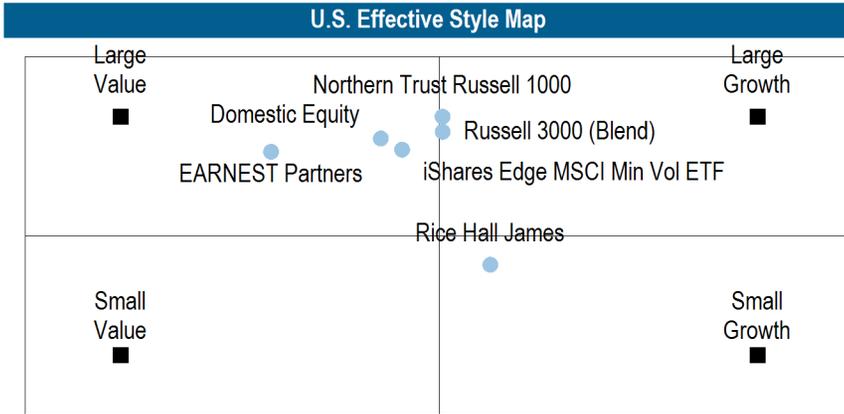
InvMetrics Public DB \$250mm-\$1B Gross Return Comparison



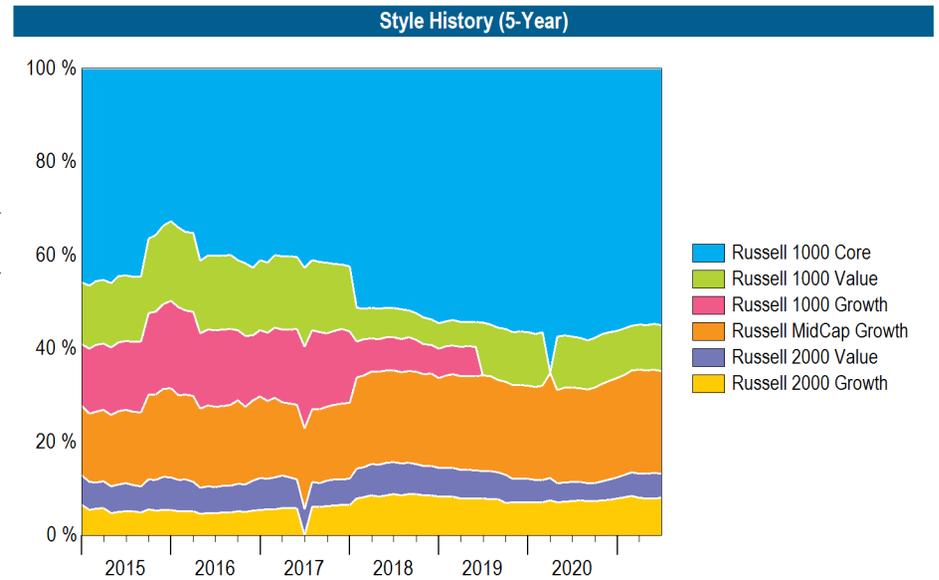
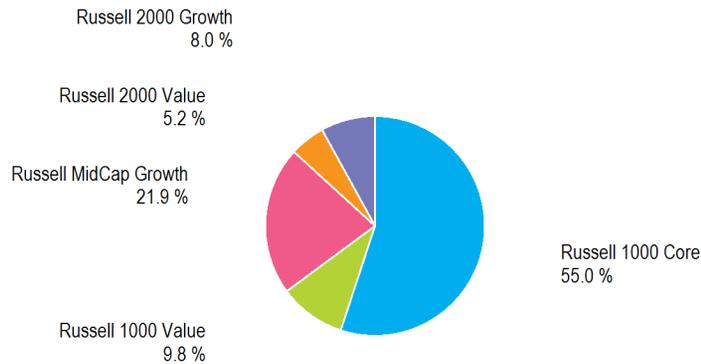
Return (Rank)

	Quarter	YTD	1 Year	3 Years	5 Years	7 Years
5th Percentile	6.2	10.9	32.6	14.0	13.3	9.9
25th Percentile	5.7	9.7	29.8	12.4	12.0	9.2
Median	5.3	9.1	27.6	11.9	11.5	8.7
75th Percentile	4.8	8.1	25.7	10.9	10.6	7.9
95th Percentile	4.3	7.1	21.0	10.0	10.0	7.4
# of Portfolios	76	76	76	74	73	72
● OPFRS Total Plan	5.1 (64)	8.0 (78)	24.2 (89)	10.4 (89)	11.5 (51)	8.6 (52)
▲ OPFRS Policy Benchmark	5.2 (54)	7.3 (93)	22.3 (94)	10.5 (87)	10.9 (64)	8.6 (52)

Domestic Equity | As of June 30, 2021

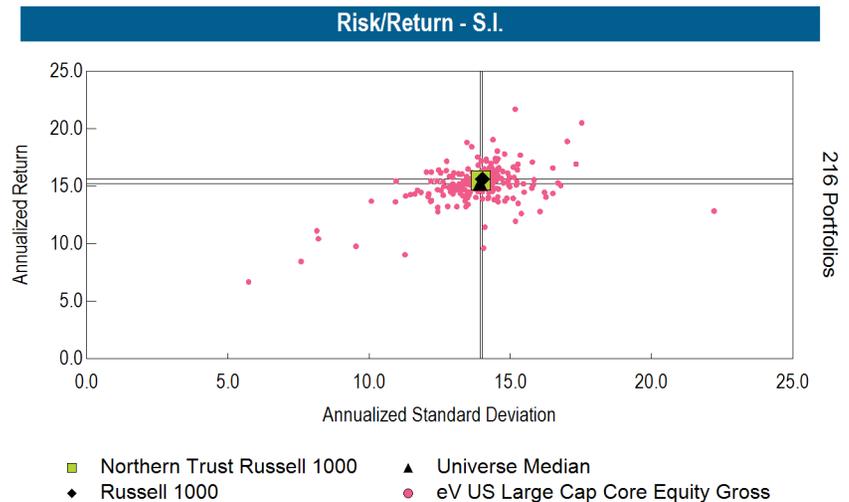
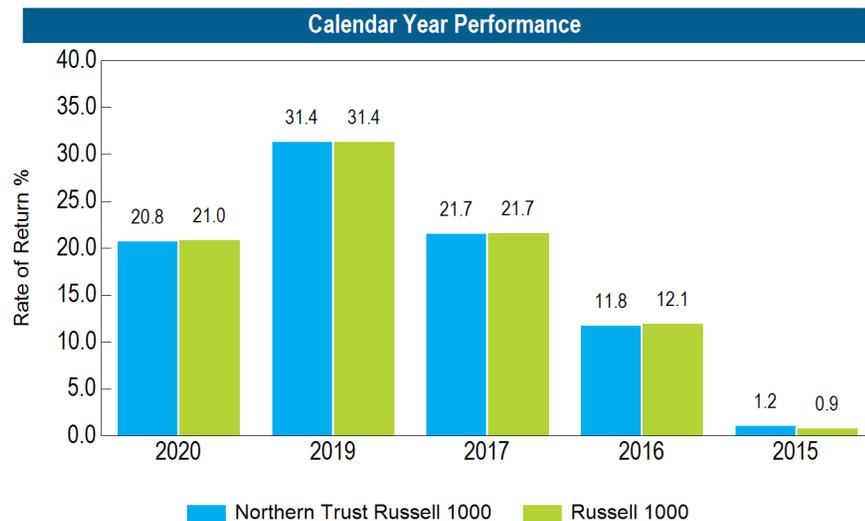
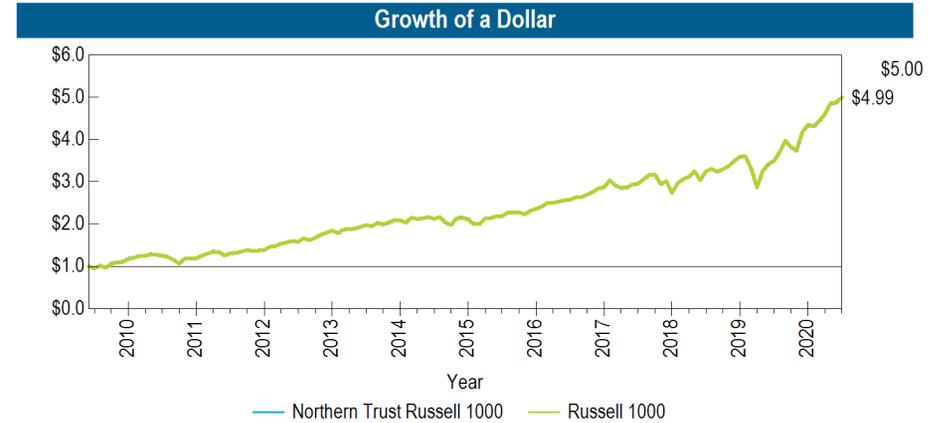
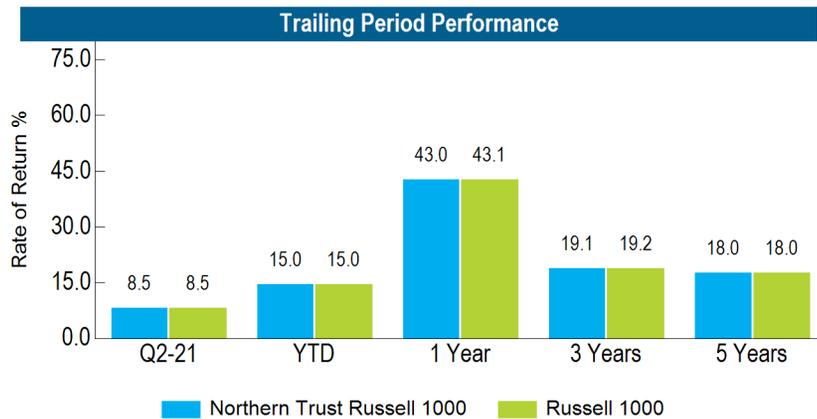


