



Pennsylvania Municipal Retirement System

Executive Summary (Finalized)
September 2020

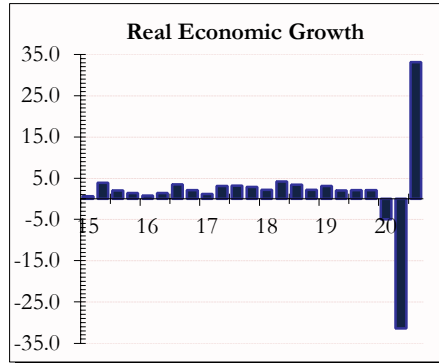


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ECONOMIC ENVIRONMENT

Open Questions

Global equity markets continued their march forward in Q3, despite a decline in September as risk appetites slipped. Advance



estimates of Q3 2020 GDP from the U.S. Bureau of Economic Analysis increased at an annual rate of 33.1%, the largest gain ever recorded. It should be noted that this followed the largest decline in GDP since the data series started. As lockdowns have

been eased and restrictions loosened, economic activity has moved back in the direction of normalcy.

However, there are many outstanding questions that investors are attempting to answer when trying to forecast the odds of continued economic expansion. Some of those questions include:

- How will the pandemic evolve as we move towards winter and the flu season?
- How quickly will useful medical breakthroughs get through the approval process, scale-up production, and make their way to market?
- Will the upcoming elections prove disruptive to the economy and markets?
- Will the government provide additional stimulus, and will it be sufficient to support the economy?
- Will the Fed, who has indicated they will be using average inflation in setting interest rates, be able to spur inflation?

Market volatility, in addition to implied future market volatility, has increased as market participants try to determine the likelihood of the above outstanding items and what that will mean for markets in general.

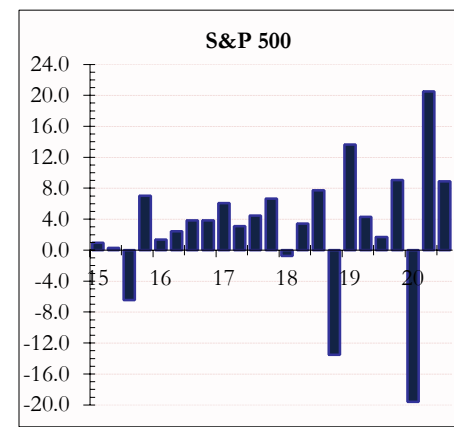
Labor statistics continue to show improvement, but are in no way back to where they were before the pandemic. The U.S. unemployment rate dropped to 7.9% in September from 11.9% in July.

The Industrial Production index was virtually flat at quarter-end. This indicates a slowdown in the recovery of manufacturing. The Industrial Production Index is an economic indicator that measures real output for all manufacturing, mining, and electric & gas utilities facilities located in the United States.

DOMESTIC EQUITIES

The Growth/Value Divergence Continues

All broad-based U.S. market equity indices rose in the quarter. The S&P 500, an index made up of large-capitalization companies,



gained 8.9%, bringing the year-to date return to 5.6%. Growth continues to outpace its Value counterparts across all market capitalization sizes. As one example, the Russell 3000 Growth gained 12.9% in the quarter, while the Russell 3000 Value gained 5.4%. For the year-to-

date, the Russell 3000 Growth has gained 23.0%, while the Russell 3000 Value lost 12.2%.

The relative outperformance of growth can be attributed to outsized gains in Information Technology and Consumer Discretionary. Information Technology stocks have benefited from work-from-home policies and have dealt with little of the headwinds that other sectors have faced. The Consumer Discretionary sector has been led by Amazon, which has benefited from coronavirus-related retail shutdowns, which accelerated the trend of e-commerce.

The Value style underperformance can be attributed to the struggles of the Finance and Energy sectors. The Financial sector has been hurt by lower interest rates, which affects their net interest margin, and stock buyback bans from the U.S. Federal Reserve. The Energy sector has been affected by lower oil prices, which are still floundering due to a supply glut and OPEC policies.

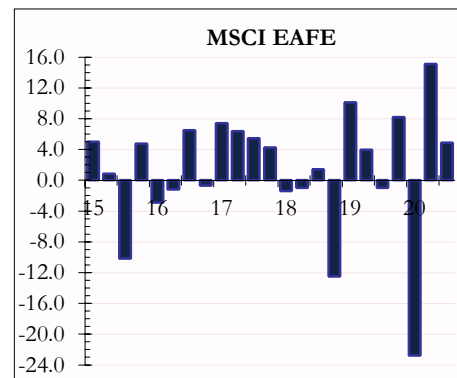
Publicly traded REITs continued their downward trend in the third quarter across all market capitalization sizes. Smaller capitalization REITs, which are the largest contingent within the universe, lost 1.4% in the third quarter. This brings their year-to-date return to -26.2%.

INTERNATIONAL EQUITIES

Looking Forward

The MSCI EAFE Index increased by 4.8%, while the MSCI ACWI ex USA Index climbed 6.3% in the third quarter. Markets advanced over the first two months of the quarter before pulling back in September. Asia and Europe & Middle East were the strongest

performers, while the U.K. lagged. Global manufacturing and world goods trade have led the recovery, while services continue to be strongly hampered. On a sector basis, nine of the eleven sectors within the MSCI EAFE Index posted gains, led by Materials, Industrials, and Consumer Discretionary. Energy and Financials

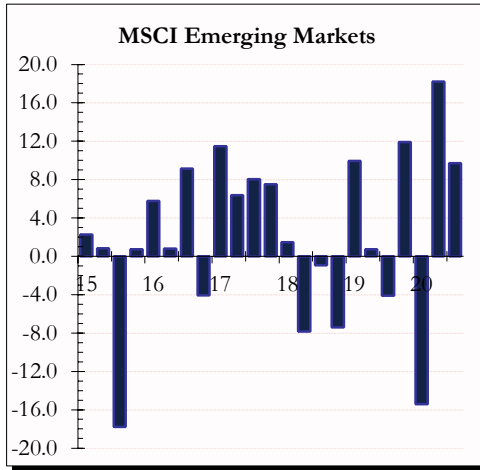


had negative returns and were the worst-performing sectors, followed by Health Care. Overall progress towards the reopening of economies was mixed, as parts of Europe experienced a second wave of confirmed cases. Nevertheless, the

European countries that reported an uptick in cases have refrained from new lockdowns and are instead utilizing targeted measures such as travel restrictions and face-covering requirements. The European Union's passage of a €750 billion package and progress with various vaccine candidates helped provided a sense of optimism.

Emerging Market equities rose 9.7% in the third quarter, bringing its year-to-date total to -0.9%. Emerging Markets equities were led higher by the Technology and Consumer Discretionary sectors.

China reported 3.2% second-quarter GDP growth and showed continued progress toward returning to pre-pandemic activities. As the first to be hit by the virus and the first to emerge from trying



to keep it in check, it is the only major economy that is likely to see a positive growth rate for the current year. The Organization for Economic Co-operation and Development is projecting global GDP growth in 2021 at 5.0%, following a 4.5% decline in the current year.

Corporate bonds, in particular, received this news well and enjoyed a decidedly positive quarter. Riskier assets were widely buoyant: Investment grade bonds returned 1.8%, single-B securities returned 4.5%, and CCC securities returned 7.3%.

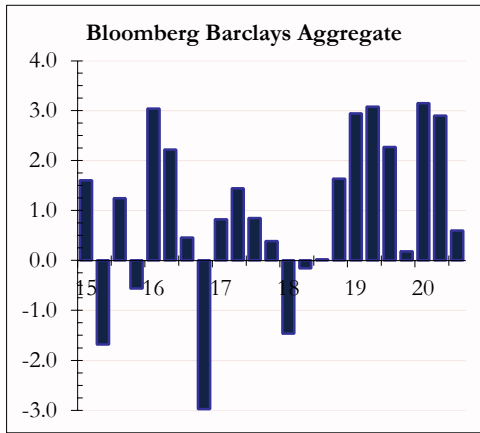
The Global Aggregate index was up 4.6%, while emerging market debt rose a slight 0.7%.

