



DISTRIBUTION DATE: May 28, 2021

MEMORANDUM

TO: HONORABLE MAYOR &
CITY COUNCIL

FROM: Erin Roseman,
Director of Finance

SUBJECT: Oakland PFRS's Investment
Portfolio Update

DATE: May 27, 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 March 31, 2021, PFRS had 734 retired members and no active members.

As of March 31, 2021, the PFRS Investment Portfolio had a balance of \$443.3 million and generated a quarterly return of 2.8 percent, gross of fees, overperforming its policy benchmark by 1.0 percent. The portfolio also outperformed its benchmark by 3.7 percent over the one-year period and 0.6 percent over the five-year period. However, the portfolio underperformed compared to its benchmark by -0.1 percent 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 2020/2021 is \$43.65 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 March 31, 2021. The Investment report was approved by the PFRS Board at their May 26, 2021 PFRS Board meeting.

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

Respectfully submitted,
Erin Roseman

[Erin Roseman \(May 28, 2021 09:55 PDT\)](#)

ERIN ROSEMAN
Director of Finance

Attachment A: Oakland Police and Fire System Investment Performance Report as of March 31, 2021

Oakland Police and Fire Retirement System

May 26, 2021

Performance Update
As of March 31, 2021

1. Total Portfolio Summary
2. Asset Class and Manager Commentary
3. Performance **Update** as of March 31, 2021
4. Manager Monitoring / Probation List
5. Disclaimer, Glossary, and Notes

Total Portfolio Summary

Total Portfolio Summary

As of March 31, 2021, the City of Oakland Police and Fire Retirement System (OPFRS) portfolio had an aggregate value of \$443.3 million. This represents a \$12.2 million increase in investment value and (\$3.0) million in benefit payments funded from investments over the quarter. Over the one year period, the OPFRS Total Portfolio value is higher by \$101.8 million, after withdrawals totaling (\$12.0) million for benefit payments.

Asset Allocation Trends

- The asset allocation targets throughout this report reflect those as of March 31, 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. During the quarter manager searches were undertaken to fill the Alternative Risk Premia and Systematic Trend Following components of the Crisis Risk Offset asset class. Funding those mandates will likely bring the asset class closer to its policy target.
- During the quarter, OPFRS approved funding for Brown Advisory and Wellington to manage small cap value and core fixed income mandates respectively. Both managers were funded subsequent to quarter-end.

Recent Investment Performance

- During the most recent quarter, the OPFRS portfolio generated an absolute return of 2.8%, gross of fees, outperforming its policy benchmark by 1.0%. The portfolio also outperformed its benchmark over the 1- and 5-year periods, by 3.7% and 0.6% respectively, while underperforming over the 3-year period by 10 basis points.

Total Portfolio Summary

- The OPFRS portfolio underperformed the Median fund’s return over the quarter by (0.4%), and by (2.5%), (0.8%) and (0.3%) over the one, three and five-year trailing periods respectively. Performance differences with respect to the Median Fund are attributed largely to differences in asset allocation.

	Quarter	Fiscal YTD	1 Year	3 Year	5 Year
Total Portfolio ¹	2.8	18.2	33.7	9.3	10.9
Policy Benchmark ²	1.8	16.0	30.0	9.4	10.3
Excess Return	1.0	2.2	3.7	-0.1	0.6
Reference: Median Fund ³	3.2	20.3	36.2	10.1	10.6
Reference: Total Net of Fees ⁴	2.7	17.9	33.3	9.0	10.5

- Over the quarter, positive performance was driven by Domestic Equity that returned 7.3%, outperforming the benchmark by +1.0%. International Equity, Covered Calls and Credit also contributed positively, returning 4.1%, 6.2% and 3.6% respectively.
- Fixed Income and Crisis Risk Offset (Long-term Treasuries within this asset class) registered negative returns; -2.9% and -13.6% respectively, as yields (which move inversely with bond prices) rose rapidly over the quarter.

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 March 31, 2021, Domestic Equity returned 7.3%, beating the Russell 3000 benchmark by +1.0%. Both active managers in the Domestic Equity portfolio outperformed their respective benchmarks while the passive managers/strategies (Northern Trust Russell 1000, iShares Edge MSCI Minimum Volatility and the Vanguard Russell 2000 Value) performed in line with their respective benchmarks with acceptable tracking error.

Earnest Partners, the Plan's active mid cap core manager, returned 9.6%, outperforming the Russell Midcap benchmark by +1.5%, and placing in the 47th percentile of its peer group for the quarter. The manager has also outperformed its benchmark over longer trailing periods with excess returns of +0.4%, +3.7% and +4.6% over the 1-year, 3-year and 5-year periods respectively.

Rice Hall James, the Plan's active small cap growth manager, returned 8.3%, outperforming the Russell 2000 Growth benchmark by +3.4%, and placing in the 31st percentile for the quarter. The manager has also outperformed its benchmark over the 1-year period by +0.2%, but trails over the longer 3-year period and since inception by (5.3%) and (2.3%) respectively. The manager is on watch status for performance concerns.

International Equity

For the quarter ended March 31, 2020, the International Equity portfolio returned 4.1%, outperforming the MSCI ACWI benchmark by +0.5%. Within this portfolio, the passive international developed markets portfolio managed by Vanguard returned 4.0%, in line with its benchmark.

SGA MSCI ACWI ex US ETF, the Plan's active core international equity manager, returned 4.1%, outperforming the MSCI ACWI ex USA benchmark by +0.5% over the quarter, while trailing by (7.8%) over the one-year period.

Fixed Income

Over the quarter, the Fixed Income aggregate returned -2.9%, outperforming the Bloomberg Barclays Universal benchmark by +0.2%. The asset class was challenged by rapidly rising yields on treasuries. Both active managers in this portfolio posted negative returns, albeit with mixed results relative to the benchmark, while the passive strategy, the iShares Core US Aggregate Bond ETF, performed in line with its benchmark.

Ramirez returned -2.6% over the quarter, compared to the benchmark return of -3.4%, placing in the 14th percentile of its peer group. Ramirez, also outperformed its benchmark over the one and three-year trailing periods by +5.6% and +0.2% respectively, and by +0.6% since inception. Relative to the benchmark, Ramirez's performance was helped by positioning in Treasuries (underweight) and Municipal bonds, as well as security selection in Municipals and Corporate Credit. Reams returned -3.6% for the quarter, trailing its benchmark by (0.5%) and placing in the 95th percentile of its peer group. Reams, however, outperformed its benchmark by +6.1%, +3.8%, +2.1% and +1.0% over 1-, 3- and 5-year and since inception periods respectively. Relative to the benchmark, Reams' security selection in investment grade credit hurt performance.

Covered Calls

Over the fourth quarter, the Covered Calls portfolio returned 6.2%, outperforming its benchmark by +3.6%.

Parametric BXM, the Plan's passive covered calls allocation returned 5.4%, outperforming its benchmark, the CBOE BXM index, by +2.8% over the quarter. The portfolio has outperformed over the most recent 1-year, 3- and 5-year periods by +7.3%, +5.0% and +2.9% respectively. Since inception outperformance is +2.3%.

Parametric DeltaShift, the Plan's active covered calls allocation returned 6.8%, outperforming its benchmark, the CBOE BXM, index by +4.2% over the quarter. The portfolio has outperformed over the most recent 1-year, 3- and 5-year periods by +26.3%, +11.5% and +8.3% respectively. Since inception outperformance is +6.8%.

Credit

DDJ, the Plan's High Yield & Bank Loan manager, returned 3.6% over the quarter, outperforming its benchmark, the Barclays US High Yield, by +2.7%. DDJ, outperformed the benchmark over the 1-year and 5-year periods by +9.5% and +0.6% respectively, but trailed the benchmark by (1.7%) over the 3-year trailing period. Since inception outperformance is +0.4%

Crisis Risk Offset

Over the quarter, the Crisis Risk Offset portfolio returned -13.6%, trailing its benchmark by (17.3%).

Vanguard Long Duration ETF, the only funded component of the Crisis Risk Offset portfolio over the quarter, returned -13.6% as yields on longer dated treasuries rose rapidly. Performance was in line with 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 March 31, 2021

OPFRS Total Plan | As of March 31, 2021

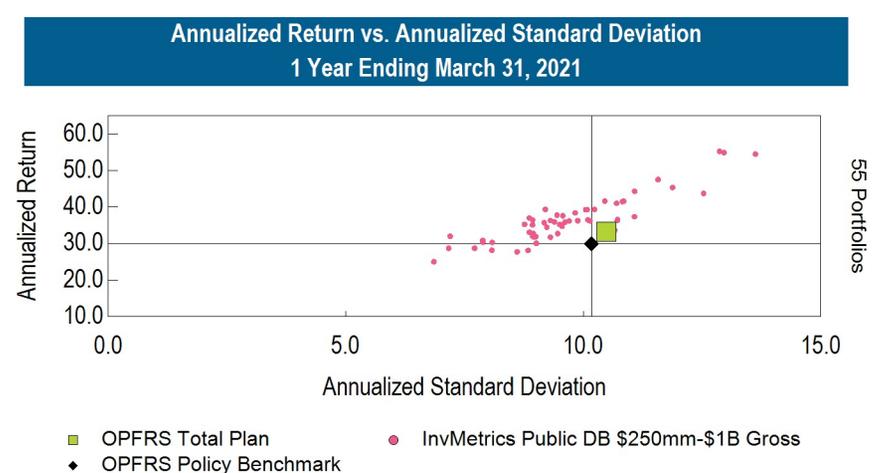
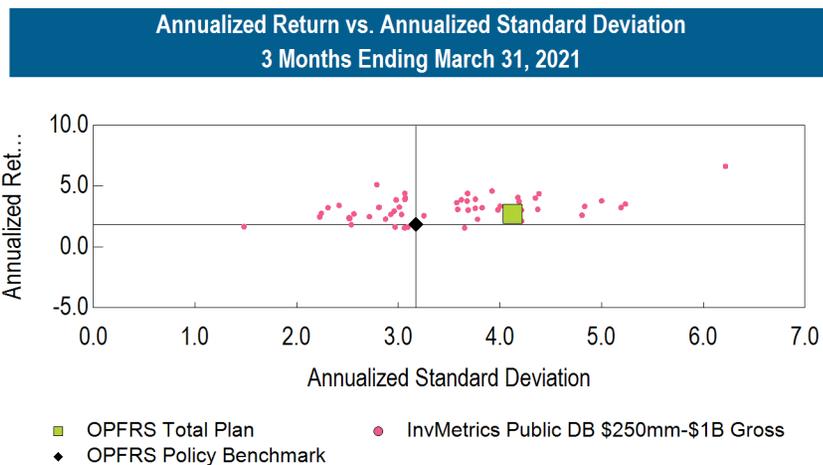
3 Months Ending March 31, 2021		
	Anlzd Return	Standard Deviation
OPFRS Total Plan	2.71%	1.19%
OPFRS Policy Benchmark	1.83%	0.92%
InvMetrics Public DB \$250mm-\$1B Gross Median	3.19%	1.03%

1 Year Ending March 31, 2021		
	Anlzd Return	Standard Deviation
OPFRS Total Plan	33.30%	3.03%
OPFRS Policy Benchmark	29.95%	2.94%
InvMetrics Public DB \$250mm-\$1B Gross Median	36.17%	2.73%



Summary of Cash Flows

	Quarter-To-Date	One Year
Beginning Market Value	\$434,118,470	\$341,533,320
Net Cash Flow	-\$3,048,200	-\$12,939,497
Capital Appreciation	\$12,231,081	\$114,707,528
Ending Market Value	\$443,301,351	\$443,301,351



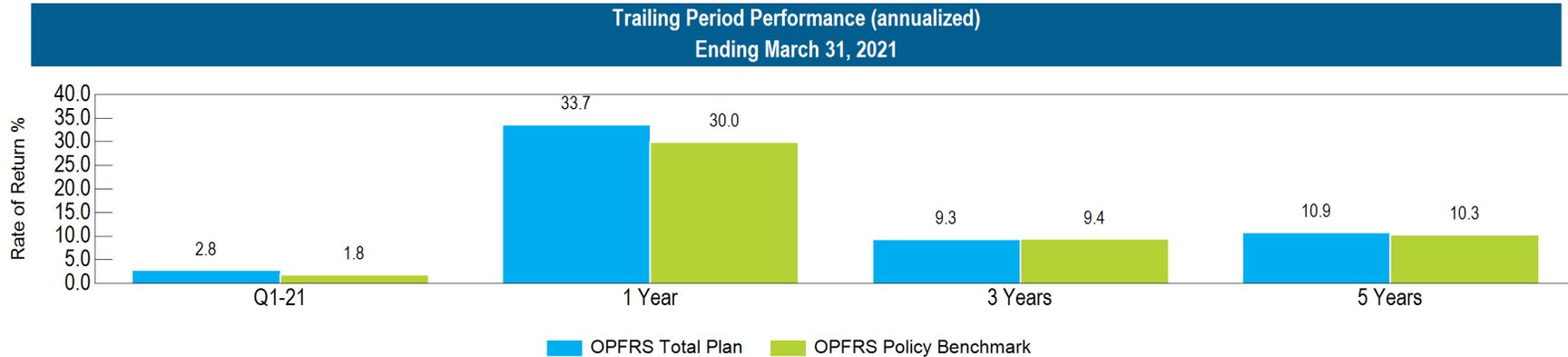
Evolving Policy Benchmark consists of 40% russell 3000, 12% MSCI ACWI ex U.S., 33% Bbg BC Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bbg BC Long Treasury.