Style Exposure



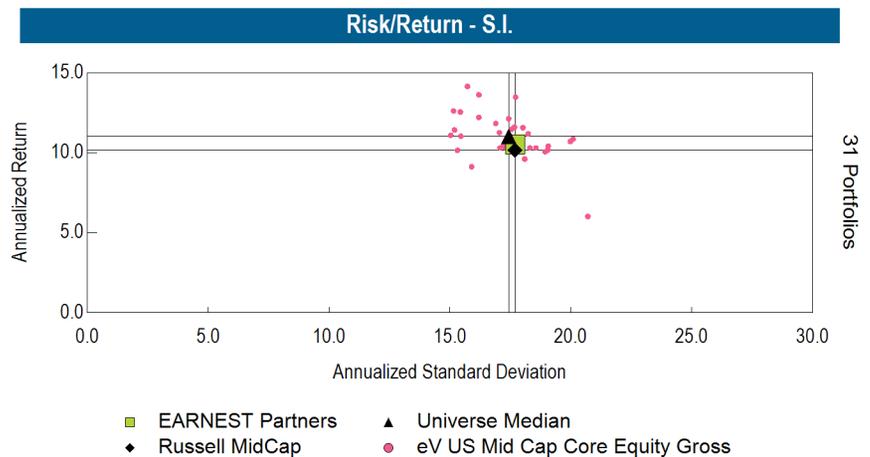
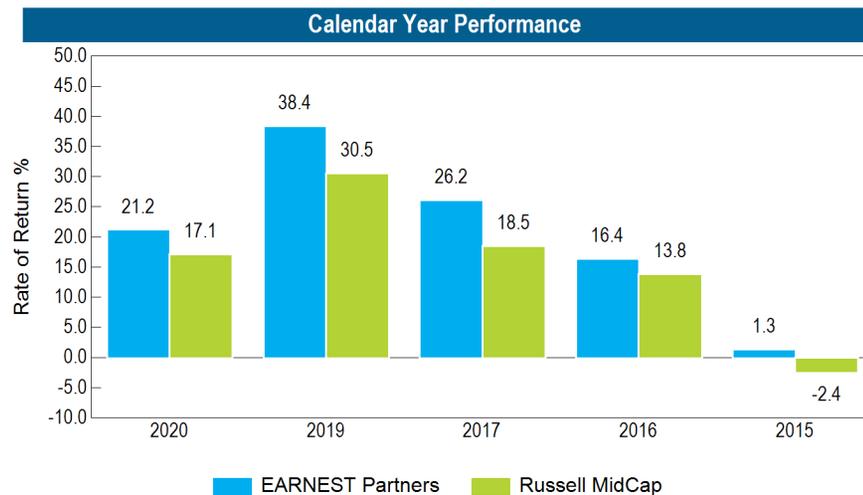
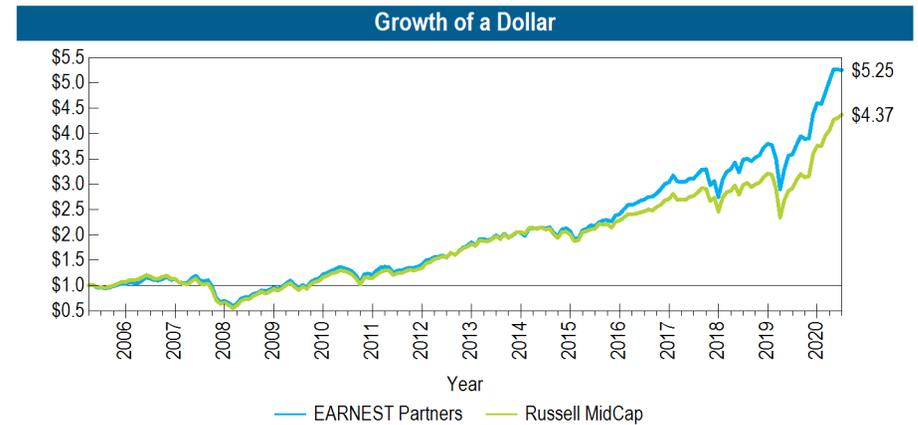
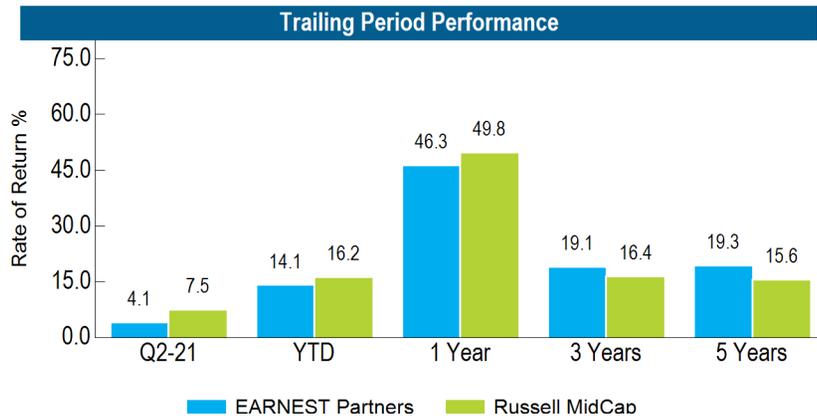
Northern Trust Russell 1000 | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Northern Trust Russell 1000	15.53%	13.95%	0.00%	1.00	0.13%	98.37%	99.76%
Russell 1000	15.62%	14.01%	0.00%	1.00	0.00%	100.00%	100.00%



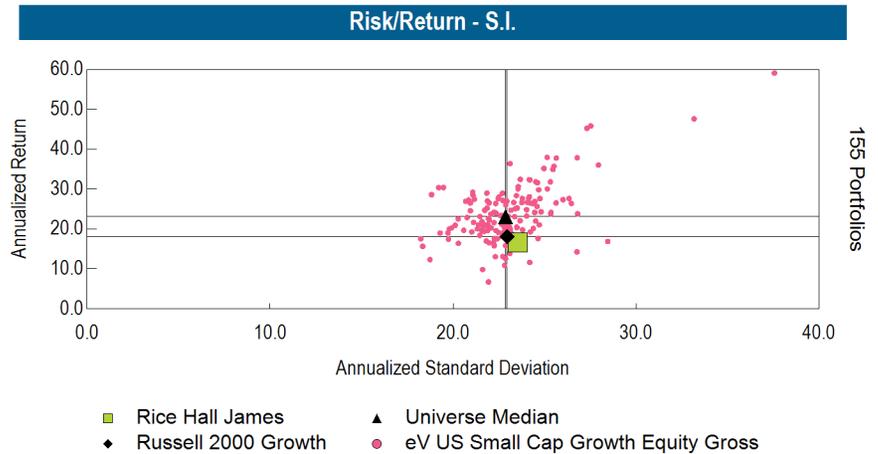
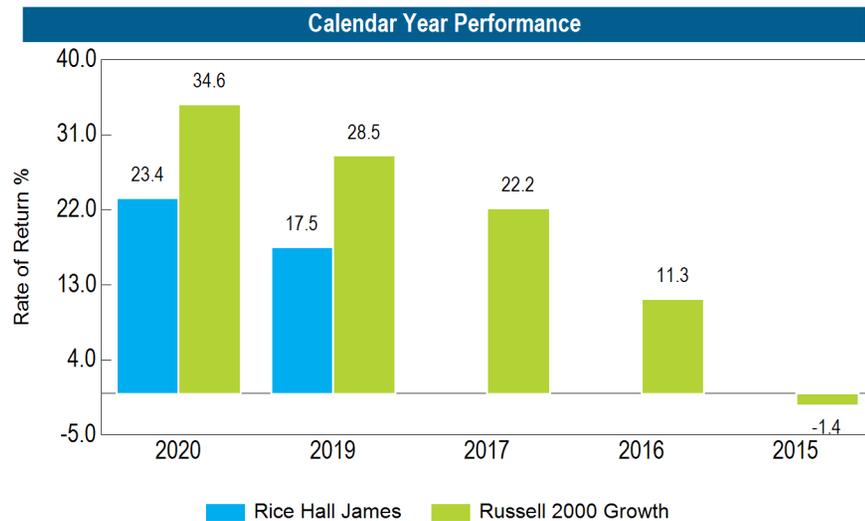
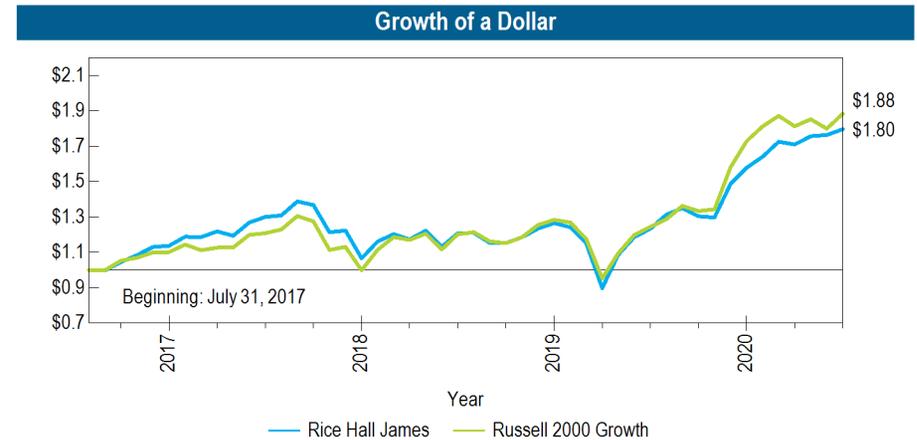
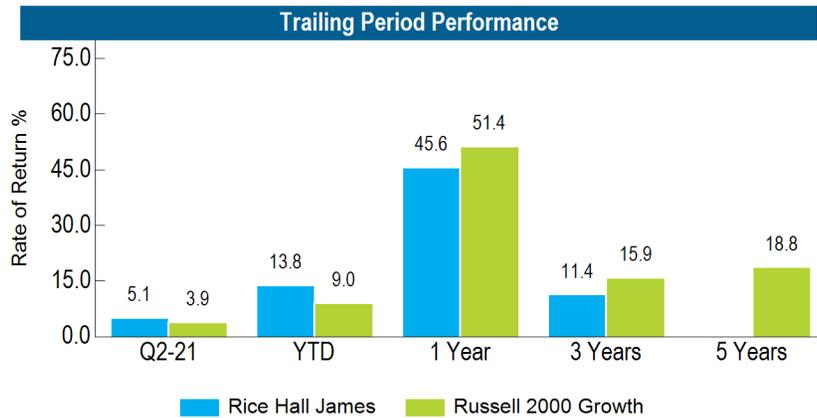
EARNEST Partners | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
EARNEST Partners	10.50%	17.70%	0.04%	0.98	0.10	3.37%	92.95%	99.11%
Russell MidCap	10.16%	17.69%	0.00%	1.00	--	0.00%	100.00%	100.00%