Convertible Bonds, as measured by the Bloomberg Barclays Convertibles Index, returned 13.9%, bringing its year-to-date total to 23.5%.

BOND MARKET

Onward March

The broad U.S. fixed income market continues to deliver steady returns. The Bloomberg Barclays U.S. Aggregate index returned



0.6% in the quarter and is now up 6.8% year-to-date.

The major story in fixed income was that the Federal Reserve announced a change to its inflation targeting policy in August, saying it would now target an average 2% inflation rate. This would

allow them to overshoot the 2% target due to the low inflation seen over the past decade.

CASH EQUIVALENTS

Effectively Zero

The three-month T-Bill returned 0.03% for the third quarter. Return expectations continue to be low. Low prevailing yields taken in coordination with the Federal Reserve's explicit inflation targeting make it unlikely the asset class will see positive real returns.

Economic Statistics

	Current Quarter	Previous Quarter
GDP	33.1%	-31.4%
Unemployment	7.9%	11.2%
CPI All Items Year/Year	1.4%	0.6%
Fed Funds Rate	0.25%	0.25%
Industrial Capacity	71.5%	68.6%
U.S. Dollars per Euro	1.17	1.12

Major Index Returns

Index	Quarter	12 Months
Russell 3000	9.2%	15.0%
S&P 500	8.9%	15.2%
Russell Midcap	7.5%	4.6%
Russell 2000	4.9%	0.4%
MSCI EAFE	4.9%	0.9%
MSCI Emg Markets	9.7%	10.9%
NCREIF ODCE	0.5%	1.4%
U.S. Aggregate	0.6%	7.0%
90 Day T-bills	0.0%	0.7%

Domestic Equity Return Distributions

Quarter	Trailing Year		
	VAL	COR	GRO
LC	4.8	8.9	11.8
MC	6.4	7.5	9.4
SC	2.6	4.9	7.2

Market Summary

- All Equity markets see gains
- Growth continues to outpace Value
- Information Technology leads the way
- Credit spreads tighten
- Estimates of Q3 GDP show a large expansion

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System was valued at \$2,767,491,032, representing an increase of \$117,867,221 from the June quarter's ending value of \$2,649,623,811. Last quarter, the Fund posted withdrawals totaling \$26,071,017, which partially offset the portfolio's net investment return of \$143,938,238. Income receipts totaling \$5,748,841 plus net realized and unrealized capital gains of \$138,189,397 combined to produce the portfolio's net investment return.

RELATIVE PERFORMANCE

Total Fund

For the third quarter, the total portfolio returned 5.5%, which was 0.6% above the Shadow Index's return of 4.9% and ranked in the 33rd percentile of the Public Fund universe. Over the trailing year, the portfolio returned 8.4%, which was 1.8% above the benchmark's 6.6% return, ranking in the 37th percentile. Since December 1985, the portfolio returned 8.7% annualized. The Shadow Index returned an annualized 9.0% over the same period.

Large Cap Equity

The large cap equity portion of the portfolio returned 8.1% last quarter; that return was 0.8% less than the S&P 500 Index's return of 8.9% and ranked in the 54th percentile of the Large Cap universe. Over the trailing twelve-month period, this component returned 16.5%, 1.4% above the benchmark's 15.1% performance, ranking in the 36th percentile. Since December 1985, this component returned 11.1% on an annualized basis. The S&P 500 returned an annualized 10.8% during the same period.

Small Cap Equity

During the third quarter, the small cap equity component returned 6.2%, which was 1.3% greater than the Russell 2000 Index's return of 4.9% and ranked in the 41st percentile of the Small Cap universe. Over the trailing year, the small cap equity portfolio returned -0.2%, which was 0.6% less than the benchmark's 0.4% return, and ranked in the 48th percentile.

International Equity

The international equity portfolio gained 8.1% in the third quarter, 3.2% above the Blended International Index's return of 4.9% and ranked in the 52nd percentile of the International Equity universe. Over the trailing year, this segment returned 10.7%, 9.8% above the benchmark's 0.9% performance, and ranked in the 37th percentile.

Emerging Markets Equity

The emerging markets equity segment returned 9.6% during the third quarter; that return was 0.1% below the Blended Emerging Markets Index's return of 9.7% and ranked in the 56th percentile of the Emerging Markets universe. Over the trailing twelve months, the emerging markets equity portfolio returned 11.0%, 0.1% greater than the benchmark's 10.9% performance, ranking in the 46th percentile.

Real Estate

For the third quarter, the real estate segment gained 1.4%, which was 0.7% above the NCREIF Property Index's return of 0.7%. Over the trailing year, this segment returned 1.4%, which was 0.6% below the benchmark's 2.0% performance. Since December 1985, this component returned 6.8% on an annualized basis, while the NCREIF Property Index returned an annualized 7.6% over the same period.

Fixed Income

The fixed income component returned 0.7% during the third quarter, 0.1% above the Bloomberg Barclays Aggregate Index's return of 0.6% and ranked in the 82nd percentile of the Core Fixed Income universe. Over the trailing twelve-month period, this component returned 7.0%; that return was equal to the benchmark's 7.0% return, and ranked in the 77th percentile. Since December 1985, this component returned 6.5% on an annualized basis. For comparison, the Bloomberg Barclays Aggregate Index returned an annualized 6.4% during the same time frame.

ASSET ALLOCATION

On September 30, 2020, the allocation of assets was as follows*:

TOTAL PORTFOLIO	100.0%	\$2,767,491,032
Domestic Large Cap	26.0%	\$719,865,962
Domestic Small Cap	15.2%	\$420,338,080
Total Domestic Equity	41.2%	\$1,140,204,042
International Developed Markets	15.6%	\$430,954,865
International Emerging Markets	9.9%	\$274,578,761
Total International Equity	25.5%	\$705,533,626
Total Equity	66.7%	\$1,845,737,668
Real Estate	17.9%	\$494,883,755
Fixed Income	14.4%	\$397,218,043
Cash and Equivalents	1.1%	\$29,651,566

* Numbers may not add to 100% due to rounding.

EXECUTIVE SUMMARY - GROSS OF FEES

PERFORMANCE SUMMARY

	Quarter	YTD	1 Year	3 Year	5 Year	10 Year	Since 12/85
Total Portfolio	5.5	1.3	8.4	6.9	9.2	8.6	8.7
<i>PUBLIC FUND RANK</i>	(33)	(68)	(37)	(35)	(15)	(18)	----
Shadow Index	4.9	0.2	6.6	5.7	8.2	8.1	9.0
Domestic Equity	7.4	0.6	10.7	10.2	12.5	12.7	----
<i>DOMESTIC EQUITY RANK</i>	(46)	(45)	(42)	(40)	(40)	(45)	----
Russell 3000	9.2	5.4	15.0	11.6	13.7	13.5	10.6
Large Cap Equity	8.1	5.8	16.5	14.6	15.4	14.8	11.1
<i>LARGE CAP RANK</i>	(54)	(37)	(36)	(29)	(28)	(27)	----
S&P 500	8.9	5.6	15.1	12.3	14.1	13.7	10.8
Small Cap Equity	6.2	-9.2	-0.2	2.0	7.5	10.2	----
<i>SMALL CAP RANK</i>	(41)	(48)	(48)	(49)	(54)	(57)	----
Russell 2000	4.9	-8.7	0.4	1.7	8.0	9.8	8.9
International Equity	8.1	-0.3	10.7	4.7	9.5	7.4	----
<i>INTERNATIONAL EQUITY RANK</i>	(52)	(38)	(37)	(32)	(30)	(29)	----
Int'l Index	4.9	-6.7	0.9	1.1	5.8	5.1	----
S&P BMI Ex US	6.3	-5.2	3.0	1.5	6.4	5.4	----
MSCI World Ex US	4.7	-8.7	-1.5	0.4	5.5	4.7	6.9
MSCI EAFE	4.9	-6.7	0.9	1.1	5.8	5.1	7.4
Emerging Markets Equity	9.6	-0.7	11.0	2.6	9.1	2.5	----
<i>EMERGING MARKETS RANK</i>	(56)	(46)	(46)	(49)	(44)	(72)	----
EM Index	9.7	-0.9	10.9	2.8	9.4	2.8	----
S&P BMI EMGM	9.0	-2.0	8.9	2.8	9.5	2.9	----
MSCI Emg Mkts	9.7	-0.9	10.9	2.8	9.4	2.9	----
Real Estate	1.4	0.6	1.4	5.2	6.3	8.3	6.8
NCREIF NPI	0.7	0.5	2.0	5.1	6.3	9.4	7.6
Aggregate Index	0.6	6.8	7.0	5.2	4.2	3.6	6.4
Fixed Income	0.7	6.9	7.0	5.3	4.2	3.7	6.5
<i>CORE FIXED INCOME RANK</i>	(82)	(73)	(77)	(88)	(88)	(90)	----
Aggregate Index	0.6	6.8	7.0	5.2	4.2	3.6	6.4