Asset Class Performance (gross of fees) | As of March 31, 2021

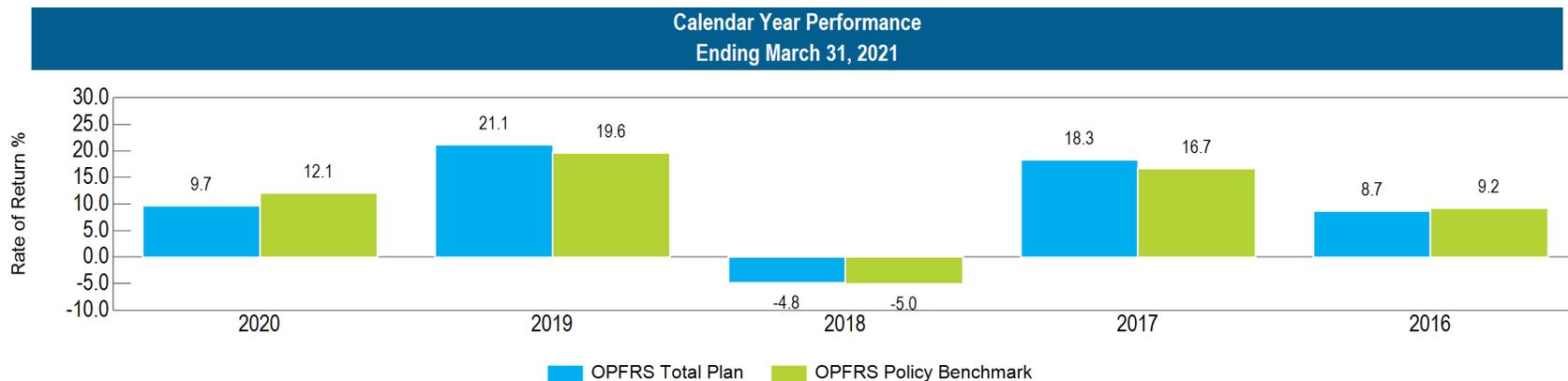
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
OPFRS Total Plan	2.8	33.7	9.3	10.9	8.4	8.2
<i>OPFRS Policy Benchmark</i>	<u>1.8</u>	<u>30.0</u>	<u>9.4</u>	<u>10.3</u>	<u>8.4</u>	<u>7.9</u>
Excess Return	1.0	3.7	-0.1	0.6	0.0	0.3
Domestic Equity	7.3	63.2	15.6	16.3	12.9	13.5
<i>Russell 3000 (Blend)</i>	<u>6.3</u>	<u>62.5</u>	<u>17.1</u>	<u>16.6</u>	<u>13.4</u>	<u>13.8</u>
Excess Return	1.0	0.7	-1.5	-0.3	-0.5	-0.3
International Equity	4.1	43.0	6.5	10.5	6.4	5.9
<i>MSCI ACWI ex US (Blend)</i>	<u>3.6</u>	<u>50.0</u>	<u>7.0</u>	<u>10.3</u>	<u>5.8</u>	<u>5.4</u>
Excess Return	0.5	-7.0	-0.5	0.2	0.6	0.5
Fixed Income	-2.9	6.1	5.0	4.2	3.9	4.1
<i>BImbg BC Universal (Blend)</i>	<u>-3.1</u>	<u>3.0</u>	<u>4.9</u>	<u>3.6</u>	<u>3.6</u>	<u>3.8</u>
Excess Return	0.2	3.1	0.1	0.6	0.3	0.3
Credit	3.6	32.8	4.9	8.6	--	--
<i>BBgBarc US High Yield TR</i>	<u>0.8</u>	<u>23.7</u>	<u>6.8</u>	<u>8.1</u>	--	--
Excess Return	2.8	9.1	-1.9	0.5		
Covered Calls	6.2	45.4	12.3	11.9	9.9	--
<i>CBOE S&P 500 BuyWrite USD</i>	<u>2.6</u>	<u>28.3</u>	<u>4.0</u>	<u>6.2</u>	<u>5.5</u>	--
Excess Return	3.6	17.1	8.3	5.7	4.4	
Crisis Risk Offset	-13.6	-18.7	-11.4	--	--	--
<i>SG Multi Alternative Risk Premia Index</i>	<u>3.7</u>	<u>-3.3</u>	--	--	--	--
Excess Return	-17.3	-15.4				
Cash	0.0	0.1	1.7	1.4	1.0	0.7
<i>FTSE T-Bill 3 Months TR</i>	<u>0.0</u>	<u>0.2</u>	<u>1.5</u>	<u>1.2</u>	<u>0.8</u>	<u>0.6</u>
Excess Return	0.0	-0.1	0.2	0.2	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 March 31, 2021



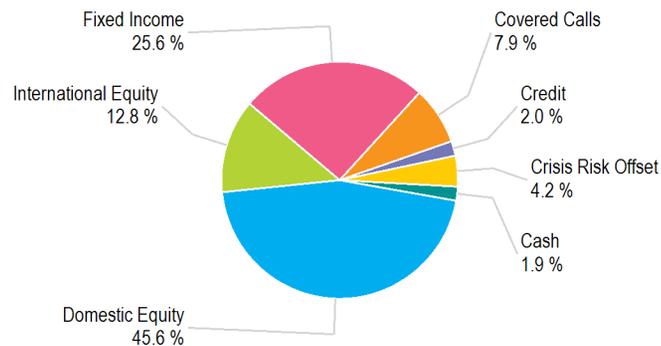
	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	2016 (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)
OPFRS Total Plan	2.8	18.2	33.7	9.3	10.9	8.7	18.3	-4.8	21.1	9.7
<i>OPFRS Policy Benchmark</i>	<i>1.8</i>	<i>16.0</i>	<i>30.0</i>	<i>9.4</i>	<i>10.3</i>	<i>9.2</i>	<i>16.7</i>	<i>-5.0</i>	<i>19.6</i>	<i>12.1</i>
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>	<i>3.2</i>	<i>20.3</i>	<i>36.2</i>	<i>10.1</i>	<i>10.6</i>	<i>7.8</i>	<i>15.8</i>	<i>-4.1</i>	<i>18.6</i>	<i>13.1</i>



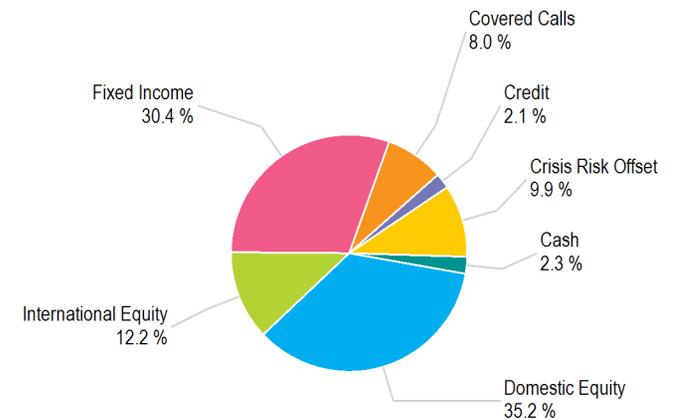
Asset Allocation vs. Target As Of March 31, 2021

	Current	%	Policy	Difference*
Domestic Equity	\$202,337,790	45.6%	40.0%	5.6%
International Equity	\$56,681,628	12.8%	12.0%	0.8%
Fixed Income	\$113,419,761	25.6%	31.0%	-5.4%
Covered Calls	\$35,002,226	7.9%	5.0%	2.9%
Credit	\$8,901,168	2.0%	2.0%	0.0%
Crisis Risk Offset	\$18,417,784	4.2%	10.0%	-5.8%
Cash	\$8,540,995	1.9%	0.0%	1.9%
Total	\$443,301,351	100.0%	100.0%	

March 31, 2021: \$443,301,351



March 31, 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 March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Domestic Equity	202,337,790	100.0	7.3	63.2	15.6	16.3	9.4	Jun-97
<i>Russell 3000 (Blend)</i>			<u>6.3</u>	<u>62.5</u>	<u>17.1</u>	<u>16.6</u>	<u>9.6</u>	<u>Jun-97</u>
Excess Return			1.0	0.7	-1.5	-0.3	-0.2	
Northern Trust Russell 1000	111,018,819	54.9	5.9	60.5	17.3	16.6	15.1	Jun-10
<i>Russell 1000</i>			<u>5.9</u>	<u>60.6</u>	<u>17.3</u>	<u>16.7</u>	<u>15.1</u>	<u>Jun-10</u>
Excess Return			0.0	-0.1	0.0	-0.1	0.0	
eV US Large Cap Core Equity Gross Rank			60	31	31	34	35	Jun-10
EARNEST Partners	44,905,705	22.2	9.6	74.0	18.4	19.3	11.4	Apr-06
<i>Russell MidCap</i>			<u>8.1</u>	<u>73.6</u>	<u>14.7</u>	<u>14.7</u>	<u>9.8</u>	<u>Apr-06</u>
Excess Return			1.5	0.4	3.7	4.6	1.6	
eV US Mid Cap Core Equity Gross Rank			47	42	10	7	27	Apr-06
iShares Edge MSCI Min Vol	19,691,405	9.7	2.3	30.5	--	--	30.5	Apr-20
<i>MSCI USA Minimum Volatility GR USD</i>			<u>2.3</u>	<u>30.6</u>	--	--	<u>30.6</u>	<u>Apr-20</u>
Excess Return			0.0	-0.1			-0.1	
eV US Low Volatility Equity Gross Rank			94	79	--	--	79	Apr-20
Rice Hall James	16,255,728	8.0	8.3	90.4	11.9	--	15.1	Jul-17
<i>Russell 2000 Growth</i>			<u>4.9</u>	<u>90.2</u>	<u>17.2</u>	--	<u>17.4</u>	<u>Jul-17</u>
Excess Return			3.4	0.2	-5.3		-2.3	
eV US Small Cap Growth Equity Gross Rank			31	62	95	--	92	Jul-17
Vanguard Russell 2000 Value	10,466,133	5.2	21.3	98.2	--	--	21.1	Aug-19
<i>Russell 2000 Value</i>			<u>21.2</u>	<u>97.1</u>	--	--	<u>20.5</u>	<u>Aug-19</u>
Excess Return			0.1	1.1			0.6	
eV US Small Cap Value Equity Gross Rank			32	41	--	--	40	Aug-19

Manager Performance - Gross of Fees | As of March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
International Equity	56,681,628	100.0	4.1	43.0	6.5	10.5	5.8	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<u>3.6</u>	<u>50.0</u>	<u>7.0</u>	<u>10.3</u>	<u>6.0</u>	<u>Jan-98</u>
Excess Return			0.5	-7.0	-0.5	0.2	-0.2	
SGA ACWI ex-U.S. Equity	39,826,795	70.3	4.1	42.2	--	--	9.4	Dec-19
<i>MSCI ACWI ex USA Gross</i>			<u>3.6</u>	<u>50.0</u>	--	--	<u>14.8</u>	<u>Dec-19</u>
Excess Return			0.5	-7.8			-5.4	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			46	97	--	--	97	Dec-19
Vanguard Developed Markets ETF	16,445,220	29.0	4.0	47.5	--	--	15.6	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>			<u>4.1</u>	<u>50.6</u>	--	--	<u>17.2</u>	<u>Sep-19</u>
Excess Return			-0.1	-3.1			-1.6	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			47	91	--	--	94	Sep-19

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

Manager Performance - Gross of Fees | As of March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Fixed Income	113,419,761	100.0	-2.9	6.1	5.0	4.2	5.4	Dec-93
<i>Blmbg BC Universal (Blend)</i>			<u>-3.1</u>	<u>3.0</u>	<u>4.9</u>	<u>3.6</u>	<u>5.3</u>	<i>Dec-93</i>
Excess Return			0.2	3.1	0.1	0.6	0.1	
Ramirez	77,199,344	68.1	-2.6	6.3	4.9	--	4.4	Jan-17
<i>BBgBarc US Aggregate TR</i>			<u>-3.4</u>	<u>0.7</u>	<u>4.7</u>	--	<u>3.8</u>	<i>Jan-17</i>
Excess Return			0.8	5.6	0.2		0.6	
eV US Core Fixed Inc Net Rank			14	7	49	--	21	Jan-17
Reams	28,845,472	25.4	-3.6	9.1	8.7	5.7	5.9	Feb-98
<i>Blmbg BC Universal (Blend)</i>			<u>-3.1</u>	<u>3.0</u>	<u>4.9</u>	<u>3.6</u>	<u>4.9</u>	<i>Feb-98</i>
Excess Return			-0.5	6.1	3.8	2.1	1.0	
eV US Core Plus Fixed Inc Gross Rank			95	26	1	8	41	Feb-98
iShares Core US Aggregate Bond ETF	7,374,902	6.5	-3.4	--	--	--	-2.4	Nov-20
<i>BBgBarc US Aggregate TR</i>			<u>-3.4</u>	--	--	--	<u>-2.3</u>	<i>Nov-20</i>
Excess Return			0.0				-0.1	
eV US Core Fixed Inc Gross Rank			67	--	--	--	82	Nov-20

Manager Performance - Gross of Fees | As of March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Covered Calls	35,002,226	100.0	6.2	45.4	12.3	11.9	9.9	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<u>2.6</u>	<u>28.3</u>	<u>4.0</u>	<u>6.2</u>	<u>5.5</u>	<u>Apr-14</u>
Excess Return			3.6	17.1	8.3	5.7	4.4	
Parametric DeltaShift	19,402,866	55.4	6.8	54.6	15.5	14.5	12.3	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<u>2.6</u>	<u>28.3</u>	<u>4.0</u>	<u>6.2</u>	<u>5.5</u>	<u>Apr-14</u>
Excess Return			4.2	26.3	11.5	8.3	6.8	
<i>eV US Large Cap Core Equity Gross Rank</i>			47	59	56	75	69	<i>Apr-14</i>
Parametric BXM	15,599,360	44.6	5.4	35.6	9.0	9.1	7.8	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<u>2.6</u>	<u>28.3</u>	<u>4.0</u>	<u>6.2</u>	<u>5.5</u>	<u>Apr-14</u>
Excess Return			2.8	7.3	5.0	2.9	2.3	
<i>eV US Large Cap Core Equity Gross Rank</i>			68	97	97	98	99	<i>Apr-14</i>