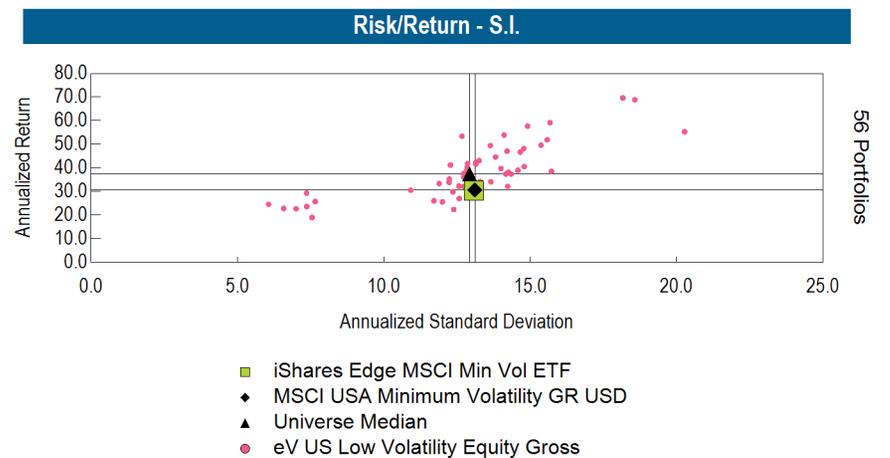
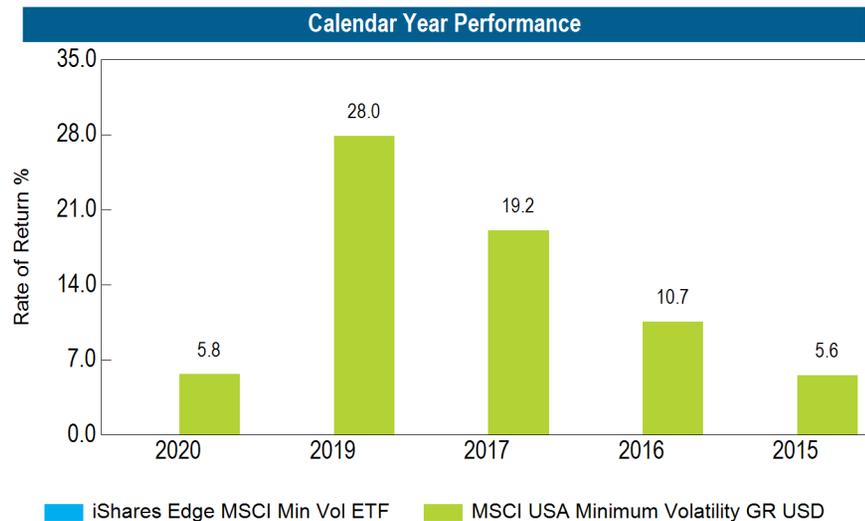
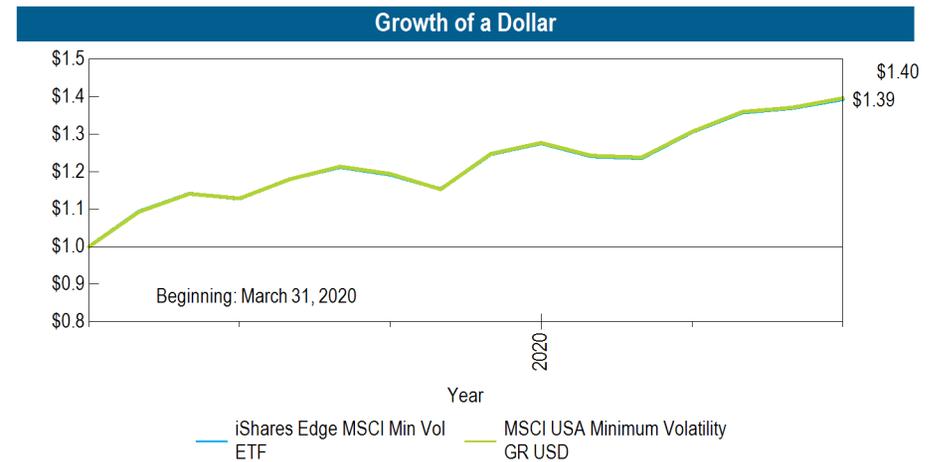
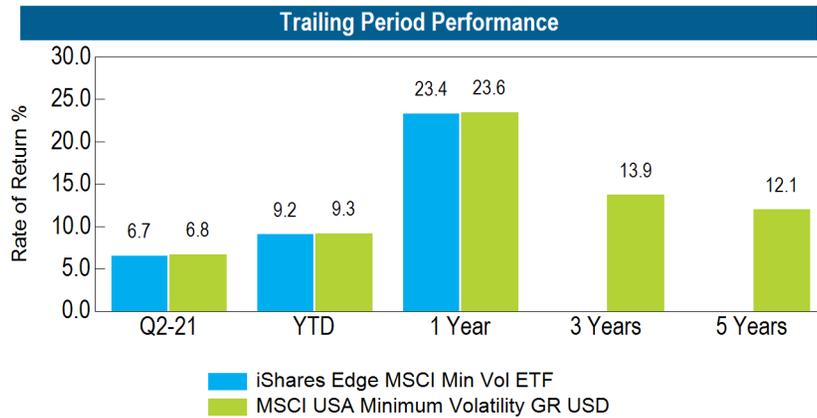
Rice Hall James | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Rice Hall James	14.96%	23.29%	-0.15%	0.98	-0.39	6.64%	87.48%	98.90%
Russell 2000 Growth	17.54%	22.71%	0.00%	1.00	--	0.00%	100.00%	100.00%



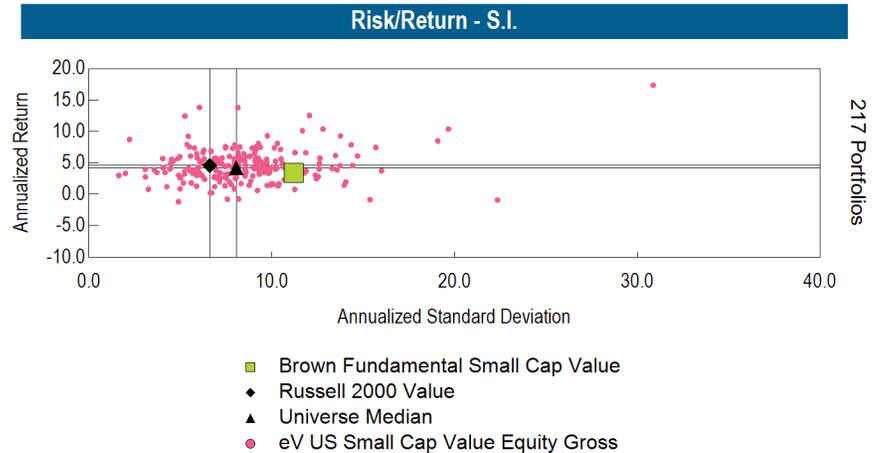
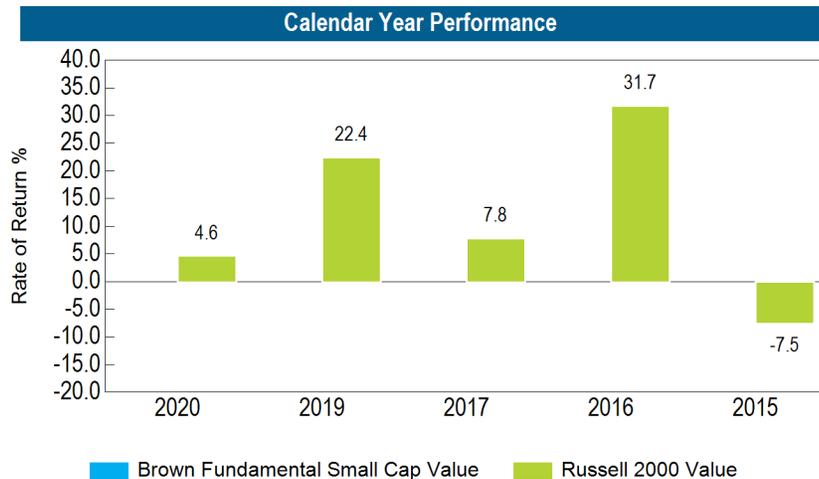
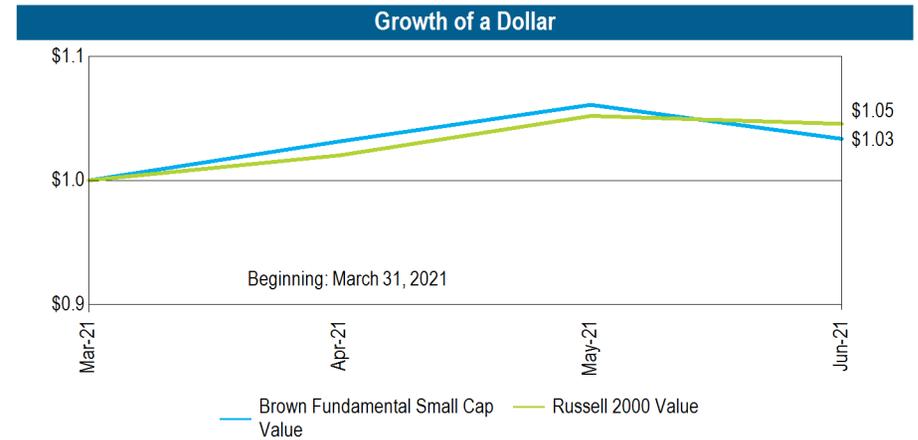
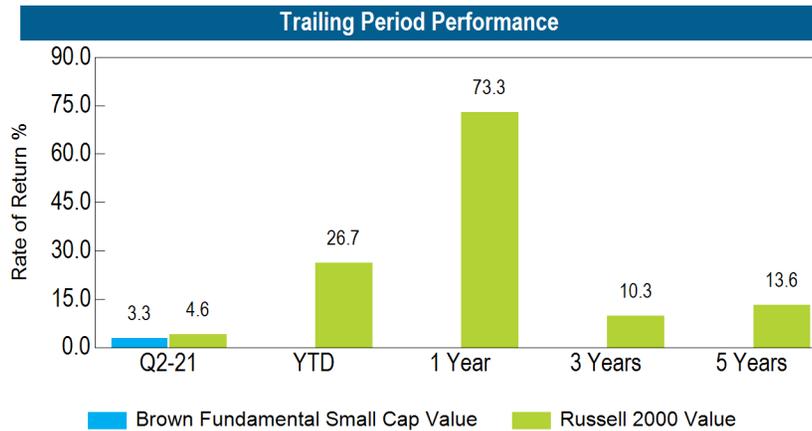
iShares Edge MSCI Min Vol ETF | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
iShares Edge MSCI Min Vol ETF	30.33%	13.08%	-0.01%	1.00	0.31%	99.29%	99.53%
MSCI USA Minimum Volatility GR USD	30.54%	13.12%	0.00%	1.00	0.00%	100.00%	100.00%