ASSET ALLOCATION

Large Cap Equity	26.0%	\$ 719,865,962
Small Cap	15.2%	420,338,080
Int'l Equity	15.6%	430,954,865
Emerging Markets	9.9%	274,578,761
Real Estate	17.9%	494,883,755
Fixed Income	14.4%	397,218,043
Cash	1.1%	29,651,566
Total Portfolio	100.0%	2,767,491,032

INVESTMENT RETURN

Market Value 6/2020	\$ 2,649,623,811
Contribs / Withdrawals	- 26,071,017
Income	5,748,841
Capital Gains / Losses	138,189,397
Market Value 9/2020	\$ 2,767,491,032

EXECUTIVE SUMMARY - NET OF FEES

PERFORMANCE SUMMARY

	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Total Portfolio - Net	5.4	1.0	7.9	6.4	8.7	8.2
Shadow Index	4.9	0.2	6.6	5.7	8.2	8.1
Domestic Equity - Net	7.3	0.2	10.2	9.6	12.0	12.2
Russell 3000	9.2	5.4	15.0	11.6	13.7	13.5
Large Cap Equity - Net	8.0	5.4	16.0	14.0	14.8	14.4
S&P 500	8.9	5.6	15.1	12.3	14.1	13.7
Small Cap Equity - Net	6.1	-9.6	-0.7	1.4	6.9	9.7
Russell 2000	4.9	-8.7	0.4	1.7	8.0	9.8
International Equity - Net	8.0	-0.6	10.2	4.2	9.0	6.9
Int'l Index	4.9	-6.7	0.9	1.1	5.8	5.1
S&P BMI Ex US	6.3	-5.2	3.0	1.5	6.4	5.4
MSCI World Ex US	4.7	-8.7	-1.5	0.4	5.5	4.7
MSCI EAFE	4.9	-6.7	0.9	1.1	5.8	5.1
Emerging Markets Equity - Net	9.6	-0.8	10.9	2.5	9.0	2.4
EM Index	9.7	-0.9	10.9	2.8	9.4	2.8
S&P BMI EMGM	9.0	-2.0	8.9	2.8	9.5	2.9
MSCI Emg Mkts	9.7	-0.9	10.9	2.8	9.4	2.9
Real Estate - Net	1.2	-0.1	0.5	4.2	5.3	7.3
NCREIF NPI	0.7	0.5	2.0	5.1	6.3	9.4
Aggregate Index	0.6	6.8	7.0	5.2	4.2	3.6
Fixed Income - Net	0.6	6.8	7.0	5.3	4.2	3.6
Aggregate Index	0.6	6.8	7.0	5.2	4.2	3.6

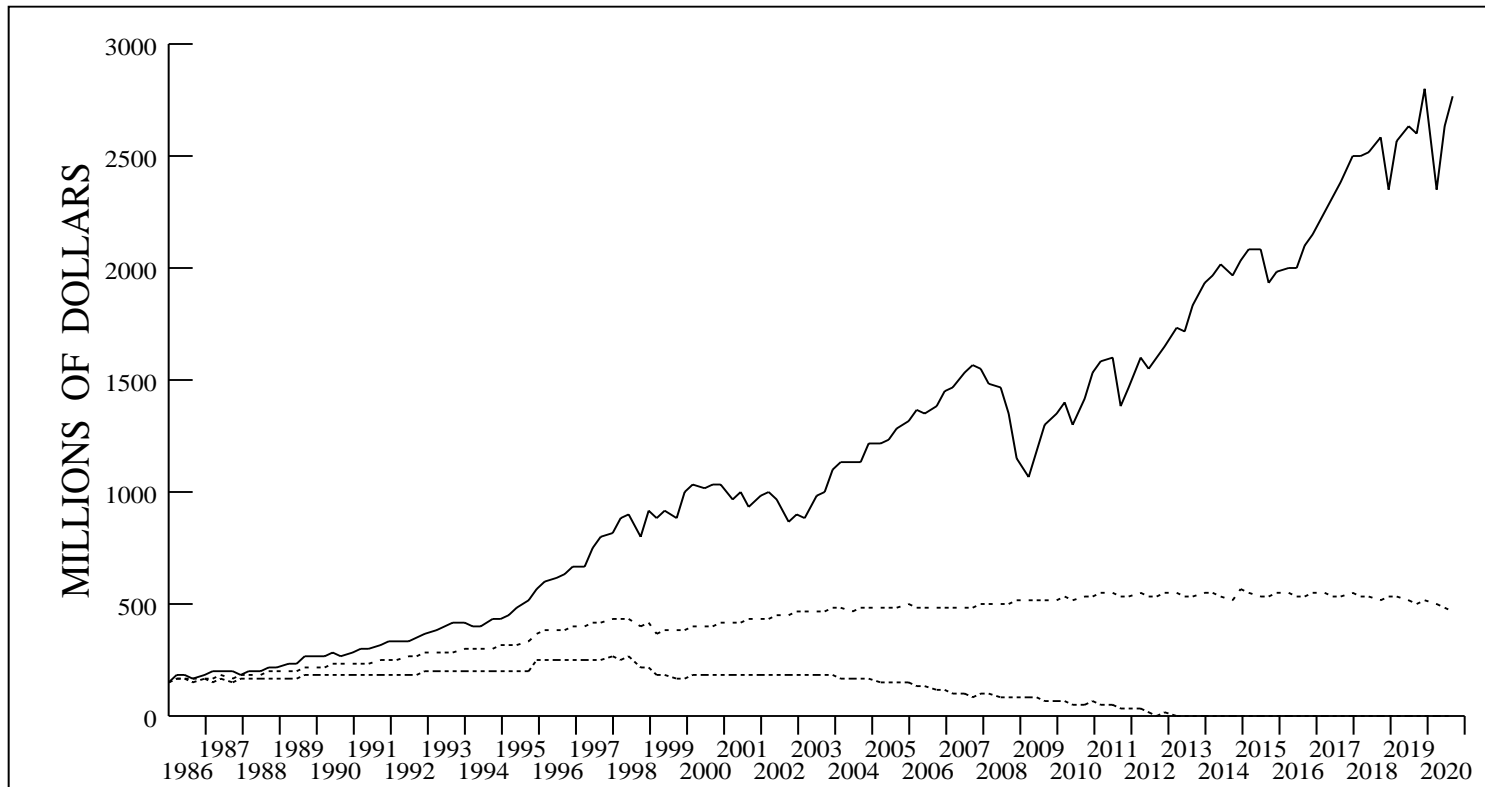
ASSET ALLOCATION

Large Cap Equity	26.0%	\$ 719,865,962
Small Cap	15.2%	420,338,080
Int'l Equity	15.6%	430,954,865
Emerging Markets	9.9%	274,578,761
Real Estate	17.9%	494,883,755
Fixed Income	14.4%	397,218,043
Cash	1.1%	29,651,566
Total Portfolio	100.0%	2,767,491,032