Manager Performance - Gross of Fees | As of March 31, 2021

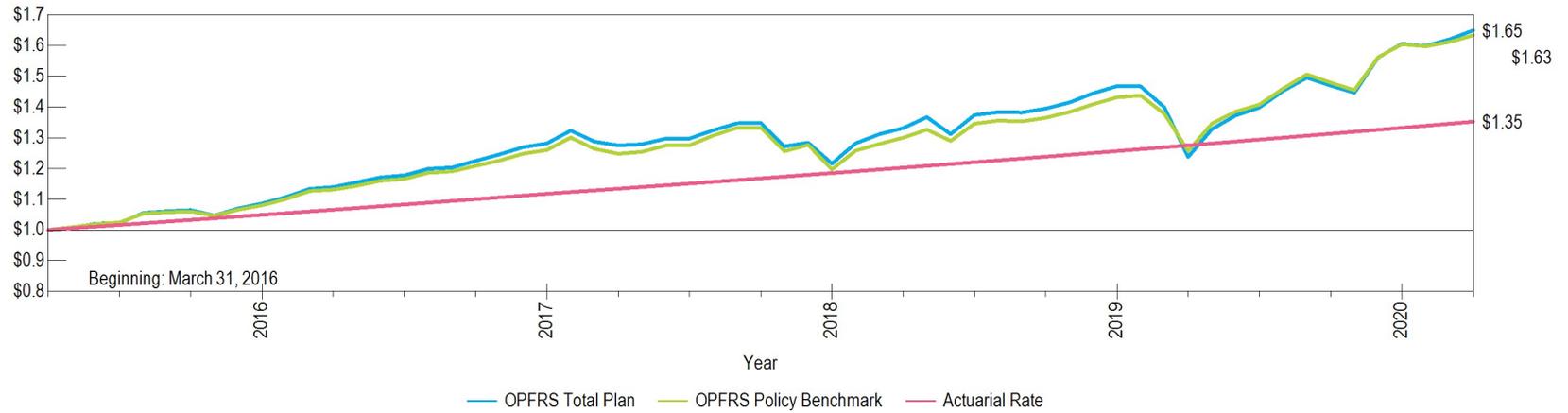
	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Credit	8,901,168	100.0	3.6	32.8	4.9	8.6	6.4	Feb-15
<i>BBgBarc US High Yield TR</i>			<u>0.8</u>	<u>23.7</u>	<u>6.8</u>	<u>8.1</u>	<u>6.2</u>	<i>Feb-15</i>
Excess Return			2.8	9.1	-1.9	0.5	0.2	
DDJ Capital	8,901,168	100.0	3.6	32.8	4.9	8.6	6.4	Feb-15
<i>ICE BofA High Yield Master TR</i>			<u>0.9</u>	<u>23.3</u>	<u>6.6</u>	<u>8.0</u>	<u>6.0</u>	<i>Feb-15</i>
Excess Return			2.7	9.5	-1.7	0.6	0.4	
<i>eV US High Yield Fixed Inc Gross Rank</i>			6	6	96	19	34	<i>Feb-15</i>

Manager Performance - Gross of Fees | As of March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Crisis Risk Offset	18,417,784	100.0	-13.6	-18.7	-11.4	--	-12.7	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			3.7	-3.3	--	--	-3.9	Aug-18
Excess Return			-17.3	-15.4			-8.8	
Vanguard Long-Term Treasury ETF	18,417,784	100.0	-13.6	-16.1	--	--	3.0	Jul-19
<i>BBgBarc US Govt Long TR</i>			-13.4	-15.6	--	--	3.0	Jul-19
Excess Return			-0.2	-0.5			0.0	
<i>eV US Long Duration - Gov/Cred Fixed Inc Net Rank</i>			99	99	--	--	99	Jul-19

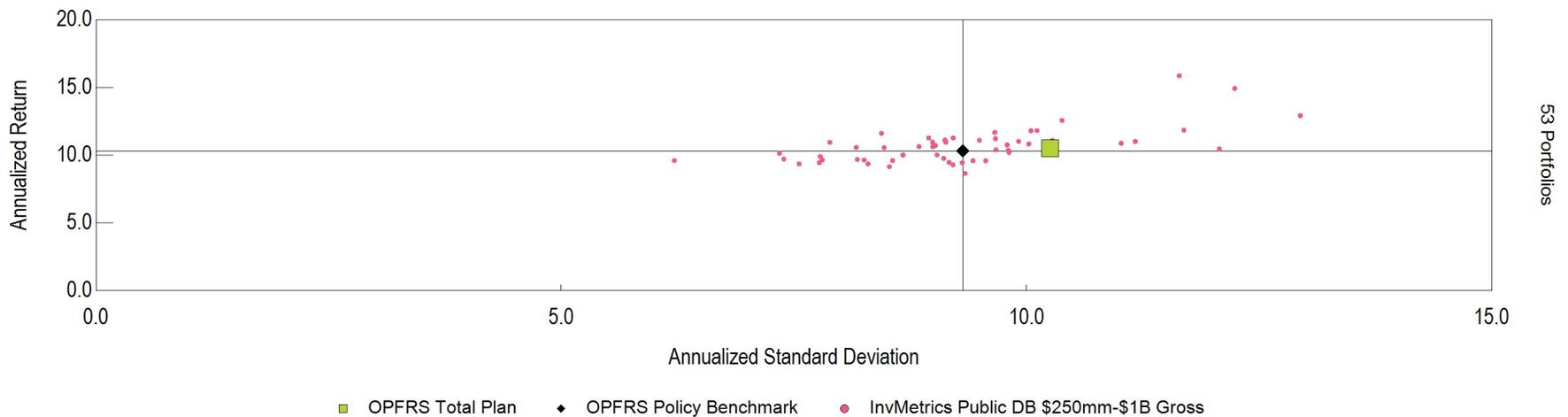
Total Portfolio 5-Year Performance | As of March 31, 2021

Growth of a Dollar

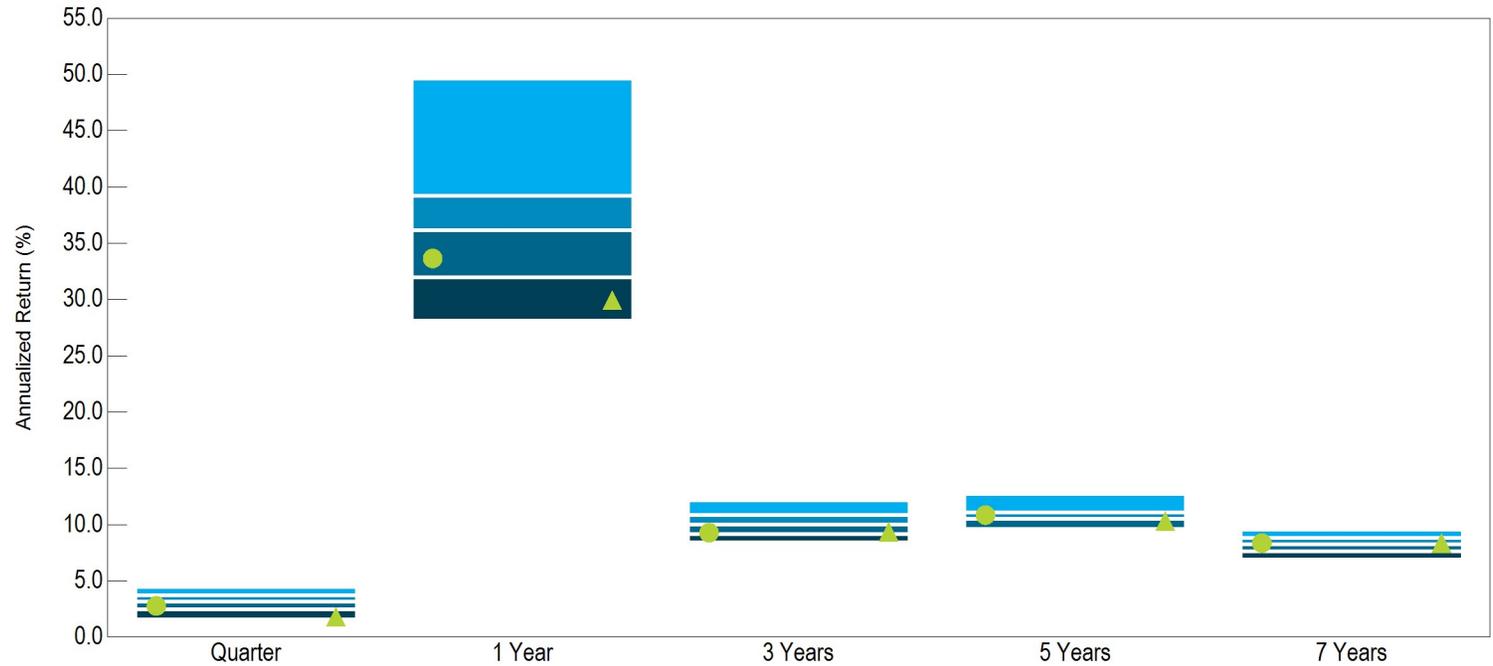


The actuarial expected rate of return was 8% through 6/30/2009, 7.5% through 6/30/2010, 7% through 6/30/2011, 6.75% through 6/30/2014, 6.5% through 2/31/2017 and 6.0% currently

Annualized Return vs. Annualized Standard Deviation 5 Years Ending March 31, 2021

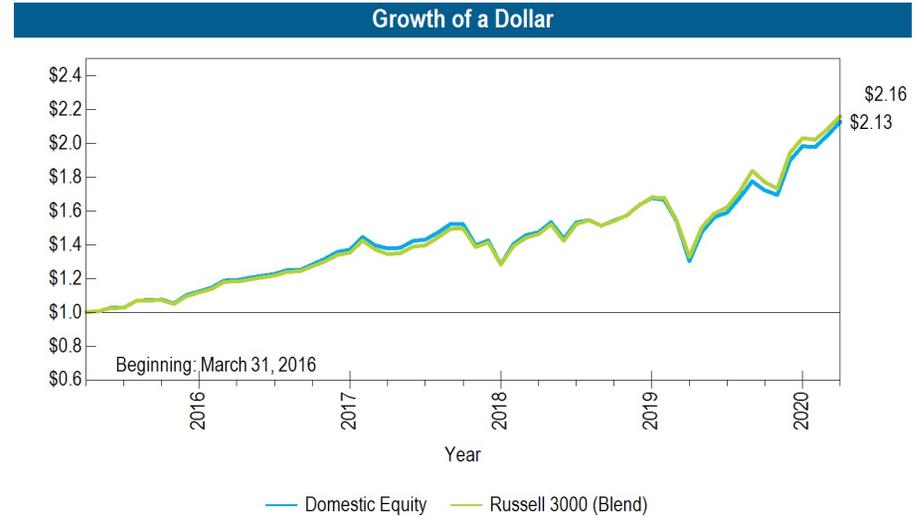
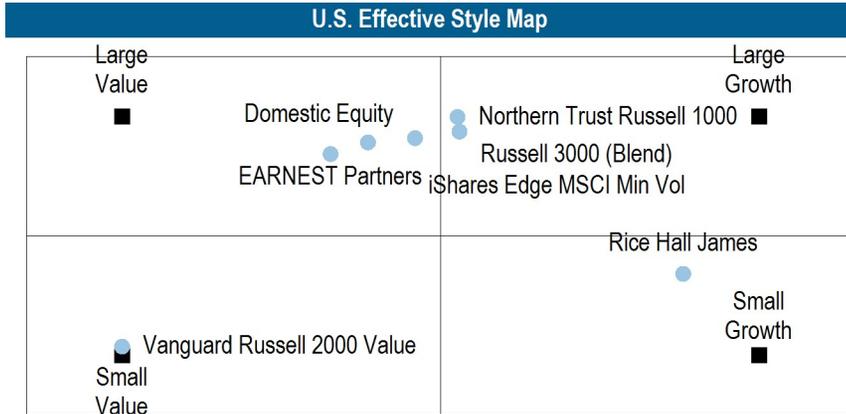


InvMetrics Public DB \$250mm-\$1B Gross Return Comparison

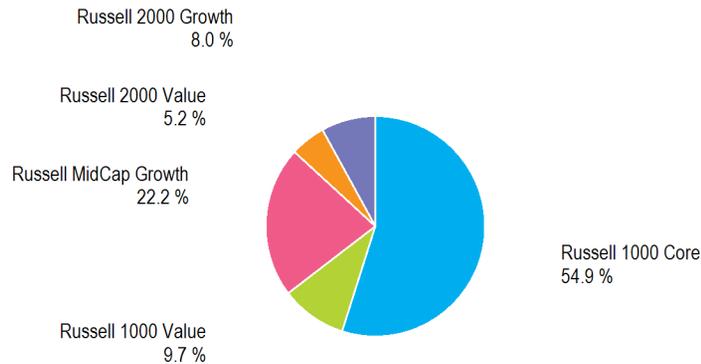


	Return (Rank)				
	Quarter	1 Year	3 Years	5 Years	7 Years
5th Percentile	4.5	49.6	12.1	12.7	9.5
25th Percentile	3.8	39.3	10.9	11.1	8.8
Median	3.2	36.2	10.1	10.6	8.3
75th Percentile	2.5	32.0	9.2	9.7	7.7
95th Percentile	1.6	28.1	8.4	9.3	6.9
# of Portfolios	55	55	55	53	52
● OPFRS Total Plan	2.8 (65)	33.7 (67)	9.3 (72)	10.9 (40)	8.4 (43)
▲ OPFRS Policy Benchmark	1.8 (91)	30.0 (90)	9.4 (67)	10.3 (59)	8.4 (43)