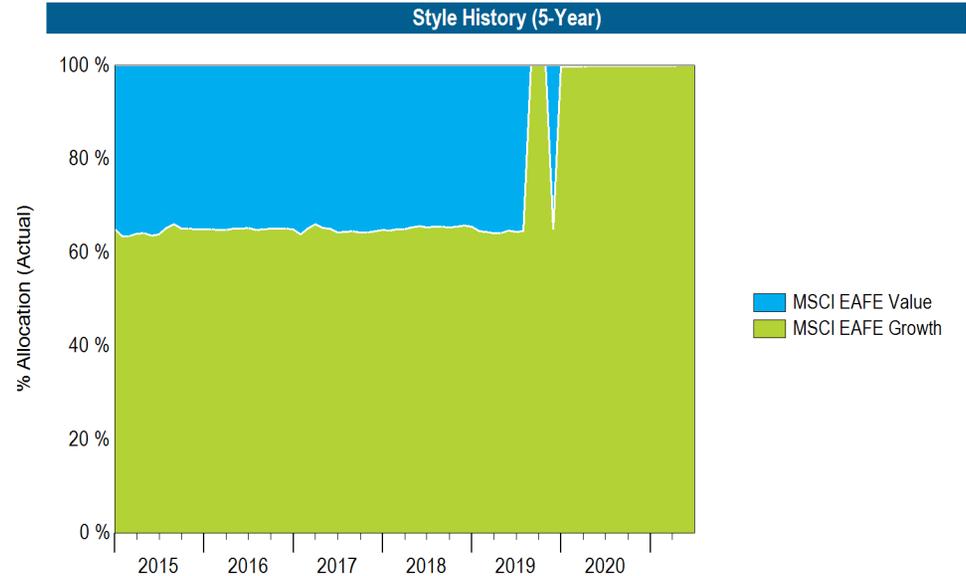
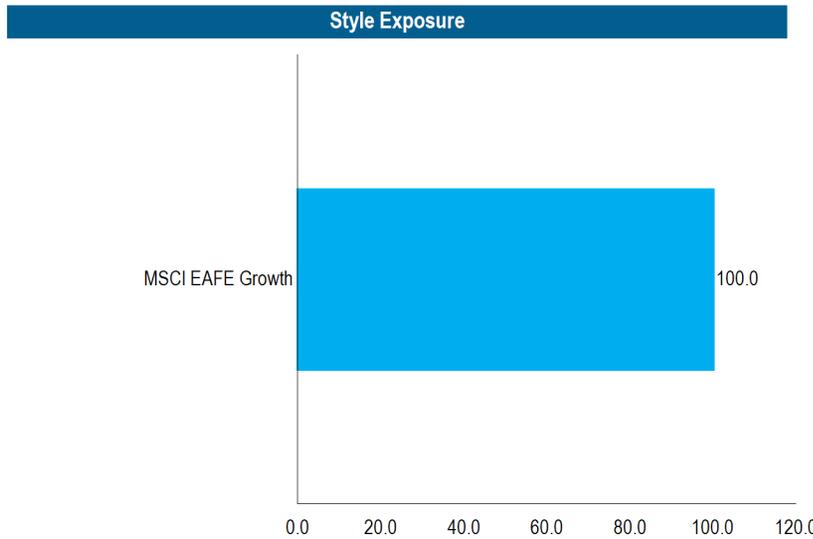
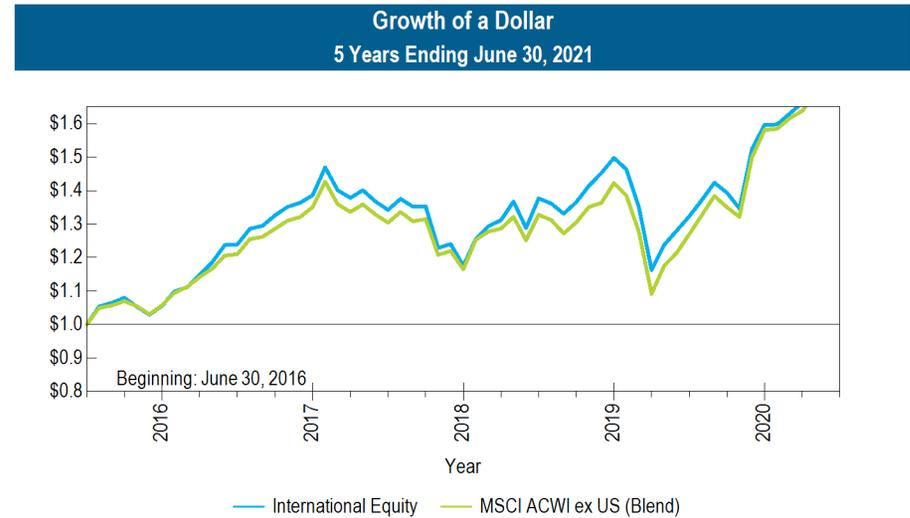
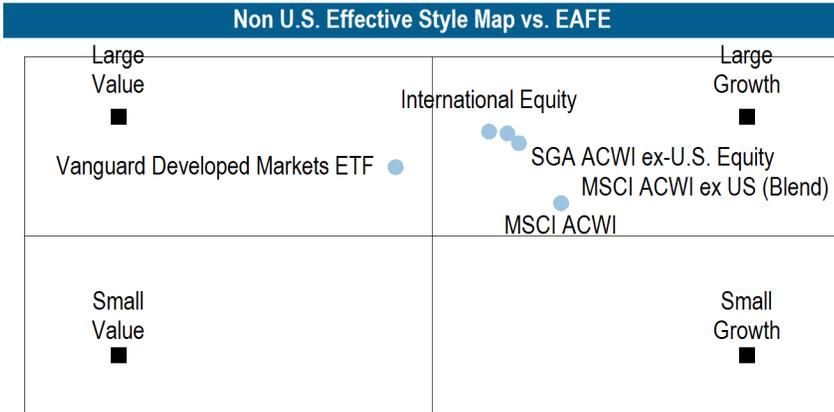


Brown Fundamental Small Cap Value | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Brown Fundamental Small Cap Value	3.13%	11.18%	-1.34%	1.60	-0.27	5.38%	114.32%	438.18%
Russell 2000 Value	4.56%	6.62%	0.00%	1.00	--	0.00%	100.00%	100.00%

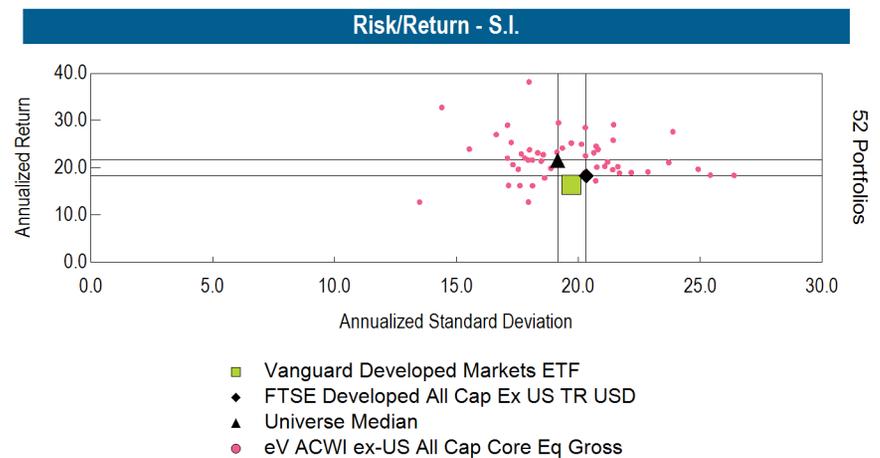
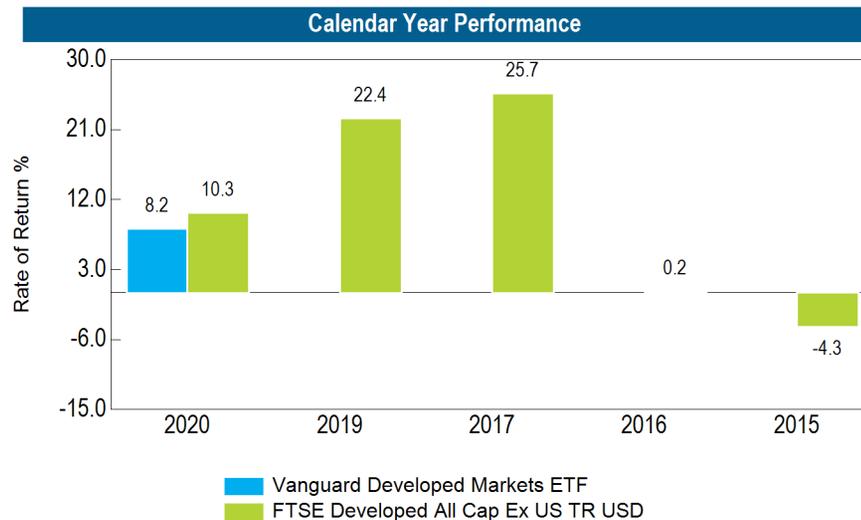
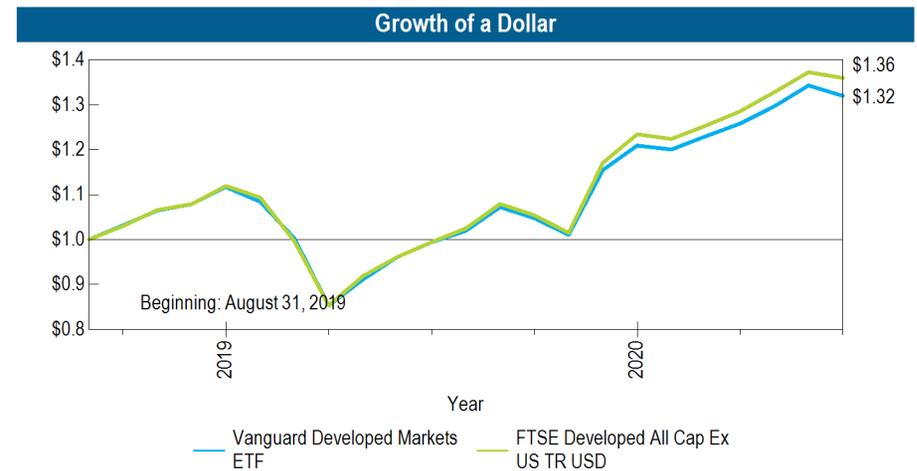
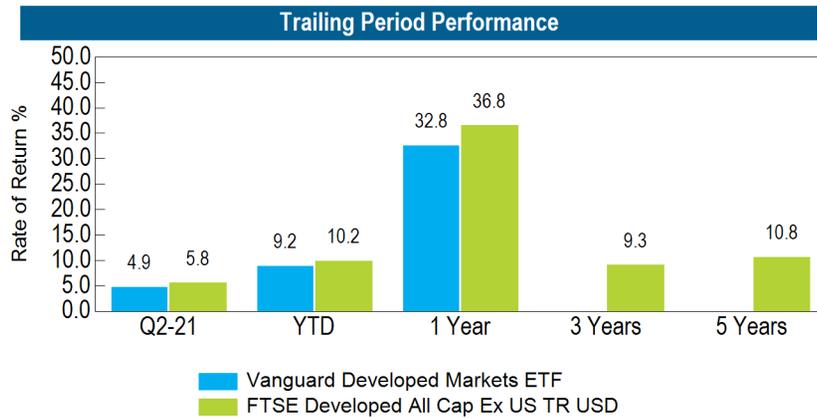