INVESTMENT RETURN

Market Value 6/2020	\$ 2,649,623,811
Contribs / Withdrawals	- 26,071,017
Income	5,748,841
Capital Gains / Losses	138,189,397
Market Value 9/2020	\$ 2,767,491,032

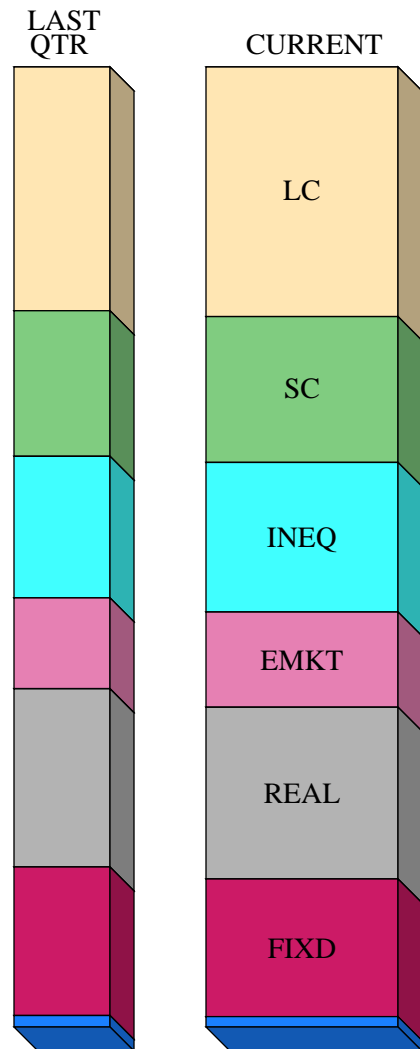
INVESTMENT GROWTH



— ACTUAL RETURN
 - - - 5.25%
 0.0%

VALUE ASSUMING
 5.25% RETURN \$ 473,428,232

	LAST QUARTER	PERIOD 12/85 - 9/20
BEGINNING VALUE	\$ 2,649,623,811	\$ 162,395,431
NET CONTRIBUTIONS	- 26,071,017	-440,645,335
<u>INVESTMENT RETURN</u>	<u>143,938,238</u>	<u>3,045,740,936</u>
ENDING VALUE	\$ 2,767,491,032	\$ 2,767,491,032
INCOME	5,748,841	587,254,246
<u>CAPITAL GAINS (LOSSES)</u>	<u>138,189,397</u>	<u>2,458,486,690</u>
INVESTMENT RETURN	143,938,238	3,045,740,936



	<u>VALUE</u>	<u>PERCENT</u>	<u>TARGET</u>	<u>DIFFERENCE</u> <u>+ / -</u>
■ LARGE CAP EQUITY	\$ 719, 865, 962	26.0%	25.0%	1.0%
■ SMALL CAP EQUITY	420, 338, 080	15.2%	15.0%	0.2%
■ INTERNATIONAL EQUITY	430, 954, 865	15.6%	15.0%	0.6%
■ EMERGING MARKETS EQUITY	274, 578, 761	9.9%	10.0%	-0.1%
■ REAL ESTATE	494, 883, 755	17.9%	20.0%	-2.1%
■ FIXED INCOME	397, 218, 043	14.4%	15.0%	-0.6%
■ CASH & EQUIVALENT	29, 651, 566	1.1%	0.0%	1.1%
TOTAL FUND	\$ 2, 767, 491, 032	100.0%		

**PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
ALLOCATIONS & TARGETS AS OF SEPTEMBER 2020**

Manager	Target	Market Value	%	+ / -	Market Value Ex-cash	%	+ / -
Total Portfolio	-	\$2,767,491,032	100%		\$2,767,491,032	100%	
Large Cap	25	735,957,053	26.6	1.6	719,865,962	26.0	1.0
Eagle		157,474,802	5.7		151,157,841	5.5	
LSV Large Cap		149,595,153	5.4		148,909,726	5.4	
Polen		244,381,864	8.8		235,556,318	8.5	
SSgA S&P 500		123,204,781	4.5		123,204,781	4.5	
William Blair		61,300,453	2.2		61,037,296	2.2	
Small Cap	15	424,256,750	15.3	0.3	420,338,080	15.2	0.2
AMI		37,856,794	1.4		37,233,650	1.3	
Copeland		42,217,494	1.5		41,436,524	1.5	
Emerald		76,456,863	2.8		75,079,549	2.7	
LSV Small Cap		58,865,704	2.1		58,514,191	2.1	
Smith, Graham & Co		69,818,363	2.5		69,032,634	2.5	
SSgA Russell 2000		139,041,532	5.0		139,041,532	5.0	
International Equity	15	434,065,277	15.7	0.7	430,954,865	15.6	0.6
GlobeFlex		3,552	0.0		2,850	0.0	
HGK		129,808,735	4.7		126,992,160	4.6	
Jarislowsky Fraser		315,076	0.0		314,601	0.0	
Johnston		141,377,906	5.1		141,085,246	5.1	
Mercator		18,951	0.0		18,951	0.0	
SSgA International		162,537,922	5.9		162,537,922	5.9	
WHV		3,135	0.0		3,135	0.0	
Emerging Markets	10	274,578,761	9.9	-0.1	274,578,761	9.9	-0.1
SSgA Emerging Mkts		274,578,761	9.9		274,578,761	9.9	
Real Assets	20	494,883,755	17.9	-2.1	494,883,755	17.9	-2.1
Forest		130,868,837	4.7		130,868,837	4.7	
PRISA I		51,854,386	1.9		51,854,386	1.9	
PRISA II		103,711,028	3.7		103,711,028	3.7	
TIAA N. Front St.		2,329,743	0.1		2,329,743	0.1	
TIAA CREF		206,119,761	7.4		206,119,761	7.4	
Fixed Income	15	397,218,043	14.4	-0.6	397,218,043	14.4	-0.6
SSgA BC Aggregate		397,218,043	14.4		397,218,043	14.4	
Cash & Equivalents	0	6,531,393	0.2	0.2	29,651,566	1.1	1.1
BNY Cash		2,448,188	0.1		2,448,188	0.1	
STIP Cash		4,083,205	0.1		4,083,205	0.1	
Manager Cash		<i>n/a</i>	-		23,120,173	0.8	

MANAGER QUARTERLY FEE SUMMARY

ALL FEES ARE ESTIMATED / ACCRUED

PORTFOLIO	TOTAL RETURN (GROSS OF FEES)	FEE	% FEE
AMI	1.3%	\$74,274	0.20%
Copeland	3.8%	\$85,230	0.21%
Eagle	6.5%	\$301,320	0.20%
Emerald	9.6%	\$97,139	0.14%
Forest	0.3%	\$242,419	0.18%
Hardman Johnston	12.9%	\$217,203	0.17%
HGK	6.4%	\$216,618	0.18%
LSV Large Cap	4.0%	\$144,042	0.10%
LSV Small Cap	4.2%	\$86,553	0.15%
Polen	10.2%	\$221,955	0.10%
PRISA SA	0.5%	\$124,548	0.24%
PRISA II SA	0.4%	\$286,562	0.28%
Smith, Graham & Co	10.9%	\$123,897	0.20%
SSgA	4.9%	\$134,906	0.01%
SSgA S&P 500	8.9%	\$9,894	0.01%
SSgA Russell 2000	4.9%	\$15,612	0.01%
SSgA World Ex-US	5.0%	\$24,242	0.02%
SSgA Emerging Markets	9.6%	\$54,168	0.02%
SSgA Bond Market	0.7%	\$30,990	0.01%
TIAA CREF	2.9%	\$465,461	0.23%
TIAA 1721 N. Front St.	1.3%	\$12,500	0.54%
William Blair	11.1%	\$72,496	0.13%