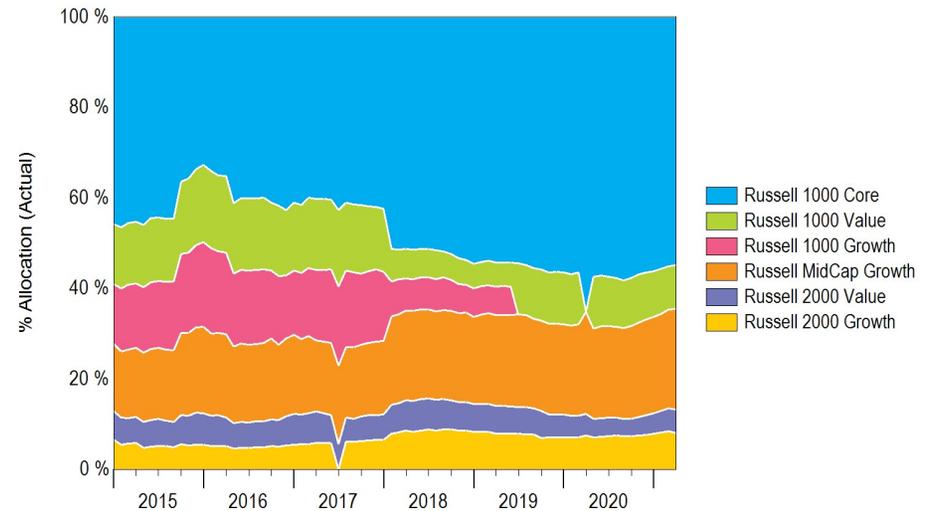
Domestic Equity | As of March 31, 2021



Style Exposure

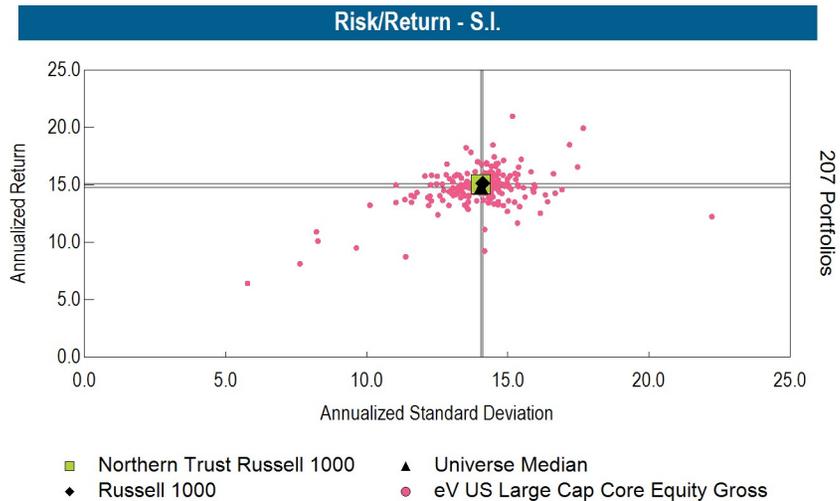
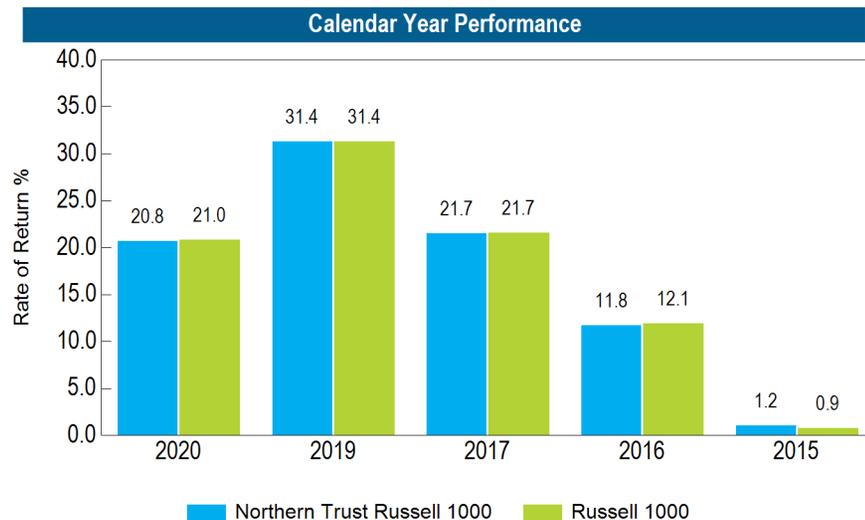
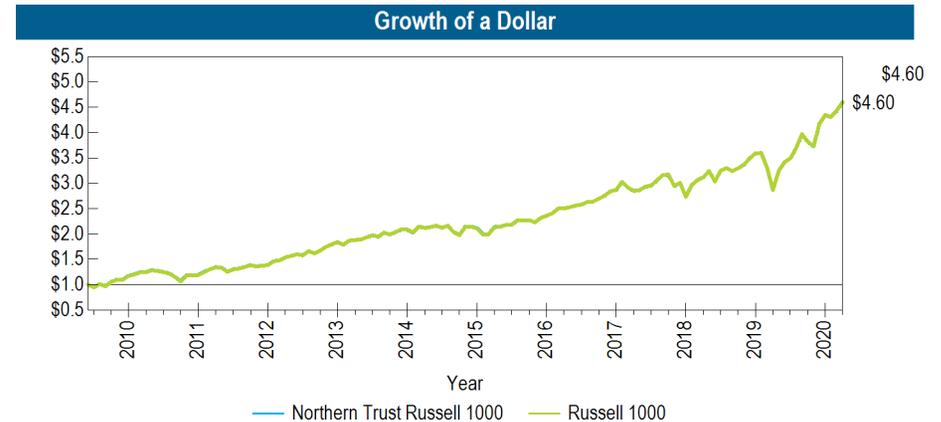
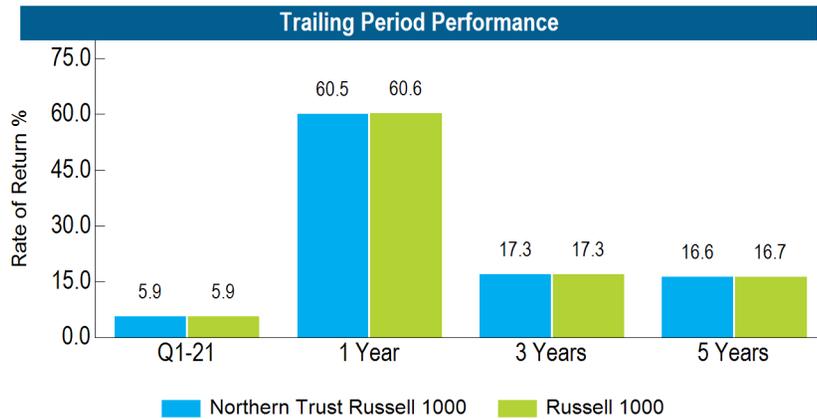


Style History (5-Year)



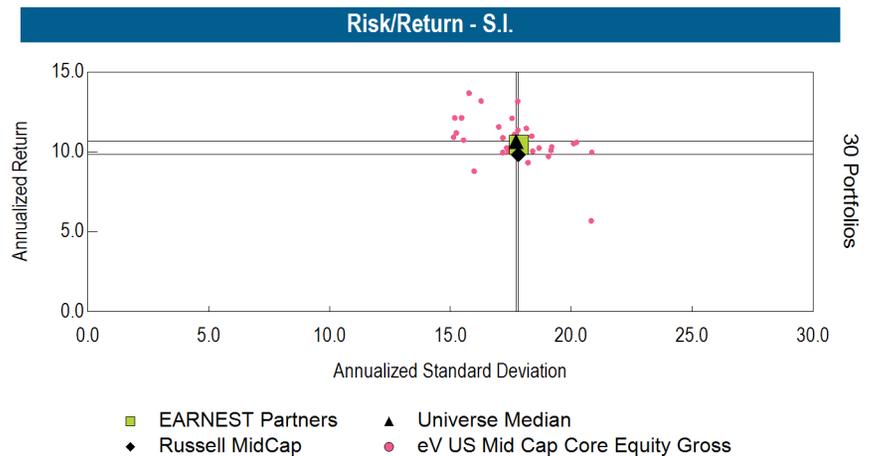
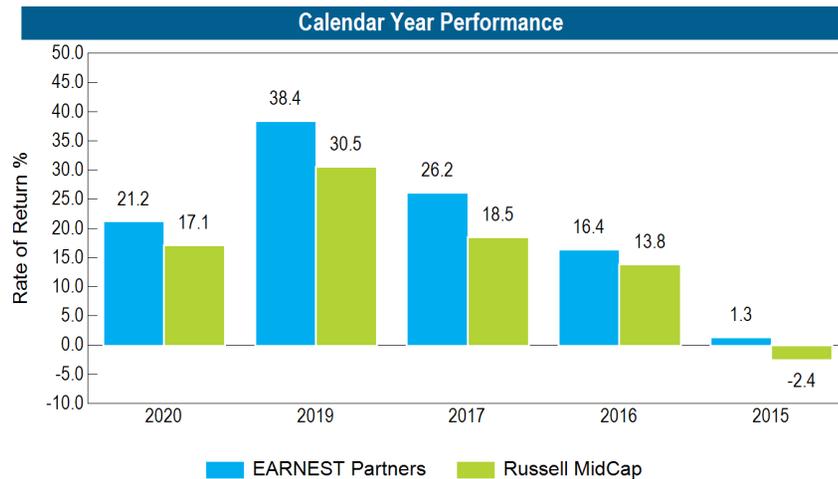
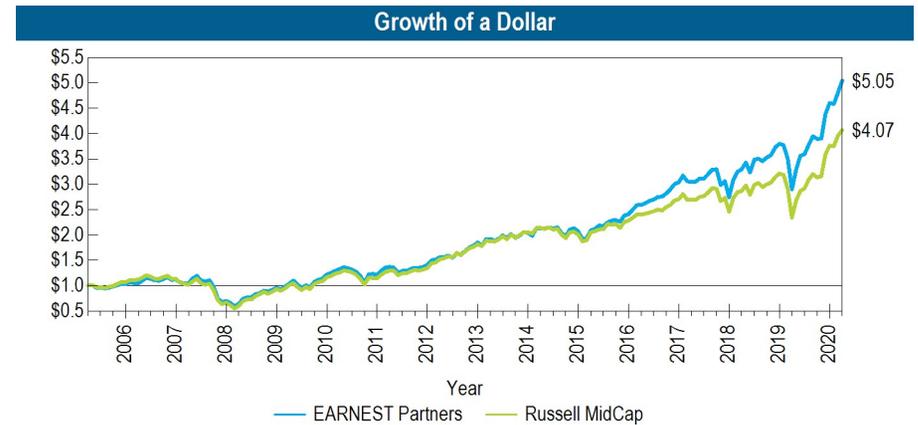
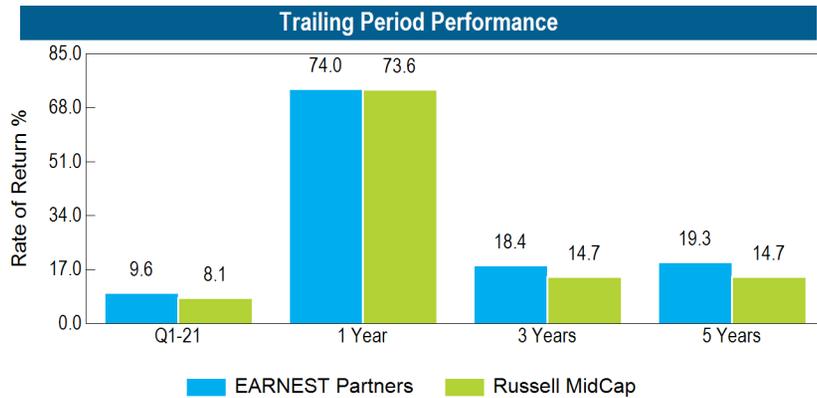
Northern Trust Russell 1000 | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Northern Trust Russell 1000	15.04%	14.05%	0.00%	1.00	0.13%	98.39%	99.76%
Russell 1000	15.13%	14.11%	0.00%	1.00	0.00%	100.00%	100.00%



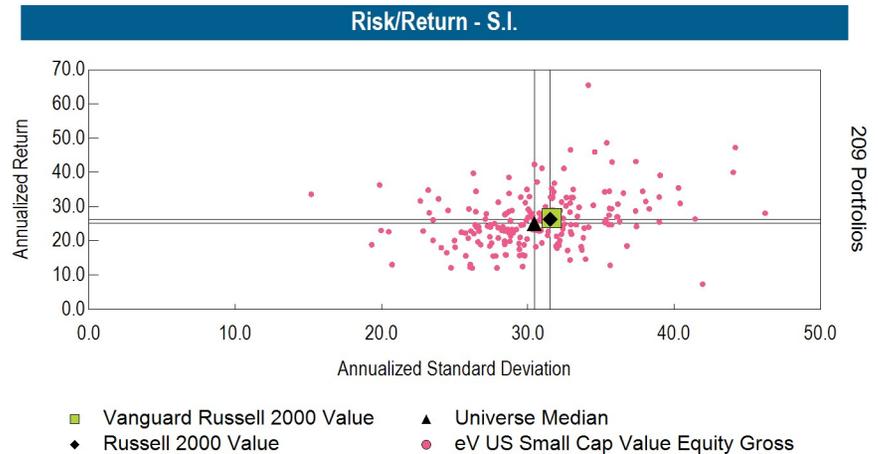
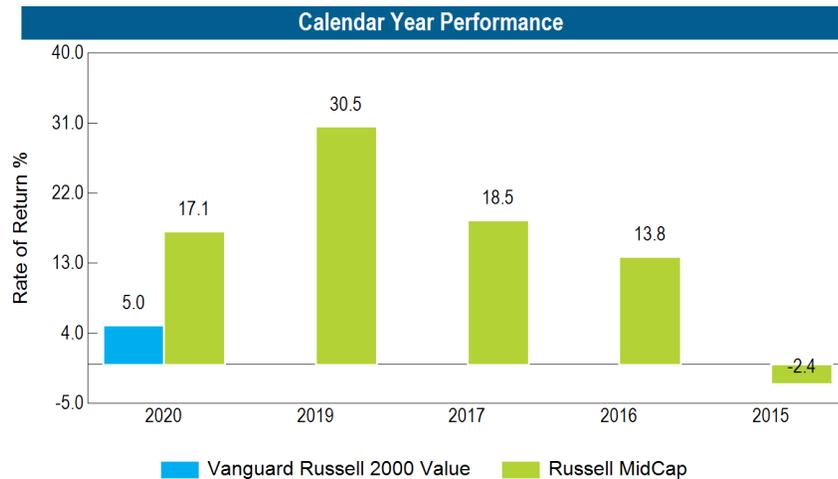
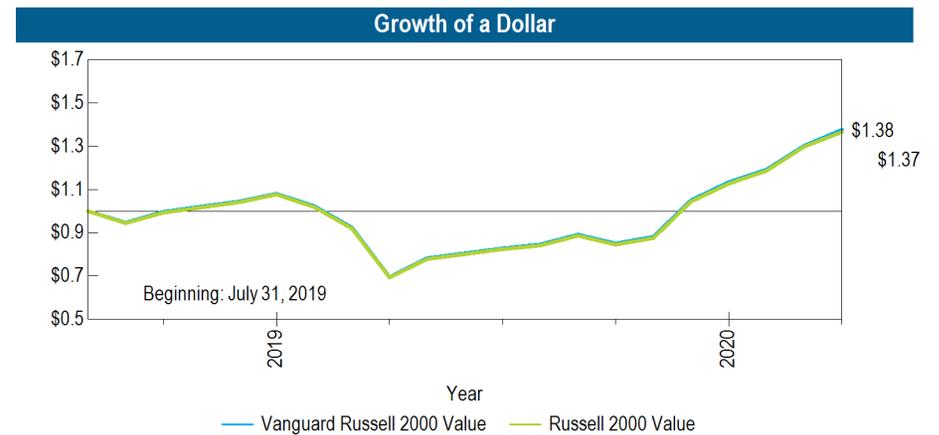
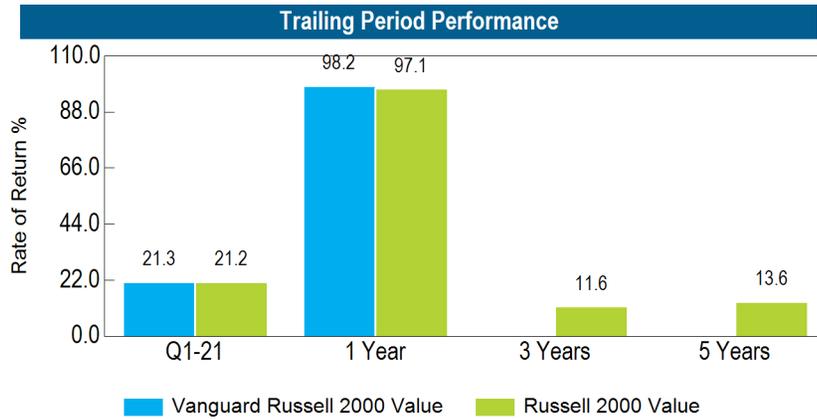
EARNEST Partners | As of March 31, 2021