International Equity | As of June 30, 2021



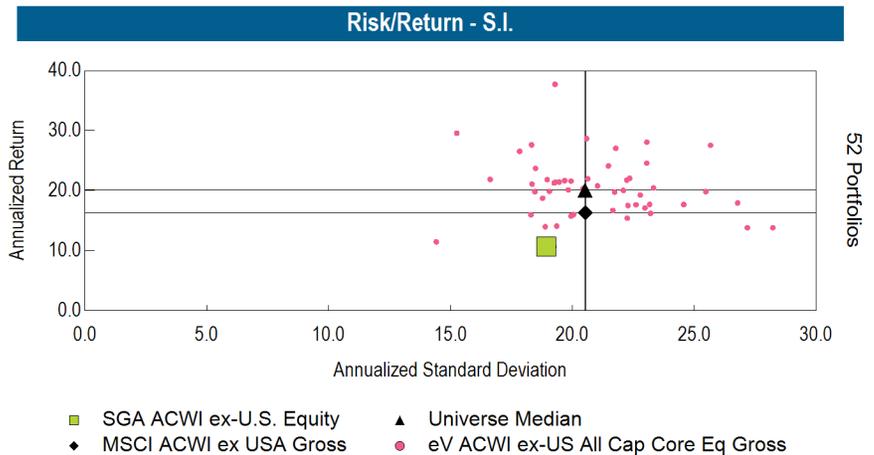
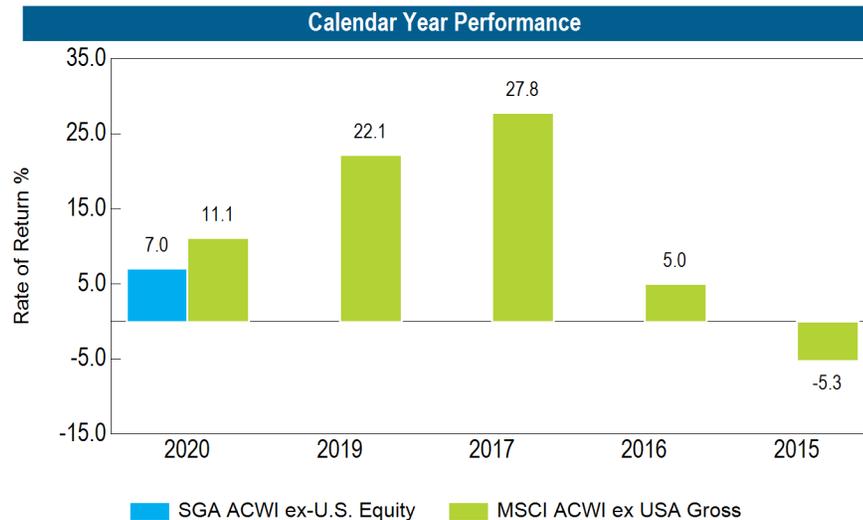
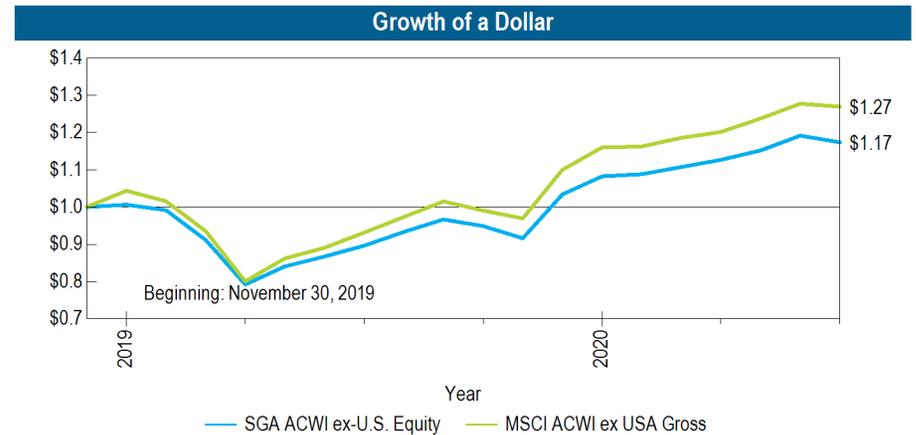
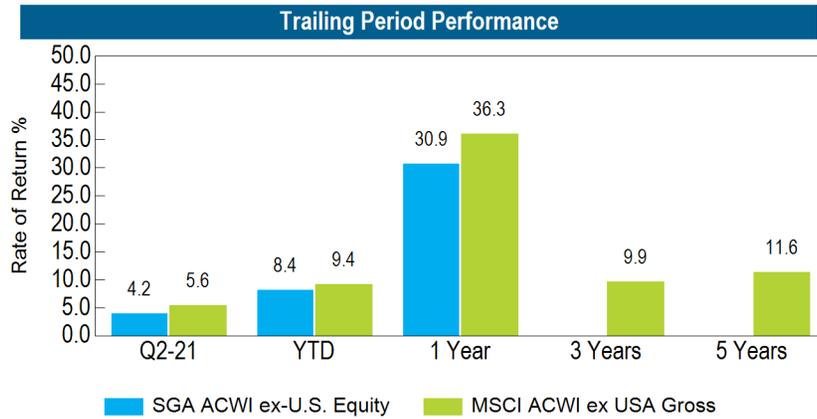
Vanguard Developed Markets ETF | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard Developed Markets ETF	16.30%	19.72%	-0.10%	0.97	-1.00	1.95%	94.47%	100.79%
FTSE Developed All Cap Ex US TR USD	18.24%	20.32%	0.00%	1.00	--	0.00%	100.00%	100.00%



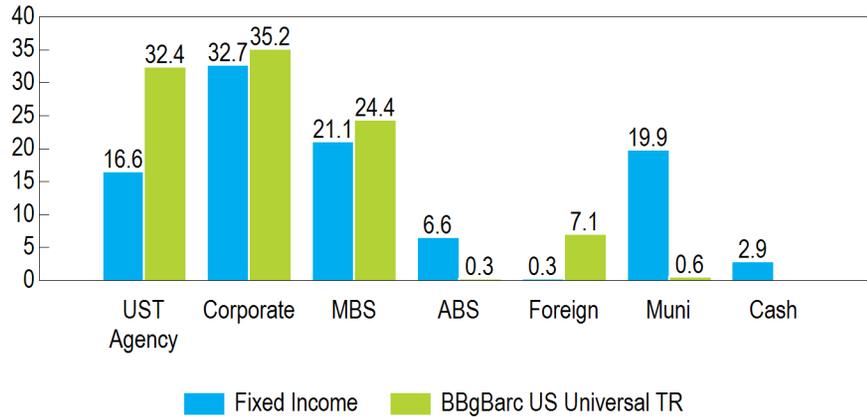
SGA ACWI ex-U.S. Equity | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
SGA ACWI ex-U.S. Equity	10.00%	18.87%	-0.36%	0.90	-1.61	3.89%	78.86%	98.16%
MSCI ACWI ex USA Gross	16.25%	20.54%	0.00%	1.00	--	0.00%	100.00%	100.00%