MANAGER PERFORMANCE SUMMARY - GROSS OF FEES

Portfolio	(Universe)	QTR	CYTD	1 Year	3 Years	5 Years	10 Years	Inception	
Composite	(Public Fund)	5.5 (33)	1.3 (68)	8.4 (37)	6.9 (35)	9.2 (15)	8.6 (18)	8.7 ----	12/85
<i>Shadow Index</i>		<i>4.9 ----</i>	<i>0.2 ----</i>	<i>6.6 ----</i>	<i>5.7 ----</i>	<i>8.2 ----</i>	<i>8.1 ----</i>	<i>9.0 ----</i>	<i>12/85</i>
SSgA	(Balanced)	4.9 (67)	1.9 (74)	7.9 (67)	4.2 (78)	6.7 (76)	4.5 (94)	6.4 ----	03/97
<i>Shadow Index</i>		<i>4.8 ----</i>	<i>1.2 ----</i>	<i>7.2 ----</i>	<i>4.1 ----</i>	<i>6.6 ----</i>	<i>4.6 ----</i>	<i>7.1 ----</i>	<i>03/97</i>
Polen	(LC Growth)	10.2 (67)	22.5 (43)	35.4 (35)	24.9 (14)	21.1 (16)	18.6 (11)	18.6 (11)	09/10
<i>Russell 1000G</i>		<i>13.2 ----</i>	<i>24.3 ----</i>	<i>37.5 ----</i>	<i>21.7 ----</i>	<i>20.1 ----</i>	<i>17.3 ----</i>	<i>17.3 ----</i>	<i>09/10</i>
William Blair	(LC Growth)	11.1 (50)	----	----	----	----	----	11.1 (50)	06/20
<i>Russell 1000G</i>		<i>13.2 ----</i>	<i>24.3 ----</i>	<i>37.5 ----</i>	<i>21.7 ----</i>	<i>20.1 ----</i>	<i>17.3 ----</i>	<i>13.2 ----</i>	<i>06/20</i>
Eagle	(LC Value)	6.5 (37)	-3.1 (20)	7.6 (18)	10.2 (13)	----	----	13.6 (4)	03/16
<i>Russell 1000V</i>		<i>5.6 ----</i>	<i>-11.6 ----</i>	<i>-5.0 ----</i>	<i>2.6 ----</i>	<i>7.6 ----</i>	<i>9.9 ----</i>	<i>6.8 ----</i>	<i>03/16</i>
<i>Russell 1000</i>		<i>9.5 ----</i>	<i>6.4 ----</i>	<i>16.0 ----</i>	<i>12.4 ----</i>	<i>14.1 ----</i>	<i>13.8 ----</i>	<i>0.0 ----</i>	
LSV Large Cap	(LC Value)	4.0 (74)	-14.2 (76)	-6.2 (70)	0.7 (78)	6.7 (77)	10.3 (53)	7.5 ----	03/04
<i>Russell 1000V</i>		<i>5.6 ----</i>	<i>-11.6 ----</i>	<i>-5.0 ----</i>	<i>2.6 ----</i>	<i>7.6 ----</i>	<i>9.9 ----</i>	<i>6.9 ----</i>	<i>03/04</i>
AMI	(SC Growth)	1.3 (99)	1.5 (73)	10.9 (72)	1.8 (94)	----	----	1.8 (94)	09/17
<i>Russell 2000G</i>		<i>7.2 ----</i>	<i>3.9 ----</i>	<i>15.7 ----</i>	<i>8.1 ----</i>	<i>11.4 ----</i>	<i>12.3 ----</i>	<i>8.1 ----</i>	<i>09/17</i>
Copeland	(SC Growth)	3.8 (96)	-11.5 (98)	-6.6 (99)	4.8 (83)	----	----	4.8 (83)	09/17
<i>Russell 2000G</i>		<i>7.2 ----</i>	<i>3.9 ----</i>	<i>15.7 ----</i>	<i>8.1 ----</i>	<i>11.4 ----</i>	<i>12.3 ----</i>	<i>8.1 ----</i>	<i>09/17</i>
Emerald	(SC Growth)	9.6 (42)	9.4 (56)	22.5 (46)	11.7 (59)	12.6 (66)	15.7 (36)	11.4 ----	09/98
<i>Russell 2000G</i>		<i>7.2 ----</i>	<i>3.9 ----</i>	<i>15.7 ----</i>	<i>8.1 ----</i>	<i>11.4 ----</i>	<i>12.3 ----</i>	<i>8.0 ----</i>	<i>09/98</i>
LSV Small Cap	(SC Value)	4.2 (33)	-24.4 (81)	-17.8 (79)	-6.6 (83)	----	----	-4.0 (80)	12/16
<i>Russell 2000V</i>		<i>2.6 ----</i>	<i>-21.6 ----</i>	<i>-14.9 ----</i>	<i>-5.1 ----</i>	<i>4.1 ----</i>	<i>7.1 ----</i>	<i>-2.7 ----</i>	<i>12/16</i>
Smith, Graham & Co	(SC Value)	10.9 (2)	-11.6 (14)	-1.3 (11)	-1.7 (29)	----	----	0.9 (21)	12/16
<i>Russell 2000V</i>		<i>2.6 ----</i>	<i>-21.6 ----</i>	<i>-14.9 ----</i>	<i>-5.1 ----</i>	<i>4.1 ----</i>	<i>7.1 ----</i>	<i>-2.7 ----</i>	<i>12/16</i>
HGK	(Intl Eq)	6.4 (67)	-3.8 (53)	7.9 (47)	2.8 (43)	8.3 (42)	----	9.1 (10)	03/12
<i>S&P BMI Ex US</i>		<i>6.3 ----</i>	<i>-5.2 ----</i>	<i>3.0 ----</i>	<i>1.5 ----</i>	<i>6.4 ----</i>	<i>5.4 ----</i>	<i>5.6 ----</i>	<i>03/12</i>
Hardman Johnston	(Intl Eq)	12.9 (12)	11.7 (12)	27.1 (8)	11.1 (7)	14.5 (7)	----	10.7 (5)	03/12
<i>S&P BMI Ex US</i>		<i>6.3 ----</i>	<i>-5.2 ----</i>	<i>3.0 ----</i>	<i>1.5 ----</i>	<i>6.4 ----</i>	<i>5.4 ----</i>	<i>5.6 ----</i>	<i>03/12</i>
PRISA II SA		0.4 ----	-0.7 ----	1.4 ----	6.2 ----	7.9 ----	12.3 ----	4.6 ----	06/07
<i>NCREIF ODCE</i>		<i>0.5 ----</i>	<i>-0.1 ----</i>	<i>1.4 ----</i>	<i>5.2 ----</i>	<i>6.6 ----</i>	<i>10.3 ----</i>	<i>5.3 ----</i>	<i>06/07</i>
PRISA SA		0.5 ----	1.1 ----	2.4 ----	6.0 ----	7.1 ----	11.1 ----	7.7 ----	12/90
<i>NCREIF ODCE</i>		<i>0.5 ----</i>	<i>-0.1 ----</i>	<i>1.4 ----</i>	<i>5.2 ----</i>	<i>6.6 ----</i>	<i>10.3 ----</i>	<i>7.3 ----</i>	<i>12/90</i>
TIAA CREF		2.9 ----	1.9 ----	3.5 ----	7.0 ----	7.6 ----	9.0 ----	3.9 ----	06/08
<i>NCREIF ODCE</i>		<i>0.5 ----</i>	<i>-0.1 ----</i>	<i>1.4 ----</i>	<i>5.2 ----</i>	<i>6.6 ----</i>	<i>10.3 ----</i>	<i>5.1 ----</i>	<i>06/08</i>
TIAA 1721 N. Front St.		1.3 ----	3.7 ----	5.9 ----	2.2 ----	----	----	1.3 ----	06/16
<i>NCREIF NPI</i>		<i>0.7 ----</i>	<i>0.5 ----</i>	<i>2.0 ----</i>	<i>5.1 ----</i>	<i>6.3 ----</i>	<i>9.4 ----</i>	<i>5.7 ----</i>	<i>06/16</i>
Forest		0.3 ----	-0.6 ----	-2.0 ----	1.7 ----	3.3 ----	4.2 ----	4.6 ----	03/99
<i>NCREIF Timber</i>		<i>0.0 ----</i>	<i>0.2 ----</i>	<i>0.2 ----</i>	<i>2.1 ----</i>	<i>2.6 ----</i>	<i>4.4 ----</i>	<i>5.9 ----</i>	<i>03/99</i>