	Annual Return	Annlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
EARNEST Partners	10.40%	17.82%	0.06%	0.98	0.18	3.35%	96.20%	99.11%
Russell MidCap	9.80%	17.81%	0.00%	1.00	--	0.00%	100.00%	100.00%

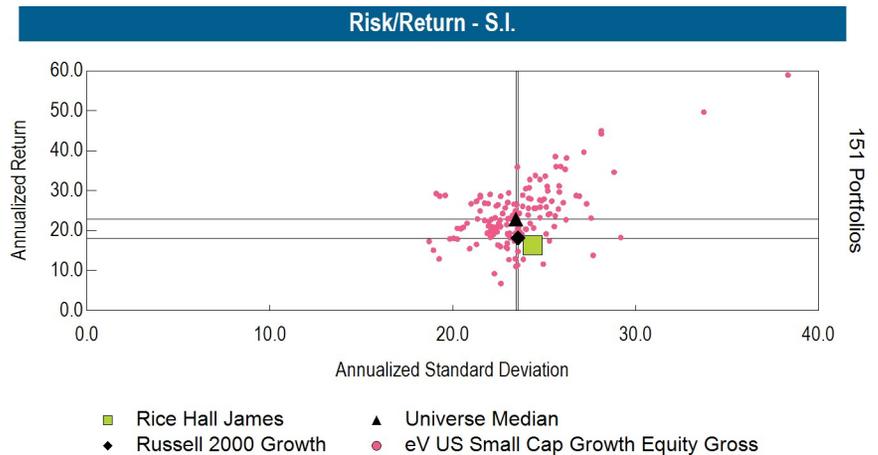
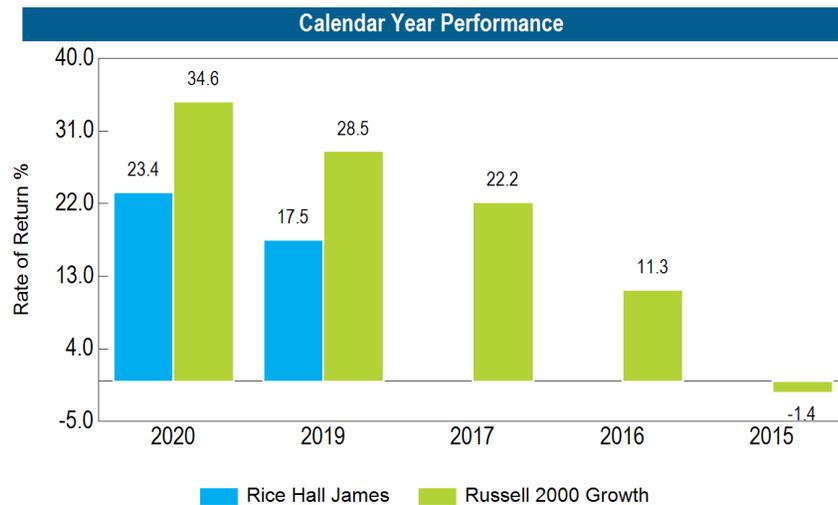
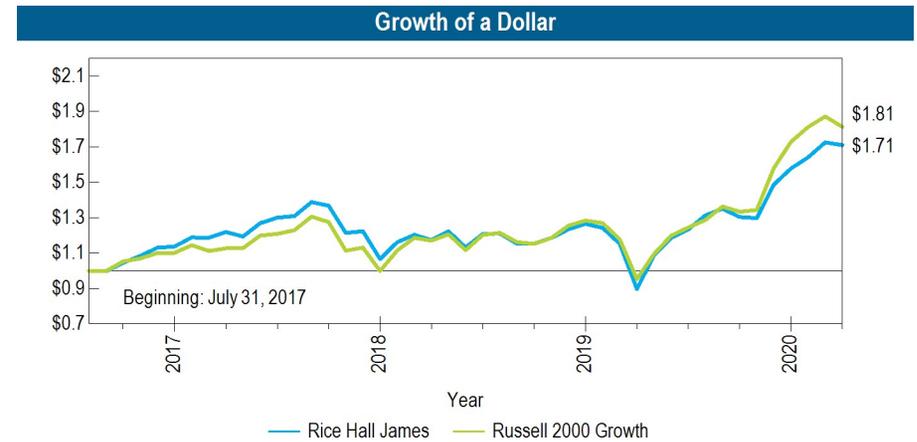
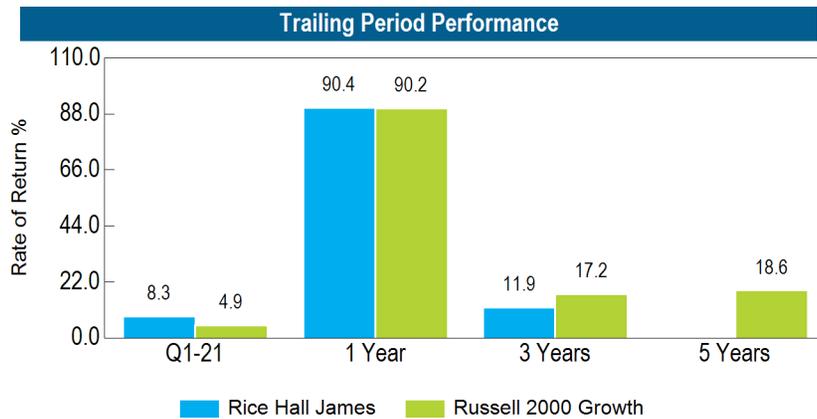


Vanguard Russell 2000 Value | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard Russell 2000 Value	21.09%	31.37%	0.04%	1.00	0.59%	100.89%	99.67%
Russell 2000 Value	20.55%	31.29%	0.00%	1.00	0.00%	100.00%	100.00%

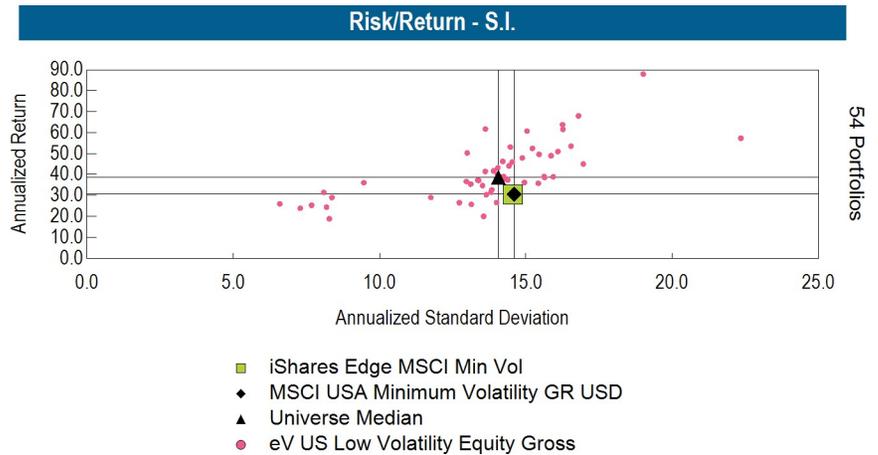
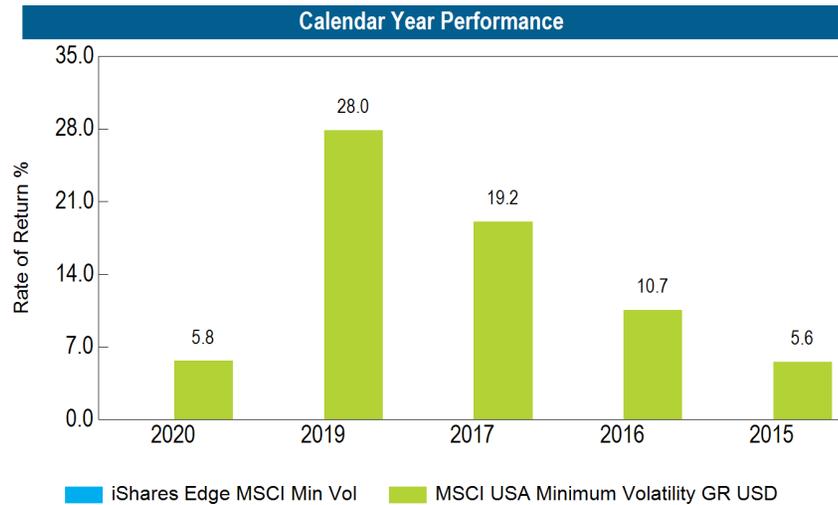
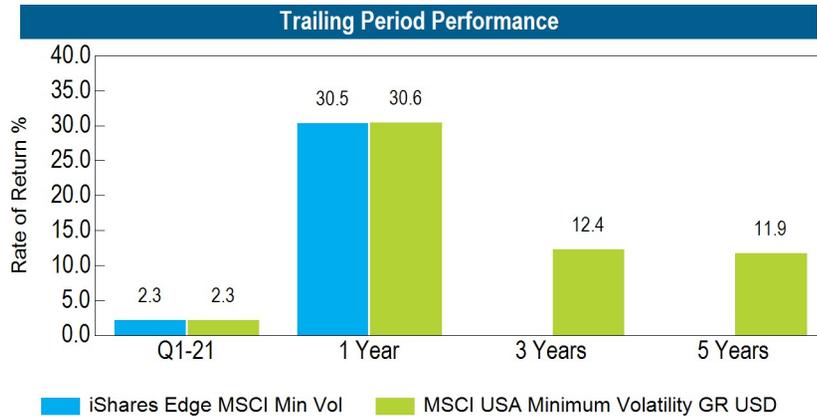


	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Rice Hall James	14.58%	24.08%	-0.19%	0.99	-0.47	6.46%	90.08%	101.41%
Russell 2000 Growth	17.60%	23.31%	0.00%	1.00	--	0.00%	100.00%	100.00%

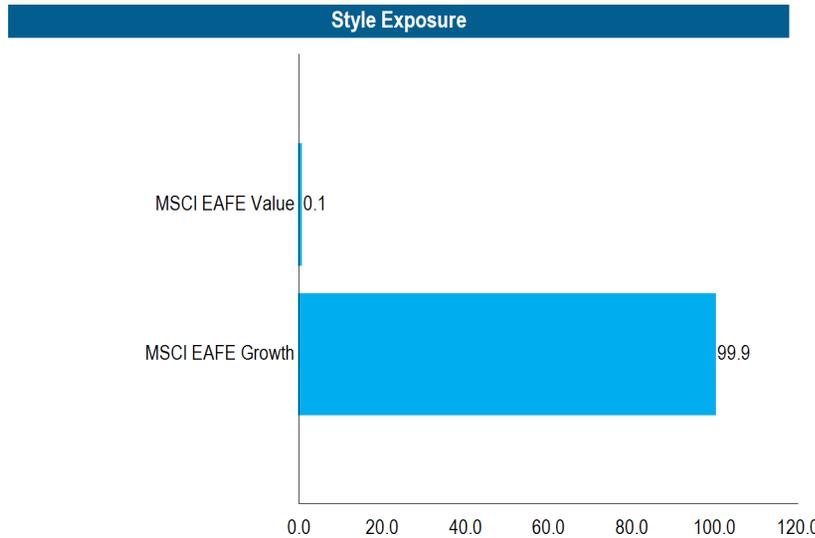
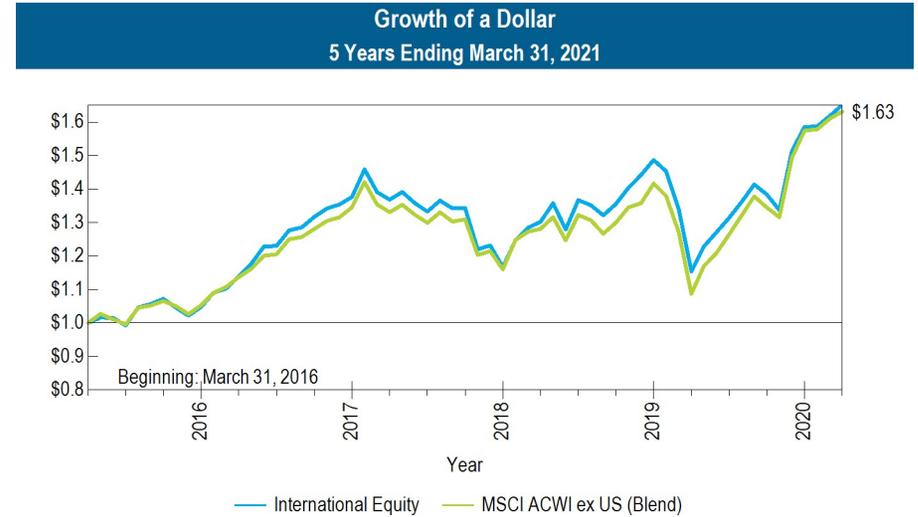
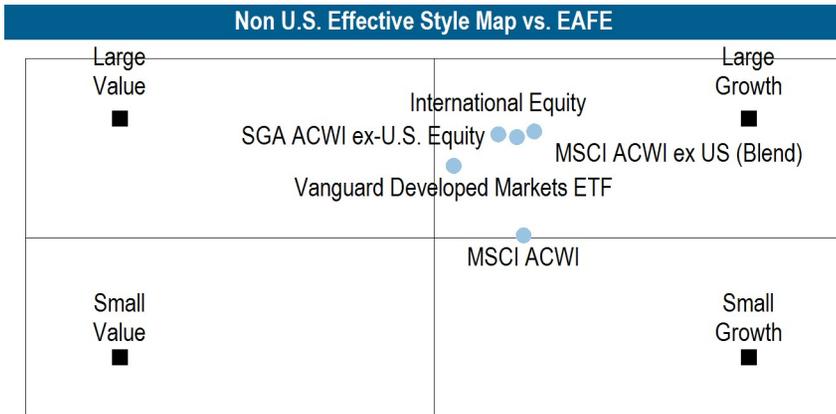


iShares Edge MSCI Min Vol | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
iShares Edge MSCI Min Vol	30.51%	14.56%	0.00%	1.00	0.32%	99.62%	99.53%
MSCI USA Minimum Volatility GR USD	30.60%	14.59%	0.00%	1.00	0.00%	100.00%	100.00%