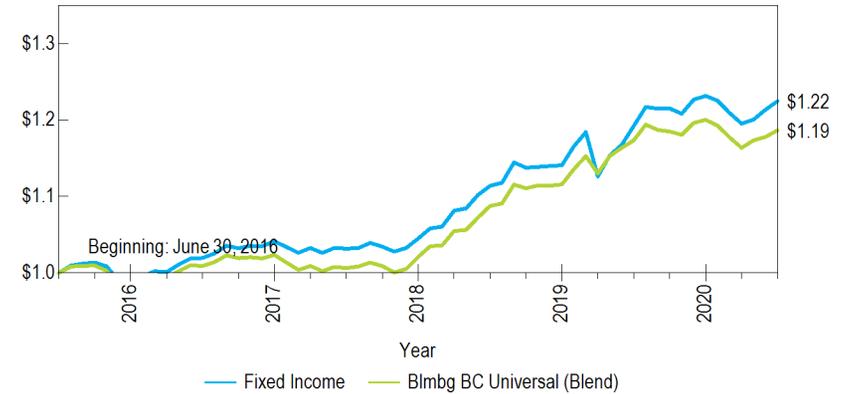
Fixed Income | As of June 30, 2021

US Sector Allocation

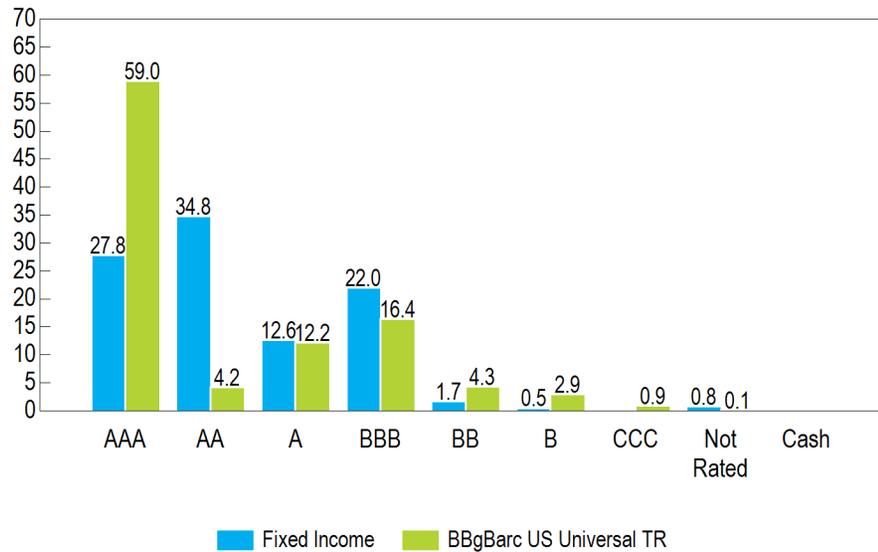


Growth of a Dollar

5 Years Ending June 30, 2021



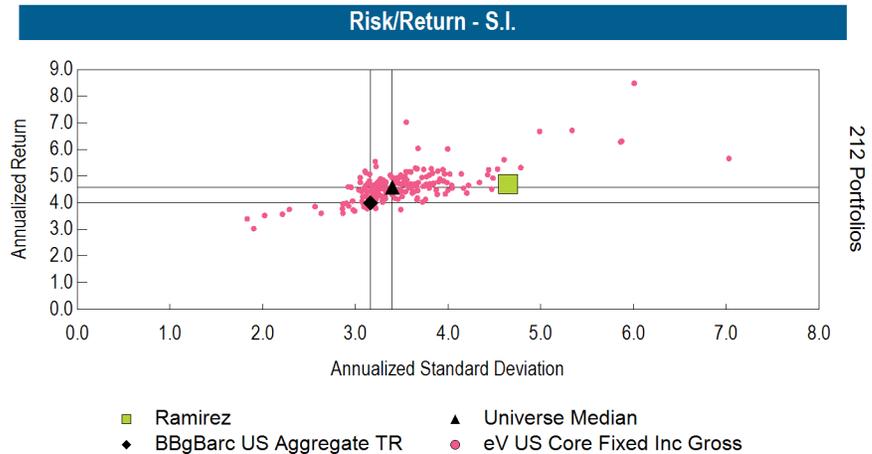
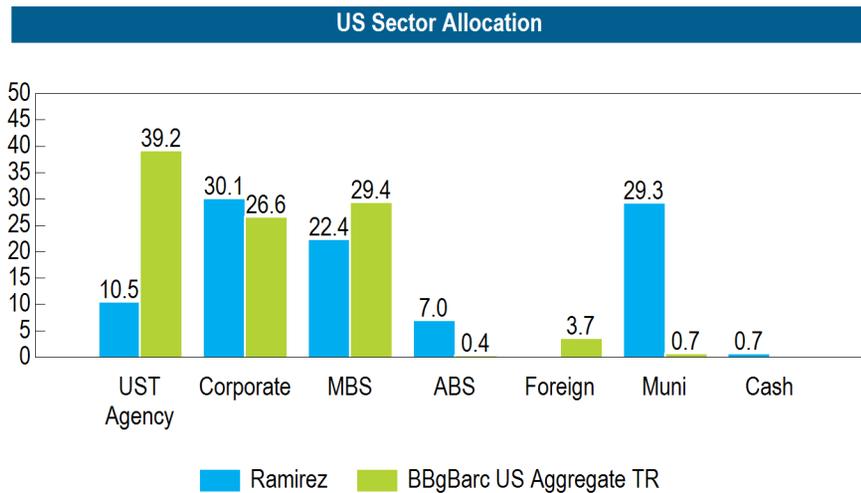
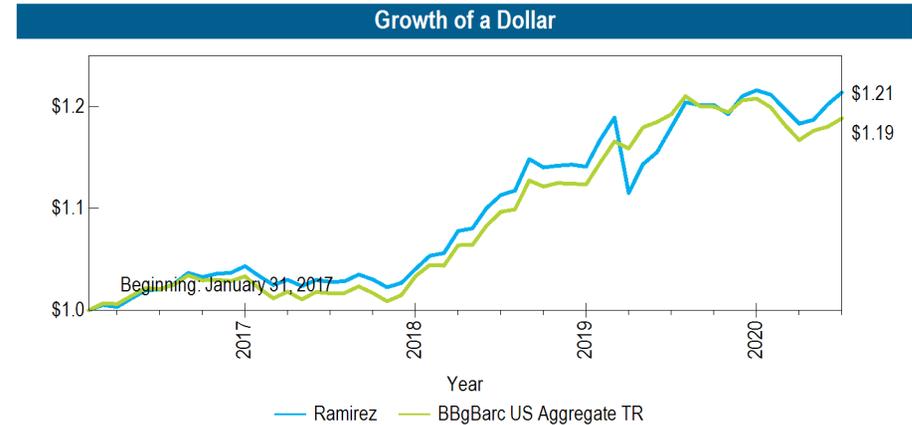
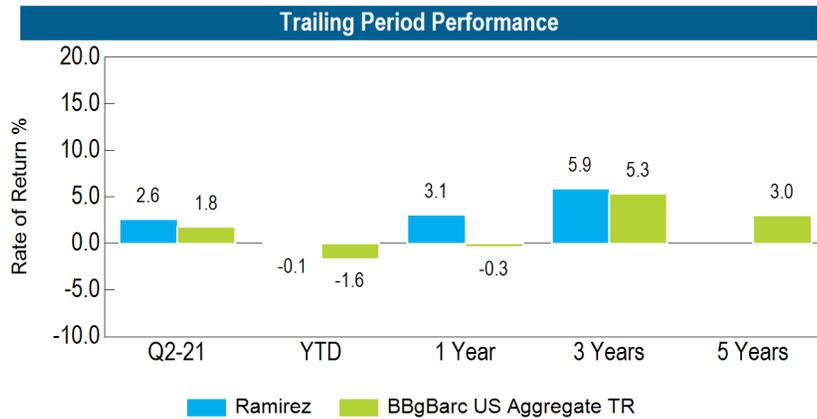
Credit Quality Allocation



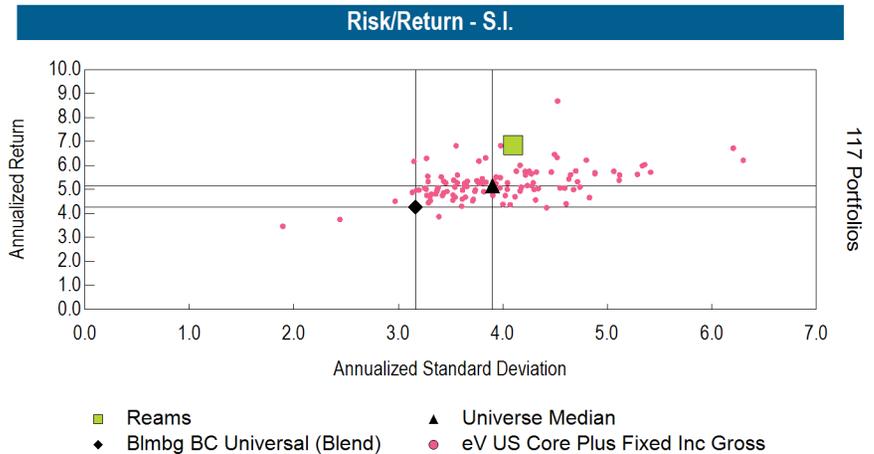
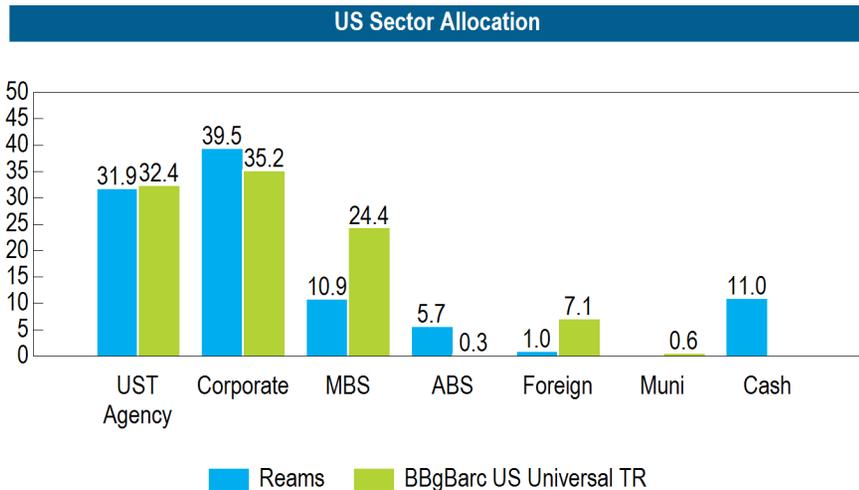
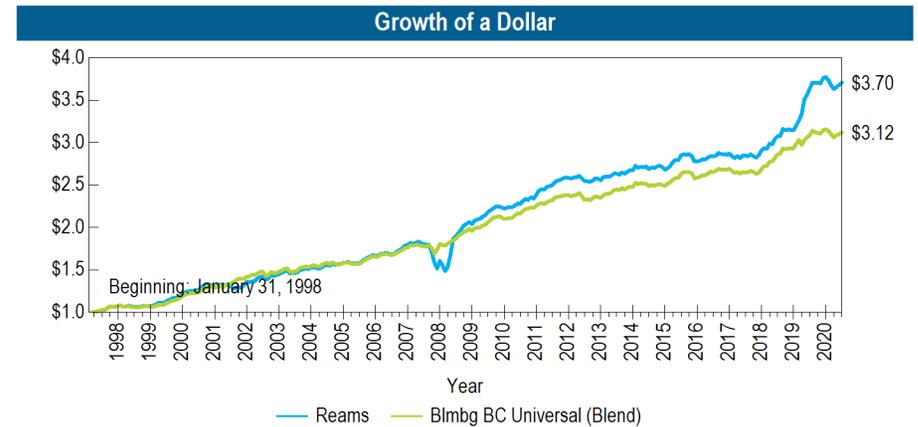
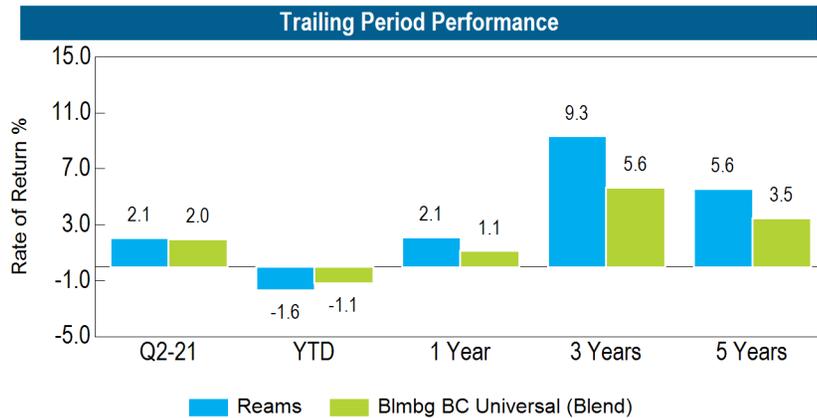
Fixed Income Fixed Income Characteristics vs. BbgBarc US Universal TR

	Portfolio Q2-21	Index Q2-21
Fixed Income Characteristics		
Yield to Maturity	1.70	1.76
Average Duration	6.17	6.42
Average Quality	A	AA
Weighted Average Maturity	8.95	12.71

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Ramirez	4.49%	4.65%	0.00%	1.13	0.17	2.98%	123.98%	130.27%
BBgBarc US Aggregate TR	3.99%	3.17%	0.00%	1.00	--	0.00%	100.00%	100.00%