MANAGER PERFORMANCE SUMMARY - NET OF FEES

Portfolio	QTR	CYTD	1 Year	3 Years	5 Years	10 Years	Inception	
Composite	5.4	1.0	7.9	6.4	8.7	8.2	----	12/85
<i>Shadow Index</i>	<i>4.9</i>	<i>0.2</i>	<i>6.6</i>	<i>5.7</i>	<i>8.2</i>	<i>8.1</i>	<i>9.0</i>	<i>12/85</i>
SSgA	4.9	1.9	7.9	4.2	6.7	4.4	6.4	03/97
<i>Shadow Index</i>	<i>4.8</i>	<i>1.2</i>	<i>7.2</i>	<i>4.1</i>	<i>6.6</i>	<i>4.6</i>	<i>7.1</i>	<i>03/97</i>
Polen	10.1	22.1	34.9	24.5	20.6	18.1	18.1	09/10
<i>Russell 1000G</i>	<i>13.2</i>	<i>24.3</i>	<i>37.5</i>	<i>21.7</i>	<i>20.1</i>	<i>17.3</i>	<i>17.3</i>	<i>09/10</i>
William Blair	11.0	----	----	----	----	----	11.0	06/20
<i>Russell 1000G</i>	<i>13.2</i>	<i>24.3</i>	<i>37.5</i>	<i>21.7</i>	<i>20.1</i>	<i>17.3</i>	<i>13.2</i>	<i>06/20</i>
Eagle	6.3	-3.7	6.7	9.3	----	----	12.7	03/16
<i>Russell 1000V</i>	<i>5.6</i>	<i>-11.6</i>	<i>-5.0</i>	<i>2.6</i>	<i>7.6</i>	<i>9.9</i>	<i>6.8</i>	<i>03/16</i>
<i>Russell 1000</i>	<i>9.5</i>	<i>6.4</i>	<i>16.0</i>	<i>12.4</i>	<i>14.1</i>	<i>13.8</i>	<i>0.0</i>	
LSV Large Cap	3.9	-14.5	-6.6	0.3	6.2	9.8	7.1	03/04
<i>Russell 1000V</i>	<i>5.6</i>	<i>-11.6</i>	<i>-5.0</i>	<i>2.6</i>	<i>7.6</i>	<i>9.9</i>	<i>6.9</i>	<i>03/04</i>
AMI	1.1	0.9	10.1	1.0	----	----	1.0	09/17
<i>Russell 2000G</i>	<i>7.2</i>	<i>3.9</i>	<i>15.7</i>	<i>8.1</i>	<i>11.4</i>	<i>12.3</i>	<i>8.1</i>	<i>09/17</i>
Copeland	3.5	-12.1	-7.4	4.0	----	----	4.0	09/17
<i>Russell 2000G</i>	<i>7.2</i>	<i>3.9</i>	<i>15.7</i>	<i>8.1</i>	<i>11.4</i>	<i>12.3</i>	<i>8.1</i>	<i>09/17</i>
Emerald	9.4	9.0	21.9	11.1	12.1	15.2	10.9	09/98
<i>Russell 2000G</i>	<i>7.2</i>	<i>3.9</i>	<i>15.7</i>	<i>8.1</i>	<i>11.4</i>	<i>12.3</i>	<i>8.0</i>	<i>09/98</i>
LSV Small Cap	4.0	-24.8	-18.3	-7.1	----	----	-4.6	12/16
<i>Russell 2000V</i>	<i>2.6</i>	<i>-21.6</i>	<i>-14.9</i>	<i>-5.1</i>	<i>4.1</i>	<i>7.1</i>	<i>-2.7</i>	<i>12/16</i>
Smith, Graham & Co	10.7	-12.2	-2.0	-2.5	----	----	0.2	12/16
<i>Russell 2000V</i>	<i>2.6</i>	<i>-21.6</i>	<i>-14.9</i>	<i>-5.1</i>	<i>4.1</i>	<i>7.1</i>	<i>-2.7</i>	<i>12/16</i>
HGK	6.2	-4.3	7.1	2.1	7.5	----	8.4	03/12
<i>S&P BMI Ex US</i>	<i>6.3</i>	<i>-5.2</i>	<i>3.0</i>	<i>1.5</i>	<i>6.4</i>	<i>5.4</i>	<i>5.6</i>	<i>03/12</i>
Hardman Johnston	12.8	11.1	26.3	10.4	13.8	----	10.0	03/12
<i>S&P BMI Ex US</i>	<i>6.3</i>	<i>-5.2</i>	<i>3.0</i>	<i>1.5</i>	<i>6.4</i>	<i>5.4</i>	<i>5.6</i>	<i>03/12</i>
PRISA II SA	0.2	-1.5	0.3	5.1	6.7	11.1	3.5	06/07
<i>NCREIF ODCE</i>	<i>0.5</i>	<i>-0.1</i>	<i>1.4</i>	<i>5.2</i>	<i>6.6</i>	<i>10.3</i>	<i>5.3</i>	<i>06/07</i>
PRISA SA	0.3	0.3	1.4	5.0	6.1	10.0	----	12/90
<i>NCREIF ODCE</i>	<i>0.5</i>	<i>-0.1</i>	<i>1.4</i>	<i>5.2</i>	<i>6.6</i>	<i>10.3</i>	<i>7.3</i>	<i>12/90</i>
TIAA CREF	2.7	1.2	2.5	6.1	6.7	8.1	3.0	06/08
<i>NCREIF ODCE</i>	<i>0.5</i>	<i>-0.1</i>	<i>1.4</i>	<i>5.2</i>	<i>6.6</i>	<i>10.3</i>	<i>5.1</i>	<i>06/08</i>
TIAA 1721 N. Front St.	0.8	2.1	3.7	0.1	----	----	-1.0	06/16
<i>NCREIF NPI</i>	<i>0.7</i>	<i>0.5</i>	<i>2.0</i>	<i>5.1</i>	<i>6.3</i>	<i>9.4</i>	<i>5.7</i>	<i>06/16</i>
Forest	0.2	-1.1	-2.8	0.9	2.5	3.4	4.1	03/99
<i>NCREIF Timber</i>	<i>0.0</i>	<i>0.2</i>	<i>0.2</i>	<i>2.1</i>	<i>2.6</i>	<i>4.4</i>	<i>5.9</i>	<i>03/99</i>