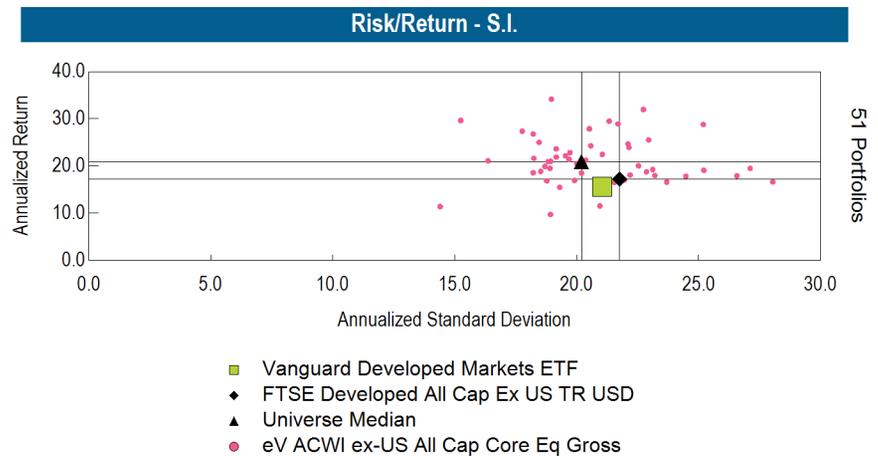
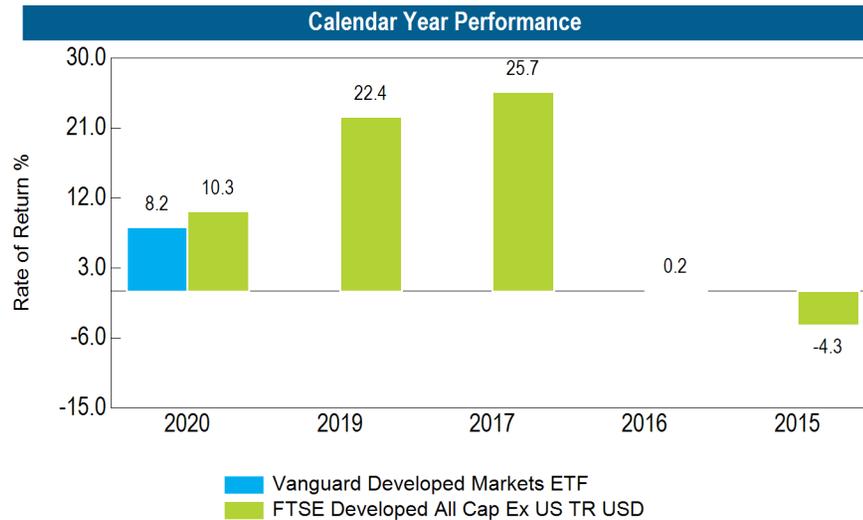
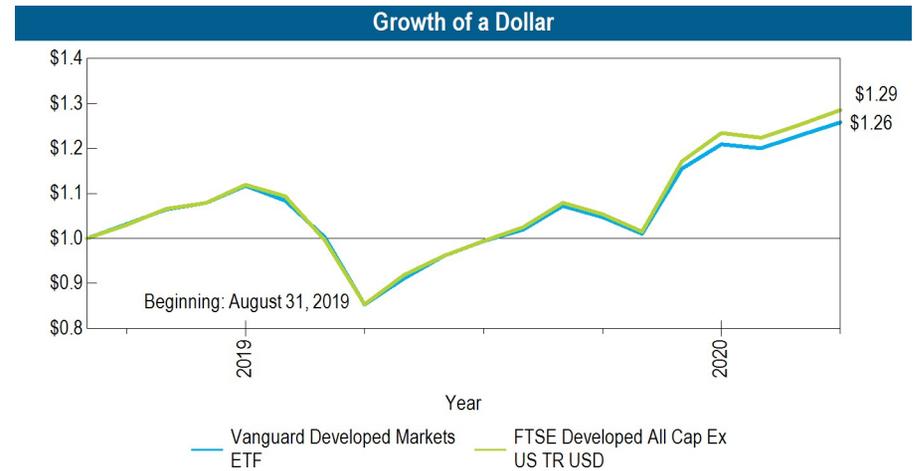
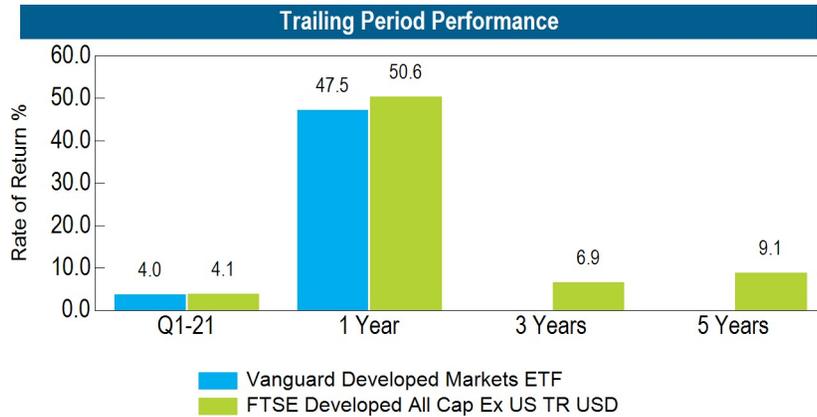


International Equity | As of March 31, 2021



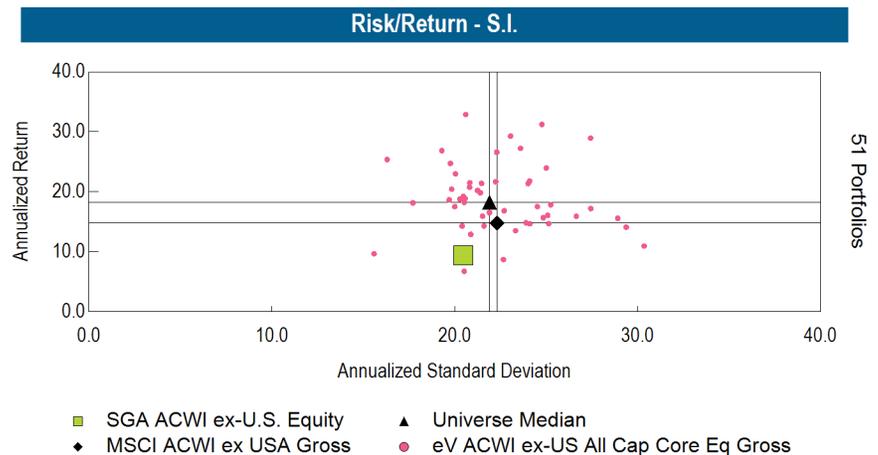
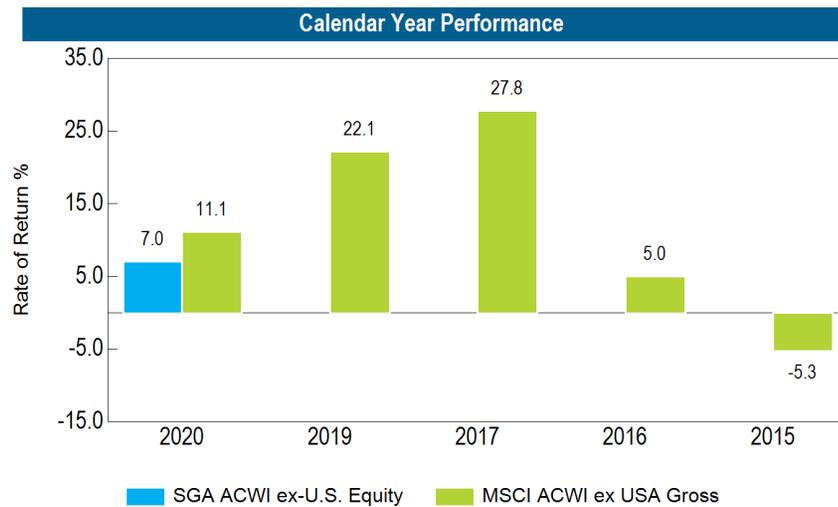
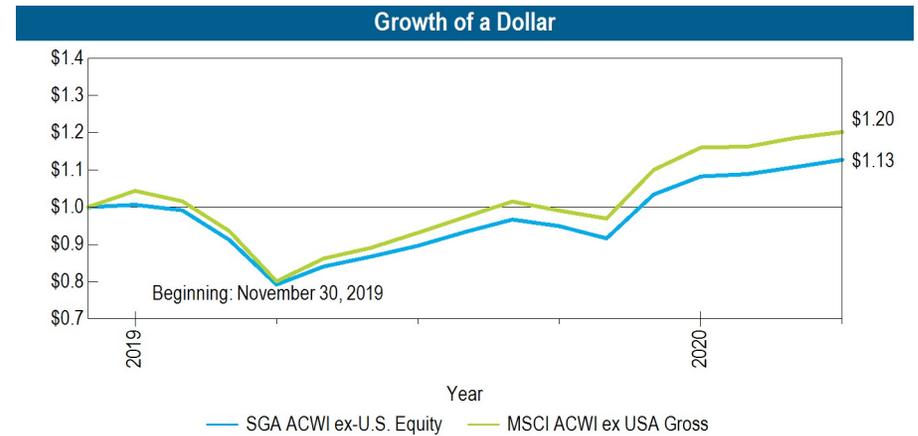
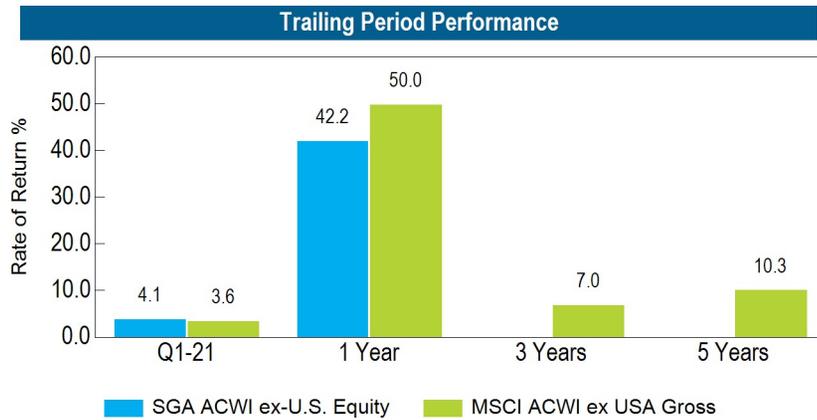
Vanguard Developed Markets ETF | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard Developed Markets ETF	15.56%	21.03%	-0.07%	0.96	-0.80	2.01%	94.13%	98.86%
FTSE Developed All Cap Ex US TR USD	17.17%	21.75%	0.00%	1.00	--	0.00%	100.00%	100.00%



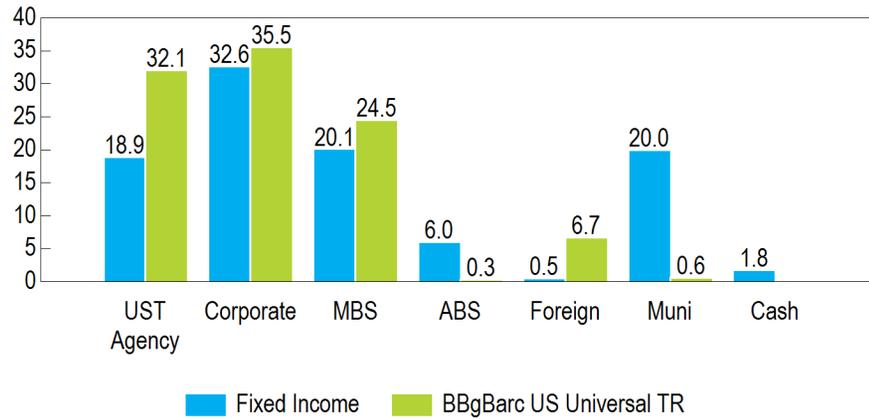
SGA ACWI ex-U.S. Equity | As of March 31, 2021

	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	8.78%	20.40%	-0.35%	0.90	-1.43	4.19%	78.43%	95.42%
MSCI ACWI ex USA Gross	14.76%	22.32%	0.00%	1.00	--	0.00%	100.00%	100.00%