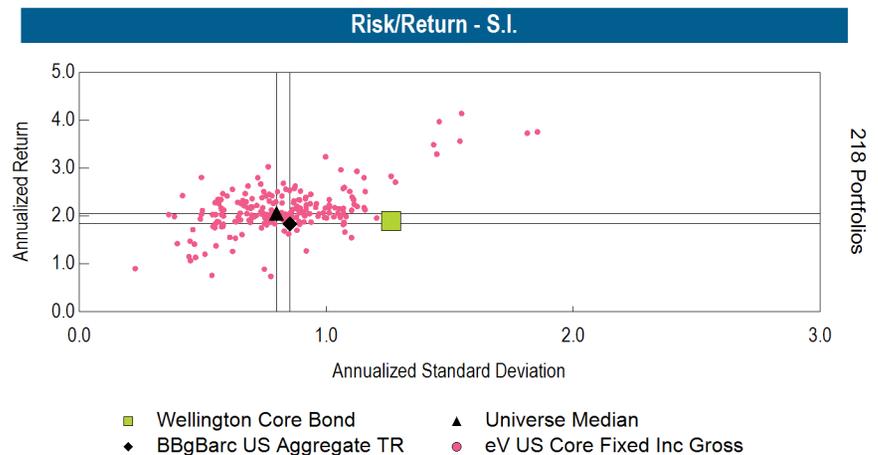
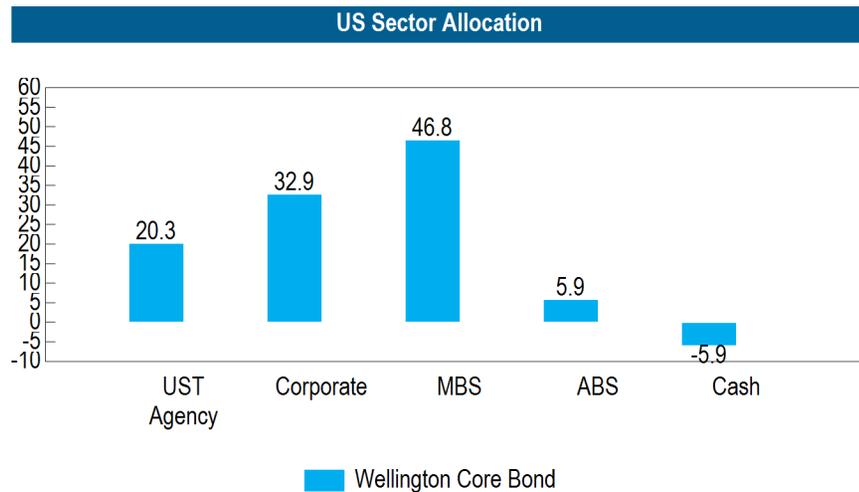
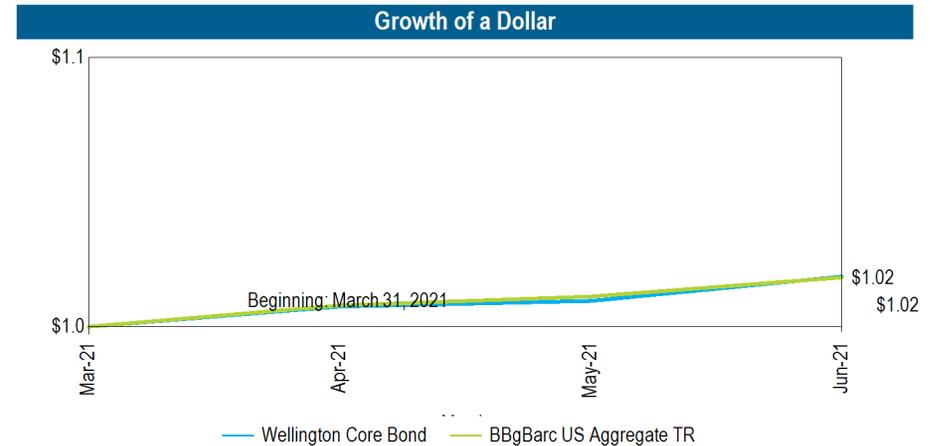
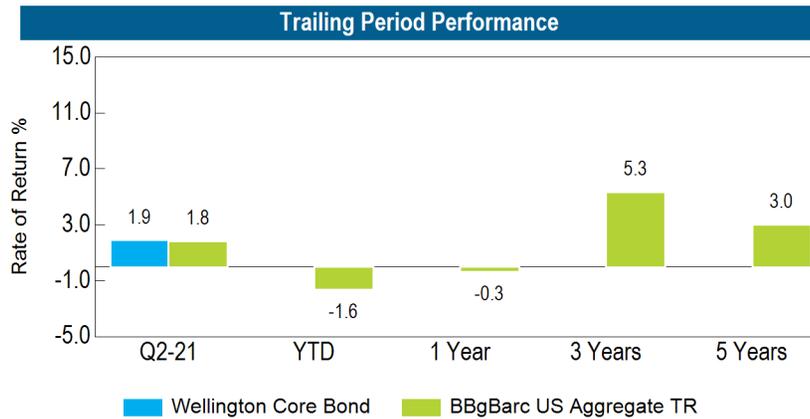


	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Reams	5.75%	5.31%	0.05%	1.05	0.20	3.96%	121.75%	99.18%
Blmbg BC Universal (Blend)	4.98%	3.39%	0.00%	1.00	--	0.00%	100.00%	100.00%

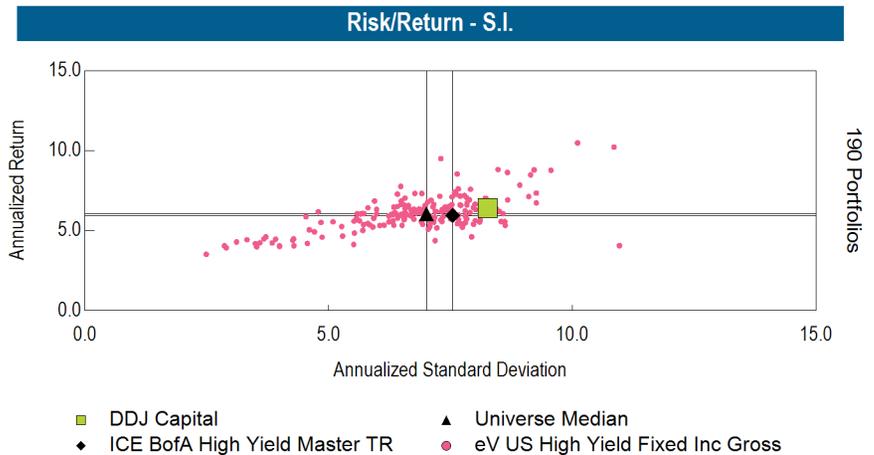
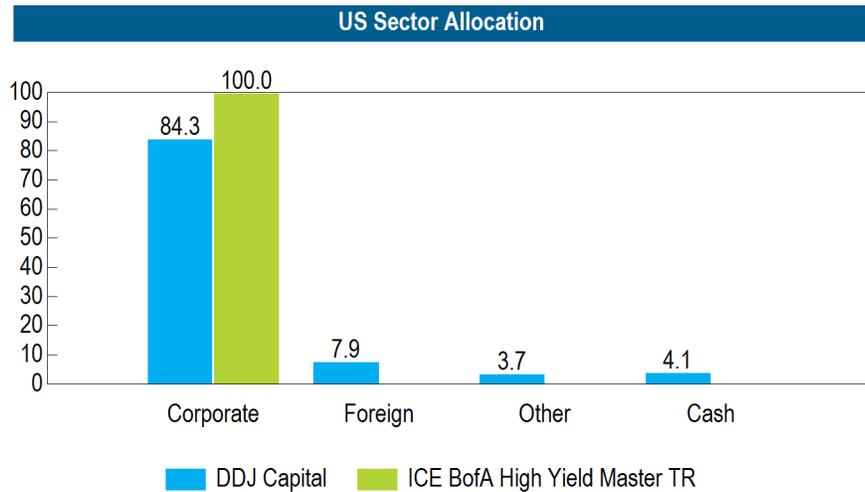
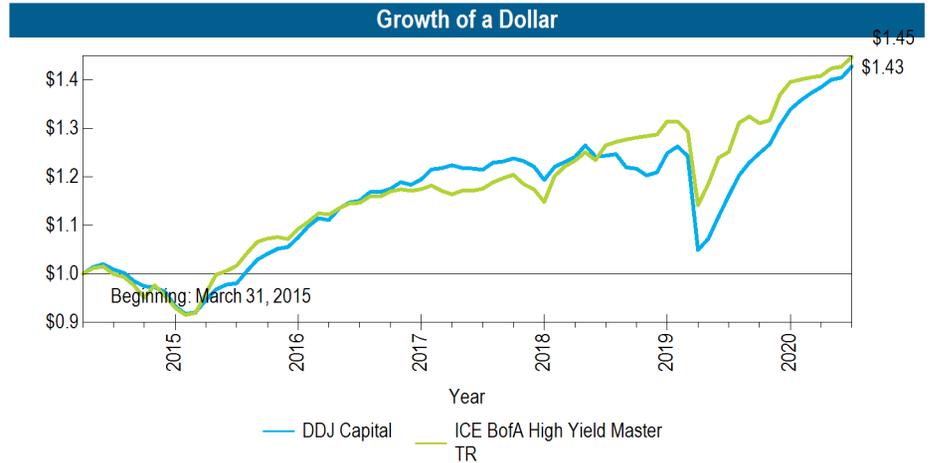
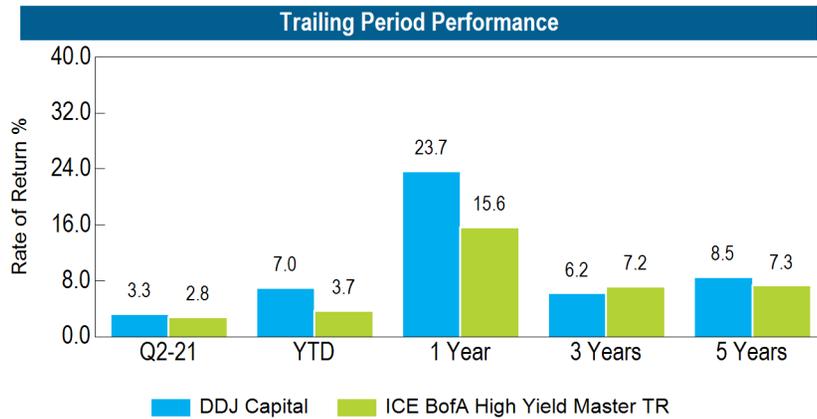


Wellington Core Bond | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Wellington Core Bond	1.86%	1.26%	-0.22%	1.37	0.06	0.57%	101.75%	--
BBgBarc US Aggregate TR	1.83%	0.85%	0.00%	1.00	--	0.00%	100.00%	--