MANAGER VALUE ADDED

Portfolio	Benchmark	1 Quarter	1 Year	3 Years	5 Years
SSgA	Shadow Index	0.1	0.7	0.1	0.1
Polen	Russell 1000G	-3.0	-2.1	3.2	1.0
William Blair	Russell 1000G	-2.1	N/A	N/A	N/A
Eagle	Russell 1000V	0.9	12.6	7.6	N/A
LSV Large Cap	Russell 1000V	-1.6	-1.2	-1.9	-0.9
AMI	Russell 2000G	-5.9	-4.8	-6.3	N/A
Copeland	Russell 2000G	-3.4	-22.3	-3.3	N/A
Emerald	Russell 2000G	2.4	6.8	3.6	1.2
LSV Small Cap	Russell 2000V	1.6	-2.9	-1.5	N/A
Smith, Graham & Co	Russell 2000V	8.3	13.6	3.4	N/A
HGK	S&P BMI Ex US	0.1	4.9	1.3	1.9
Hardman Johnston	S&P BMI Ex US	6.6	24.1	9.6	8.1
PRISA II SA	NCREIF ODCE	-0.1	0.0	1.0	1.3
PRISA SA	NCREIF ODCE	0.0	1.0	0.8	0.5
TIAA CREF	NCREIF ODCE	2.4	2.1	1.8	1.0
TIAA 1721 N. Front St.	NCREIF NPI	0.6	3.9	-2.9	N/A
Forest	NCREIF Timber	0.3	-2.2	-0.4	0.7
Total Portfolio	Shadow Index	0.6	1.8	1.2	1.0

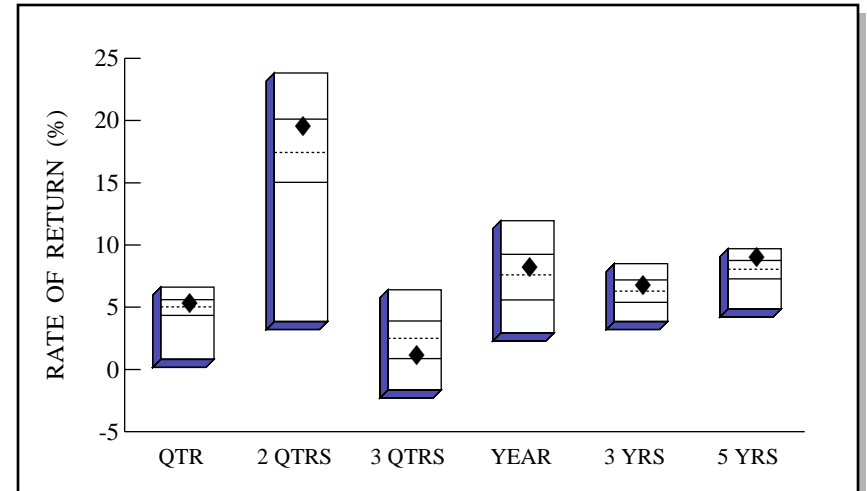
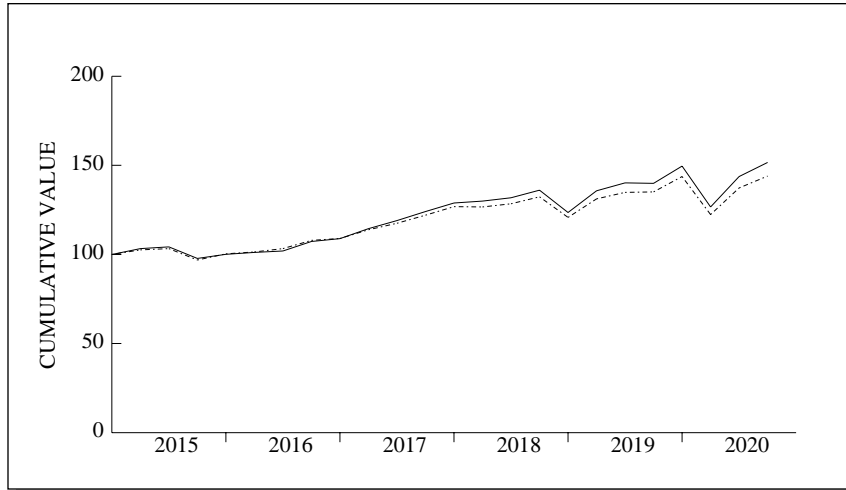
INVESTMENT RETURN SUMMARY - ONE QUARTER

Name	Quarter Total Return	Market Value June 30th, 2020	Net Cashflow	Net Investment Return	Market Value September 30th, 2020
Abel Noser Transition (LC)	---	8,729	-8,730	1	0
SSgA S&P 500 (LCC)	8.9	113,121,142	0	10,083,639	123,204,781
Federated (LCG)	---	2	0	-2	0
Polen (LCG)	10.2	221,955,072	-228,446	22,655,238	244,381,864
William Blair (LCG)	11.1	55,202,723	-23,906	6,121,636	61,300,453
Eagle (LCV)	6.5	148,169,600	-272,424	9,577,626	157,474,802
LSV Large Cap (LCV)	4.0	143,936,827	-136,738	5,795,064	149,595,153
SSgA Russell 2000 (SMDC)	4.9	138,256,020	-6,000,000	6,785,512	139,041,532
AMI (SCG)	1.3	37,442,685	-70,862	484,971	37,856,794
Copeland (SCG)	3.8	40,739,295	-49,836	1,528,035	42,217,494
Emerald (SCG)	9.6	69,869,615	-85,960	6,673,208	76,456,863
LSV Small Cap (SCV)	4.2	56,589,070	-80,836	2,357,470	58,865,704
Smith, Graham & Co (SCV)	10.9	63,090,367	-109,301	6,837,297	69,818,363
GlobeFlex (INEQ)	---	4,292	0	-740	3,552
HGK (INEQ)	6.4	122,180,682	-195,263	7,823,316	129,808,735
Hardman Johnston (INEQ)	12.9	125,362,457	-179,673	16,195,122	141,377,906
Mercator (INEQ)	---	18,151	0	800	18,951
WHV (INEQ)	---	3,002	0	133	3,135
Jarislowsky Fraser (INEG)	---	303,979	-727	11,824	315,076
SSgA World Ex-US (INEQ)	5.0	154,837,145	0	7,700,777	162,537,922
SSgA Emerging Markets (EMKT)	9.6	250,547,615	0	24,031,146	274,578,761
PRISA II SA (REAL)	0.4	103,552,732	-286,562	444,858	103,711,028
PRISA SA (REAL)	0.5	51,721,737	-124,548	257,197	51,854,386
TIAA CREF (REAL)	2.9	202,278,709	-1,511,839	5,352,891	206,119,761
TIAA 1721 N. Front St. (REAL)	1.3	2,311,116	0	18,627	2,329,743
Forest (TIMB)	0.3	132,018,482	-1,600,000	450,355	130,868,837
SSgA Bond Market (CFI)	0.7	409,985,424	-15,500,000	2,732,619	397,218,043
BNY Cash (CASH)	---	947,803	1,486,284	14,101	2,448,188
Treasury STIP (CASH)	---	5,169,338	-1,091,650	5,517	4,083,205
Total Portfolio	5.5	2,649,623,811	-26,071,017	143,938,238	2,767,491,032

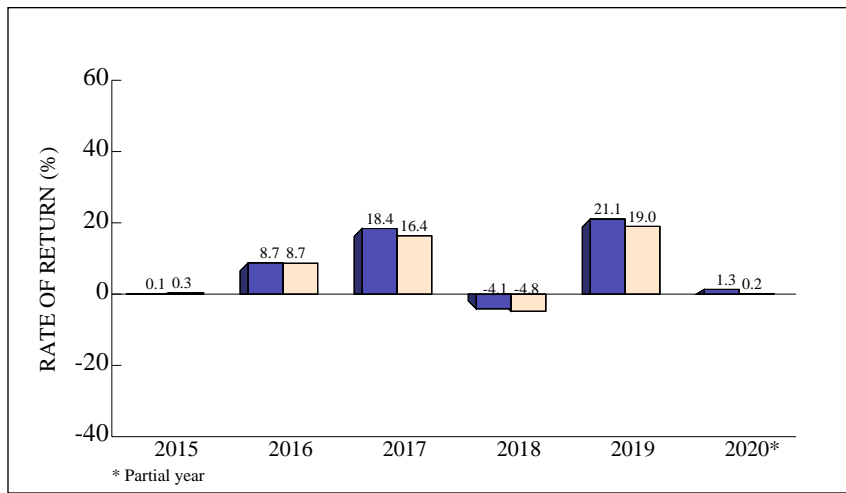
MANAGER RISK STATISTICS SUMMARY - FIVE-YEAR HISTORY