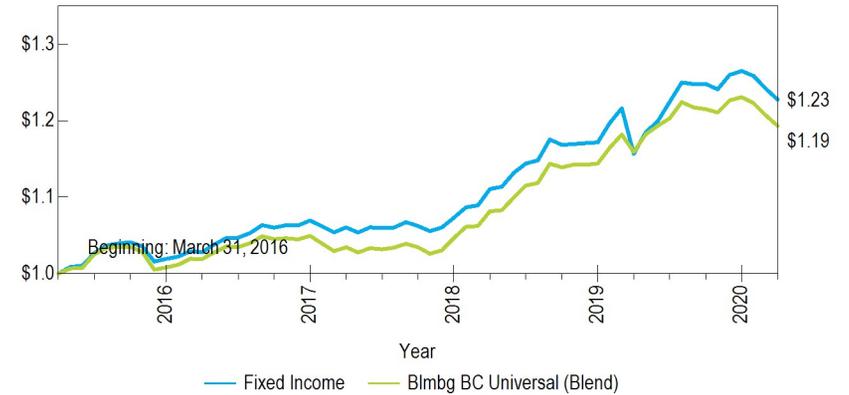
Fixed Income | As of March 31, 2021

US Sector Allocation

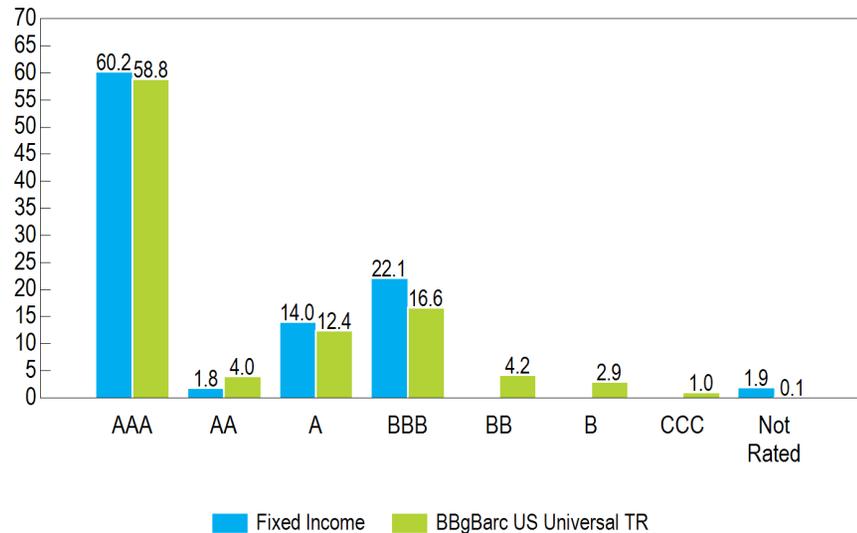


Growth of a Dollar

5 Years Ending March 31, 2021



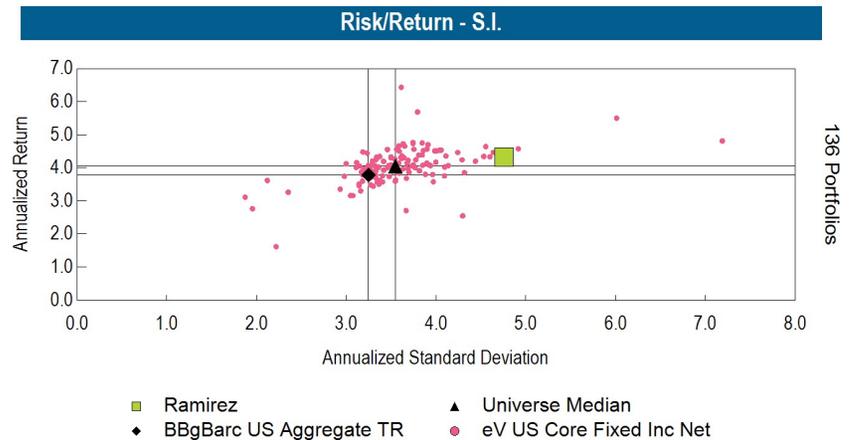
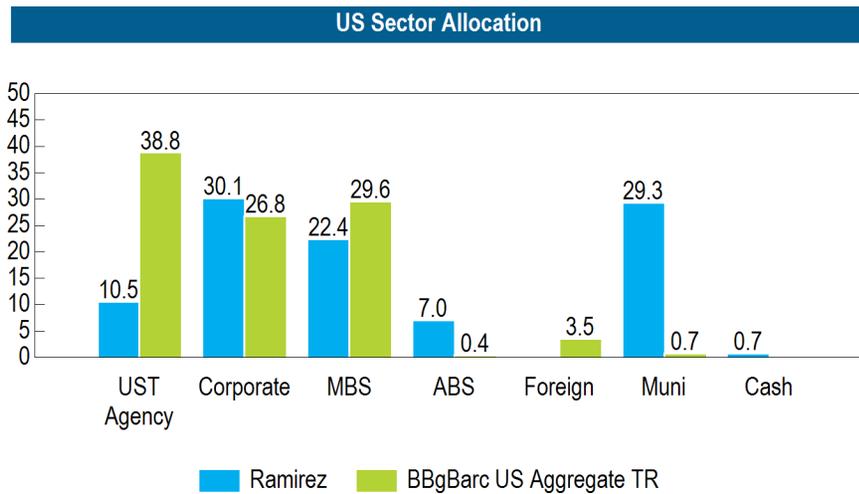
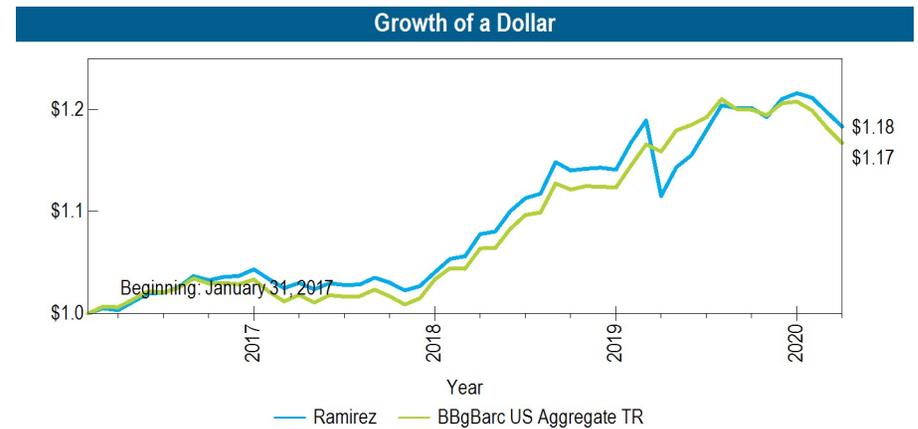
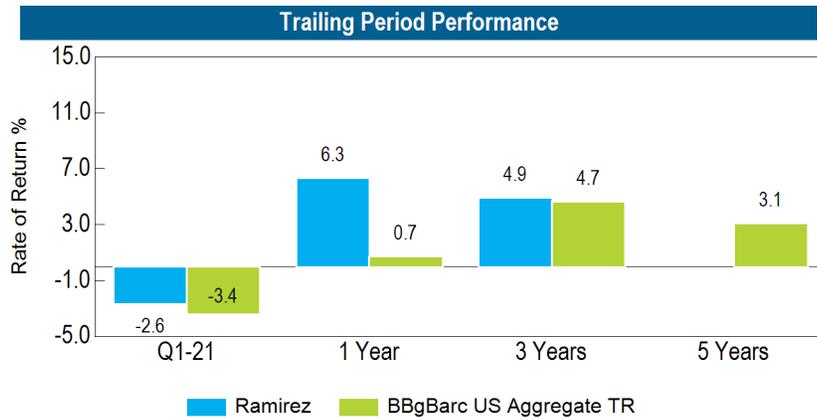
Credit Quality Allocation



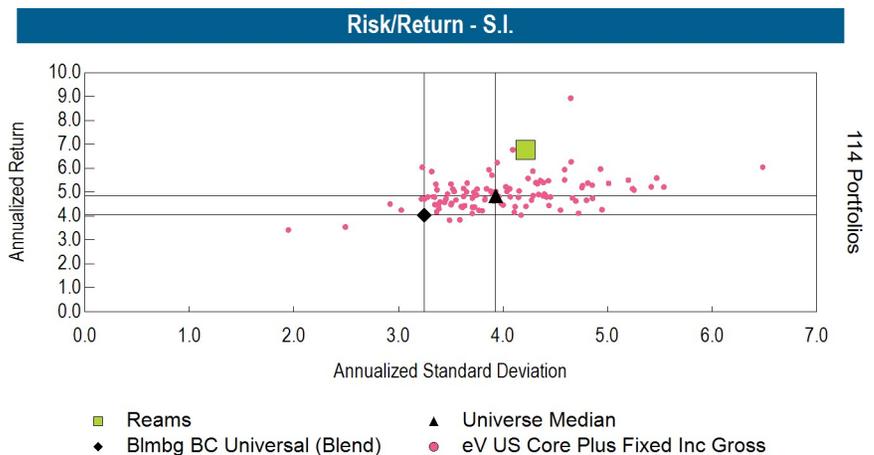
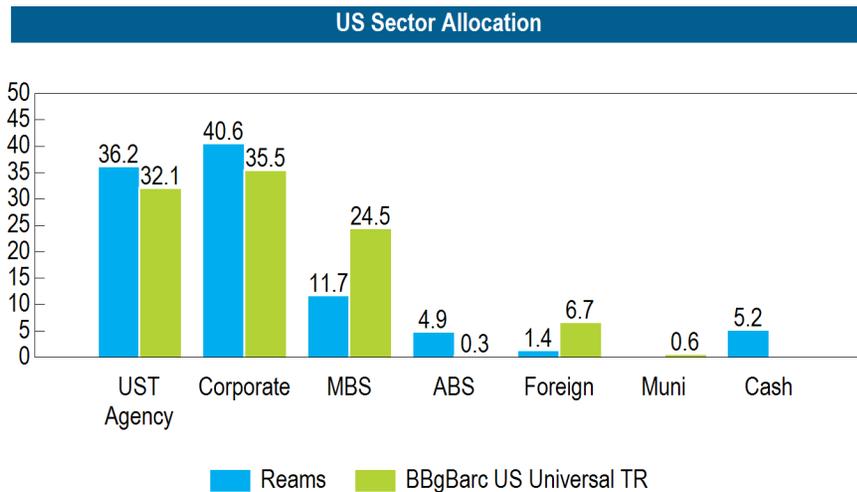
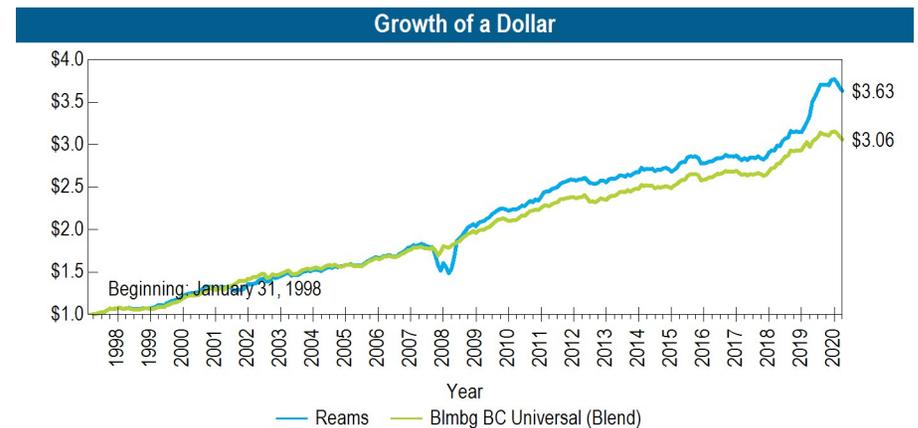
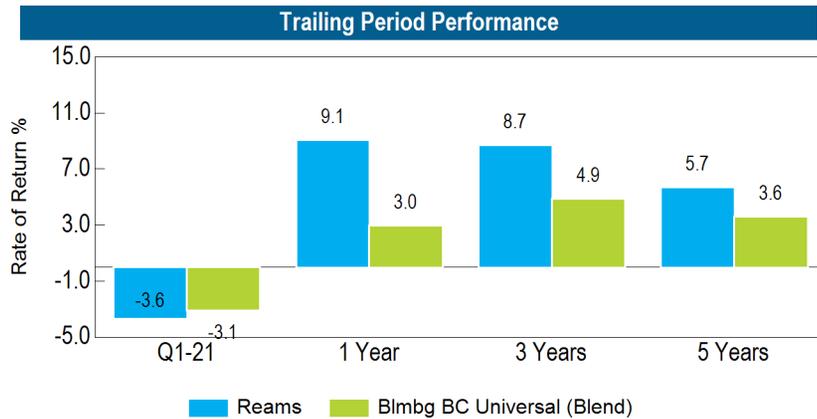
Fixed Income Fixed Income Characteristics vs. BBgBarc US Universal TR

	Portfolio Q1-21	Index Q1-21
Fixed Income Characteristics		
Yield to Maturity	1.88	1.87
Average Duration	6.11	6.22
Average Quality	A	AA
Weighted Average Maturity	8.60	12.53

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Ramirez	4.12%	4.76%	-0.01%	1.14	0.11	3.03%	122.07%	130.27%
BBgBarc US Aggregate TR	3.78%	3.25%	0.00%	1.00	--	0.00%	100.00%	100.00%

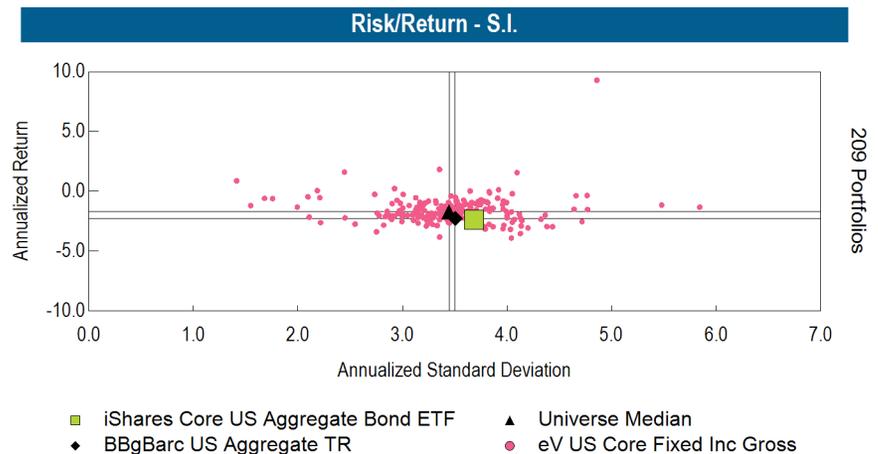
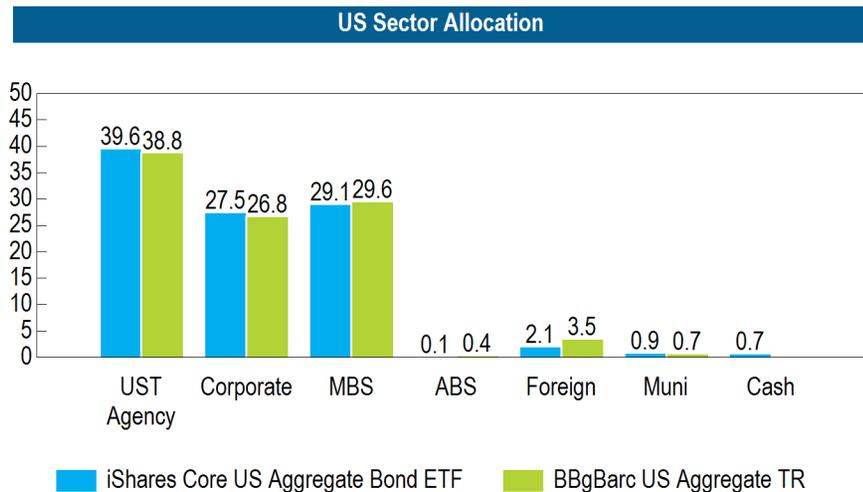
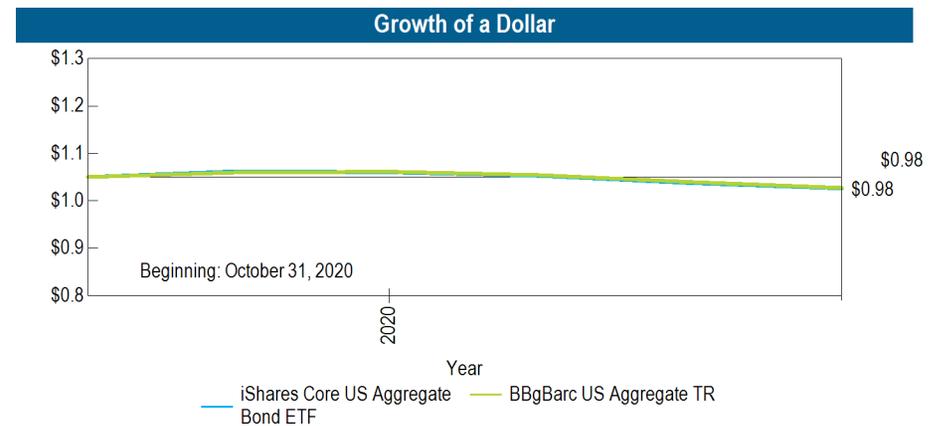
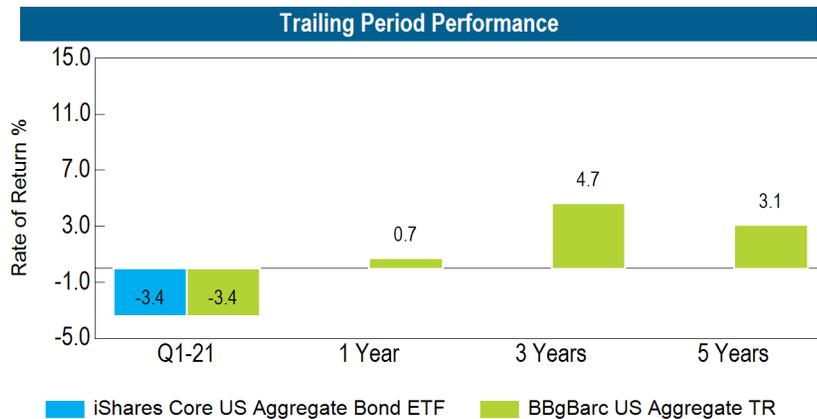