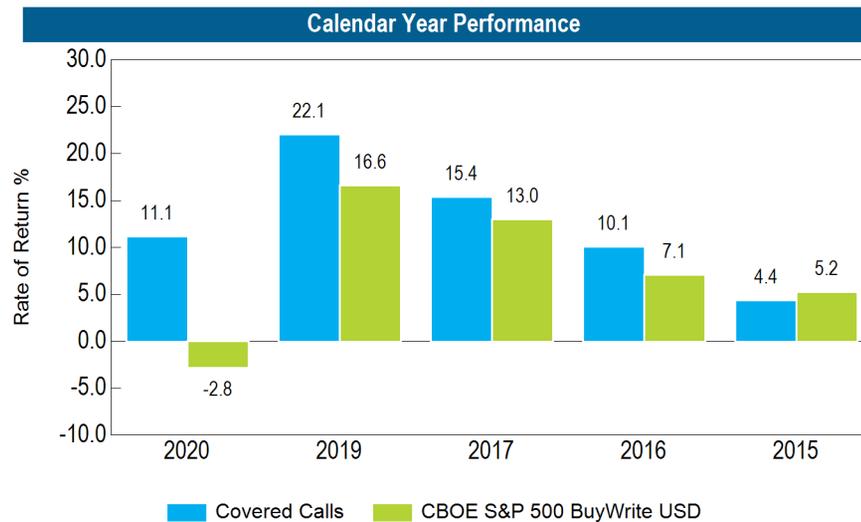
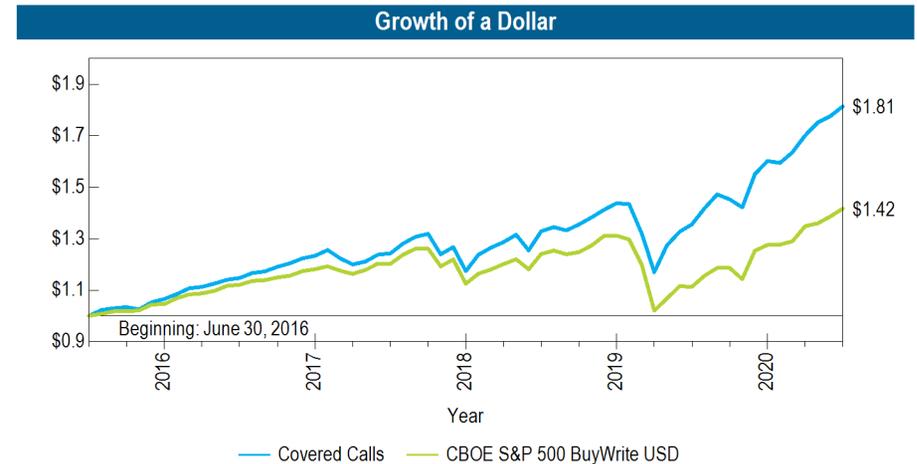
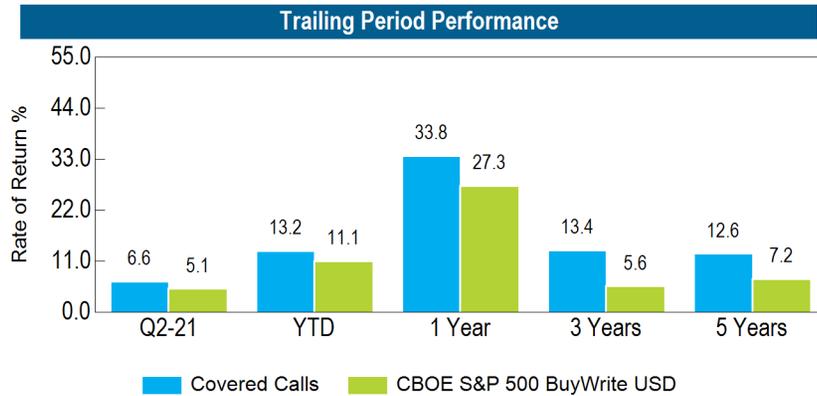


	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
DDJ Capital	5.99%	8.23%	0.01%	0.97	-0.06	3.87%	90.02%	90.93%
ICE BofA High Yield Master TR	6.23%	7.53%	0.00%	1.00	--	0.00%	100.00%	100.00%



Covered Calls | As of June 30, 2021

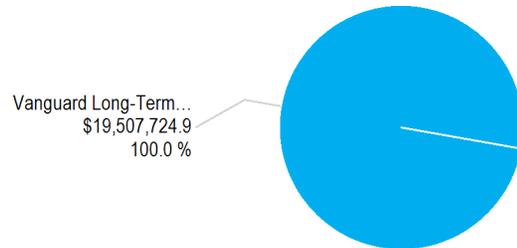
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Covered Calls	10.18%	10.68%	0.30%	0.97	1.11	3.34%	136.23%	96.60%
CBOE S&P 500 BuyWrite USD	6.47%	10.42%	0.00%	1.00	--	0.00%	100.00%	100.00%



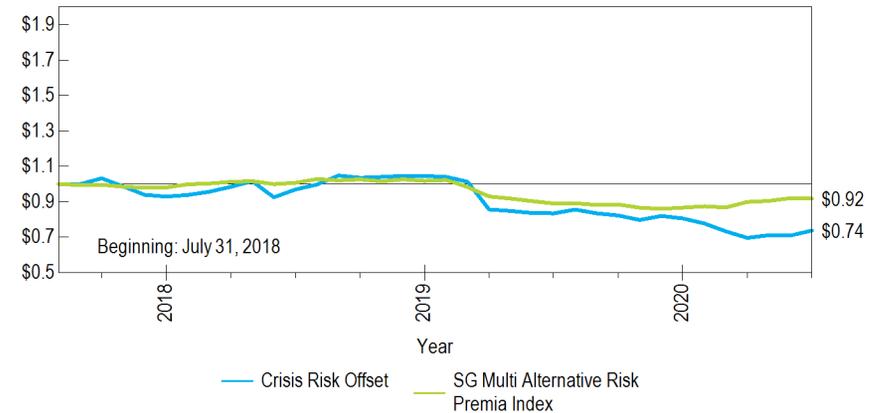
Crisis Risk Offset | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Sortino Ratio	Sharpe Ratio	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Crisis Risk Offset	-10.23%	14.21%	-0.52%	1.25	-0.59	12.38%	-0.81	-0.80	0.25	53.20%	148.91%
SG Multi Alternative Risk Premia Index	-2.89%	5.70%	0.00%	1.00	--	0.00%	-0.64	-0.71	1.00	100.00%	100.00%

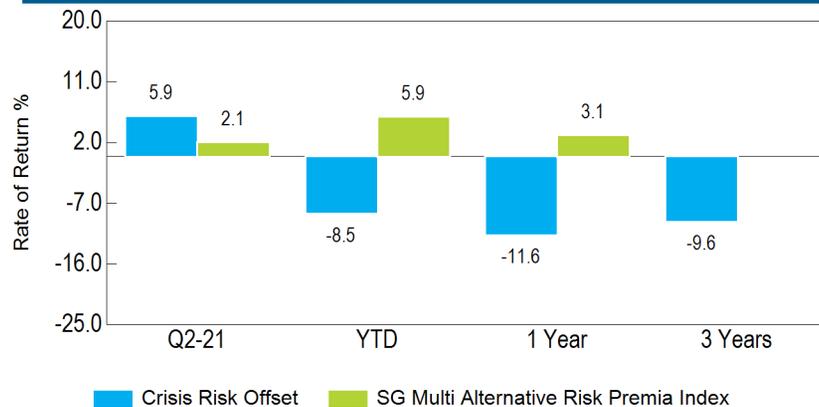
Current Allocation



Growth of a Dollar



Trailing Period Performance



Correlation Matrix 6 Months Ending June 30, 2021

	Crisis Risk Offset	MSCI ACWI	S&P 500	BBgBarc Global Aggregate TR
Crisis Risk Offset	1.00	--	--	--
MSCI ACWI	0.17	1.00	--	--
S&P 500	0.14	0.94	1.00	--
BBgBarc Global Aggregate TR	0.64	0.32	0.05	1.00

Manager Monitoring / Probation List

Manager Monitoring/Probation Status
Return vs. Benchmark since Corrective Action

As of June 30, 2021

Portfolio	Status	Concern	Months Since Corrective Action	Performance ¹ Since Corrective Action (Gross, %)	Peer Group Percentile Ranking ²	Date of Corrective Action ³
DDJ Capital	On Watch	Performance	21	6.8	6	5/29/2019
Ice BofAML US High Yield			---	7.4		
Rice Hall James	On Watch	Performance	21	25.2	62	5/29/2019
Russell 2000 Growth	---	---	---	30.2		
Parametric	On Watch	Org changes	5	19.7	NA	10/28/2020
CBOE S&P 500 BuyWrite USD				14.5		

Investment Performance Criteria for Manager Monitoring/Probation Status

Asset Class	Short-term (Rolling 12 months)	Medium-term (Rolling 36 months)	Long-term (60 + months)
Active Domestic Equity	Fund return < benchmark return by 3.5%	Annualized Fund return < benchmark return by 1.75% for 6 consecutive months	VRR ⁴ < 0.97 for 6 consecutive months
Active International Equity	Fund return < benchmark return by 4.5%	Annualized Fund return < benchmark return by 2.0% for 6 consecutive months	VRR < 0.97 for 6 consecutive months
Passive International Equity	Tracking Error > 0.50%	Tracking Error > 0.45% for 6 consecutive months	Annualized Fund return < benchmark return by 0.40% for 6 consecutive months
Fixed Income	Fund return < benchmark return by 1.5%	Annualized Fund return < benchmark return by 1.0% for 6 consecutive months	VRR < 0.98 for 6 consecutive months

¹ Annualized performance if over one year

² Ranking over most recent quarter if on watch for less than 1 year, or over 1 year if on watch for more than a year.

³ Approximate date based on when the Board voted to either monitor a manager at a heightened level or place it on probation.

⁴ VRR (Value Relative Ratio) is calculated as manager cumulative return/ benchmark return.

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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security.)

Duration: Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. $\text{Portfolio Return} - [\text{Risk Free Rate} + \text{Beta} * (\text{market return} - \text{Risk Free Rate})]$.

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

Market Weighted: Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

Prepayment Risk: The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

Price-Book Value (P/B) Ratio: The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about its future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

Style: The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Tracking Error: A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark, as defined by the difference in standard deviation.

Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a “basis book.” For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{5\% \text{ (discount)}}{5 \text{ (yrs. to maturity)}} = 1\% \text{ pro rata, plus } 5.26\% \text{ (current yield)} = 6.26\% \text{ (yield to maturity)}$$

Yield to Worst: The lowest potential yield that can be received on a bond without the issuer actually defaulting. The yield to worst is calculated by making worst-case scenario assumptions on the issue by calculating the returns that would be received if provisions, including prepayment, call, or sinking fund, are used by the issuer.

NCREIF Property Index (NPI): Measures unleveraged investment performance of a very large pool of individual commercial real estate properties acquired in the private market by tax-exempt institutional investors for investment purposes only. The NPI index is capitalization-weighted for a quarterly time series composite total rate of return.

NCREIF Fund Index - Open End Diversified Core Equity (NFI-ODCE): Measures the investment performance of 28 open-end commingled funds pursuing a core investment strategy that reflects funds' leverage and cash positions. The NFI-ODCE index is equal-weighted and is reported gross and net of fees for a quarterly time series composite total rate of return.

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.

The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

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Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.