	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Reams	5.72%	5.34%	0.05%	1.05	0.20	3.98%	121.78%	99.18%
Blmbg BC Universal (Blend)	4.95%	3.41%	0.00%	1.00	--	0.00%	100.00%	100.00%

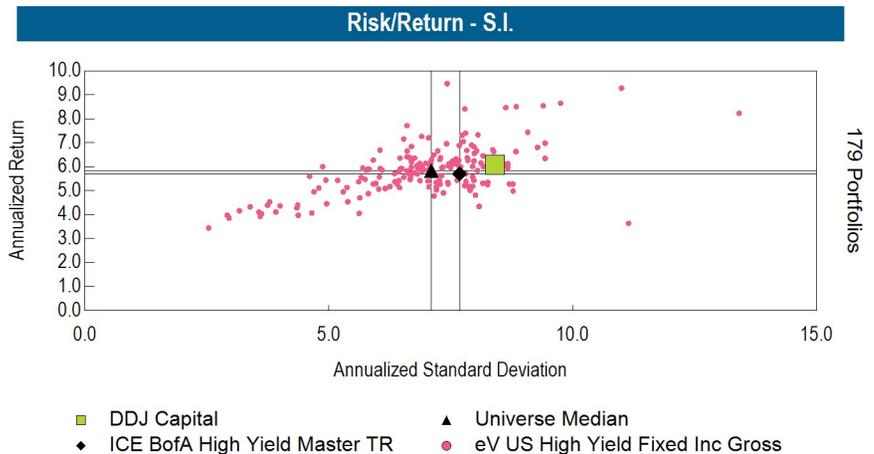
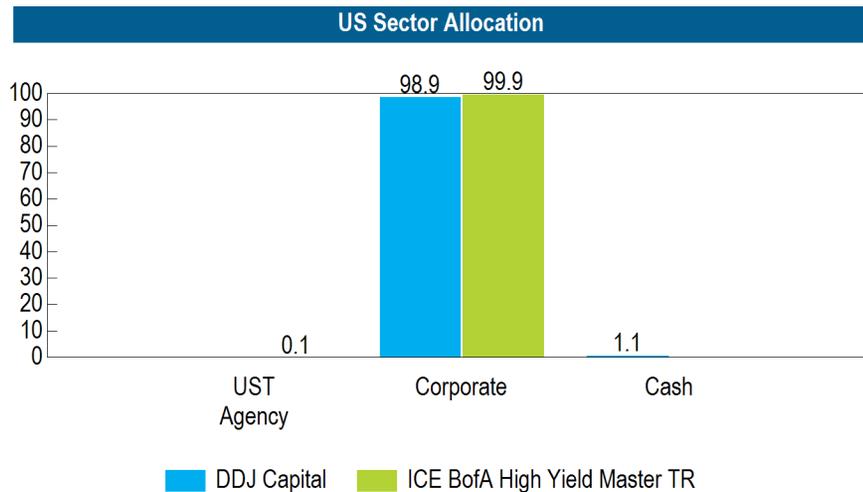
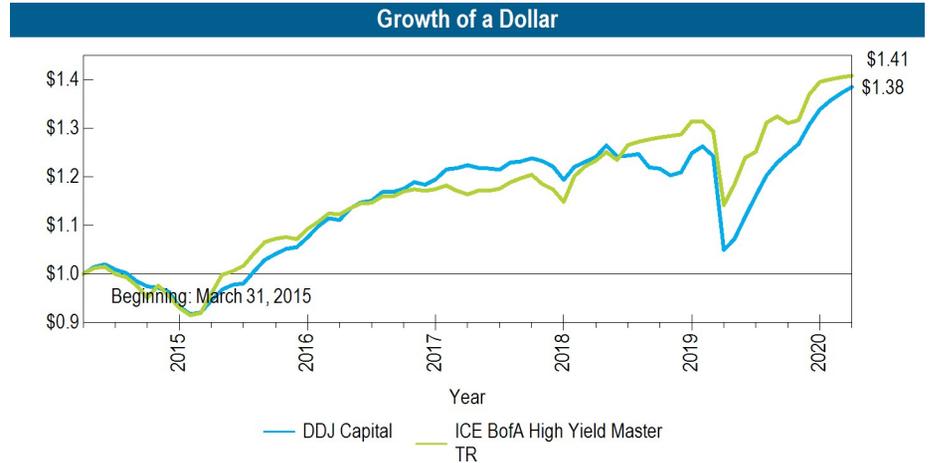
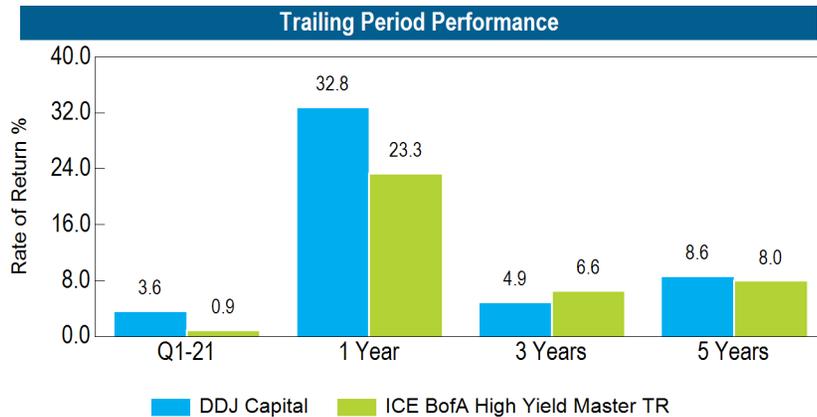


iShares Core US Aggregate Bond ETF | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
iShares Core US Aggregate Bond ETF	-2.40%	3.68%	-0.01%	1.03	-0.15	0.73%	90.20%	100.01%
BBgBarc US Aggregate TR	-2.29%	3.50%	0.00%	1.00	--	0.00%	100.00%	100.00%

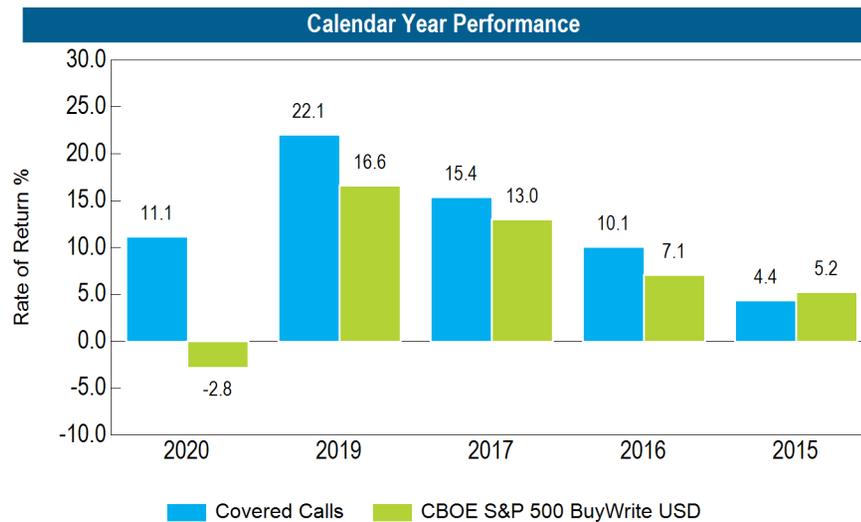
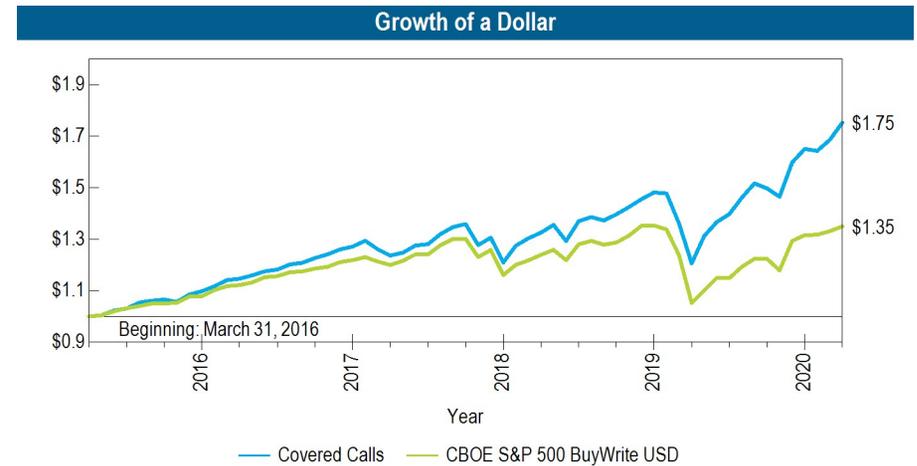
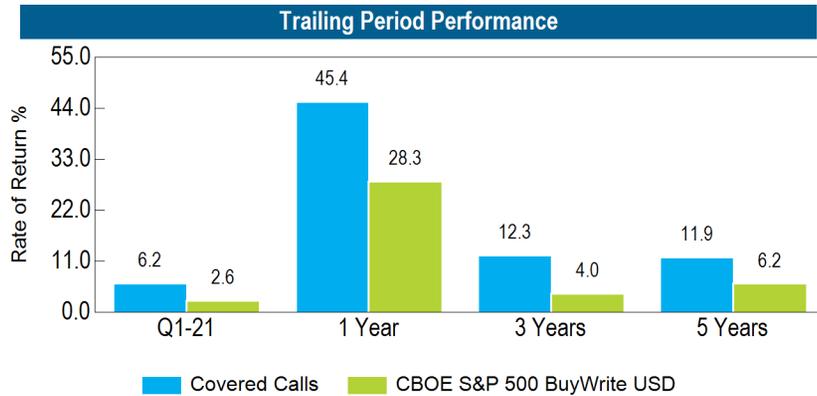


	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
DDJ Capital	5.71%	8.38%	0.00%	0.96	-0.08	3.95%	89.20%	90.93%
ICE BofA High Yield Master TR	6.02%	7.67%	0.00%	1.00	--	0.00%	100.00%	100.00%



Covered Calls | As of March 31, 2021

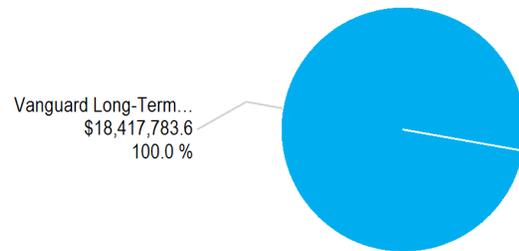
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Covered Calls	9.56%	10.83%	0.33%	0.98	1.19	3.40%	140.90%	96.60%
CBOE S&P 500 BuyWrite USD	5.49%	10.47%	0.00%	1.00	--	0.00%	100.00%	100.00%



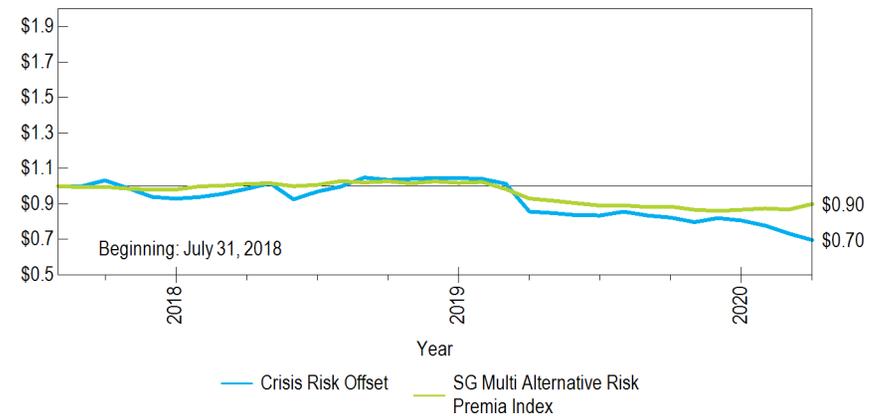
Crisis Risk Offset | As of March 31, 2021

	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	-13.03%	14.43%	-0.67%	1.26	-0.73	12.51%	-1.02	-0.99	0.26	49.73%	161.64%
SG Multi Alternative Risk Premia Index	-3.90%	5.81%	0.00%	1.00	--	0.00%	-0.86	-0.89	1.00	100.00%	100.00%

Current Allocation



Growth of a Dollar



Trailing Period Performance



Correlation Matrix 3 Months Ending March 31, 2021

	Crisis Risk Offset	MSCI ACWI	S&P 500	BBgBarc Global Aggregate TR
Crisis Risk Offset	1.00	--	--	--
MSCI ACWI	-0.92	1.00	--	--
S&P 500	-0.83	0.98	1.00	--
BBgBarc Global Aggregate TR	0.88	-1.00	-0.99	1.00

Manager Monitoring / Probation List

Manager Monitoring/Probation Status
Return vs. Benchmark since Corrective Action
As of March 31, 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
CBOES&P500BuyWriteUSD				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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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.