Name	Alpha	Batting Average	Sharpe Ratio	Information Ratio	Up Capture	Down Capture
SSgA <i>Shadow Index</i>	0.02	0.700	0.62	0.27	100.5	99.2
SSgA S&P 500 <i>S&P 500</i>	0.00	0.900	0.89	-0.83	99.8	99.9
Polen <i>Russell 1000G</i>	2.06	0.600	1.23	0.22	99.0	86.1
LSV Large Cap <i>Russell 1000V</i>	-1.64	0.550	0.40	-0.09	103.2	111.4
SSgA Russell 2000 <i>Russell 2000</i>	0.10	0.950	0.44	1.85	100.3	99.8
Emerald <i>Russell 2000G</i>	0.80	0.650	0.60	0.36	108.5	103.5
HGK <i>S&P BMI Ex US</i>	1.64	0.600	0.49	0.48	112.2	99.3
Hardman Johnston <i>S&P BMI Ex US</i>	7.55	0.800	0.77	1.41	150.5	92.8
SSgA World Ex-US <i>MSCI World Ex US</i>	0.31	0.600	0.38	0.51	101.1	98.7
SSgA Emerging Markets <i>EM Index</i>	-0.40	0.400	0.53	-0.36	100.2	102.4
PRISA II SA <i>NCREIF ODCE</i>	-0.91	0.750	2.64	1.33	120.4	156.0
PRISA SA <i>NCREIF ODCE</i>	1.42	0.600	3.59	0.83	105.3	70.3
TIAA CREF <i>NCREIF ODCE</i>	2.90	0.650	2.63	0.47	116.7	148.9
Forest <i>NCREIF Timber</i>	3.18	0.450	0.49	0.18	96.7	----
SSgA Bond Market <i>Aggregate Index</i>	0.03	1.000	0.97	0.54	100.5	99.5

TOTAL RETURN COMPARISONS



Public Fund Universe



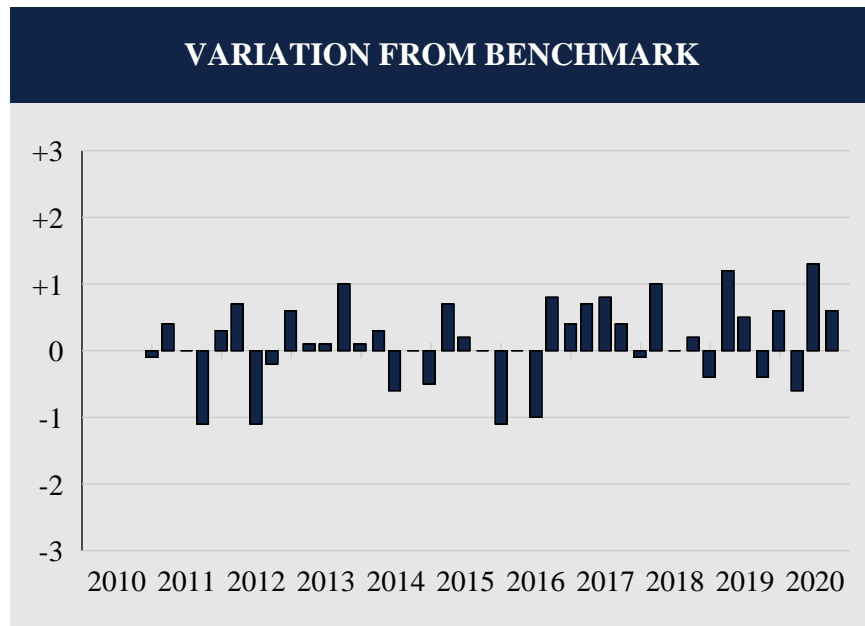
* Partial year

	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	5.5	19.7	1.3	8.4	6.9	9.2
(RANK)	(33)	(29)	(68)	(37)	(35)	(15)
5TH %ILE	6.6	23.8	6.4	12.0	8.5	9.7
25TH %ILE	5.6	20.1	3.9	9.3	7.2	8.8
MEDIAN	5.0	17.4	2.5	7.6	6.3	8.0
75TH %ILE	4.3	15.0	0.9	5.6	5.4	7.3
95TH %ILE	0.8	3.8	-1.7	2.9	3.9	4.9
<i>Shadow Idx</i>	<i>4.9</i>	<i>17.6</i>	<i>0.2</i>	<i>6.6</i>	<i>5.7</i>	<i>8.2</i>

Public Fund Universe

TOTAL PORTFOLIO QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

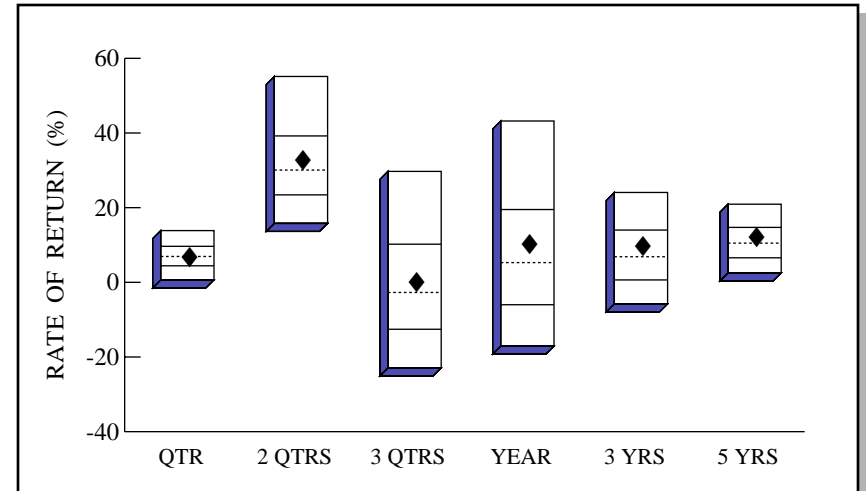
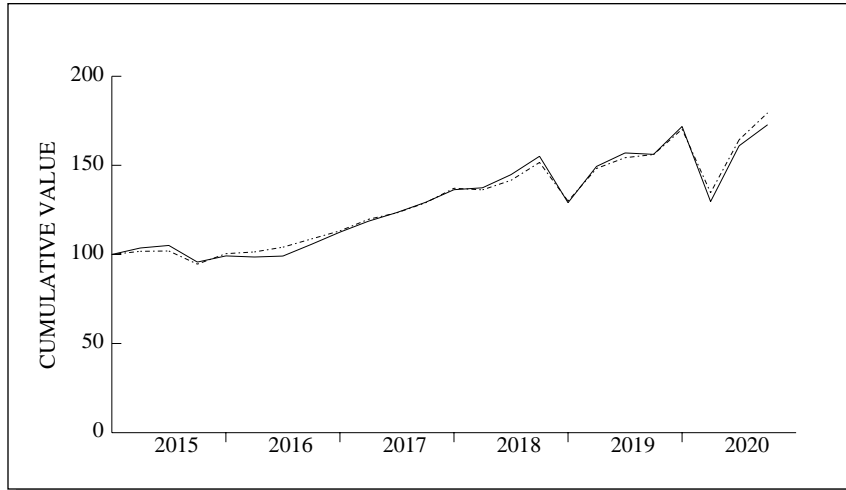
COMPARATIVE BENCHMARK: SHADOW INDEX



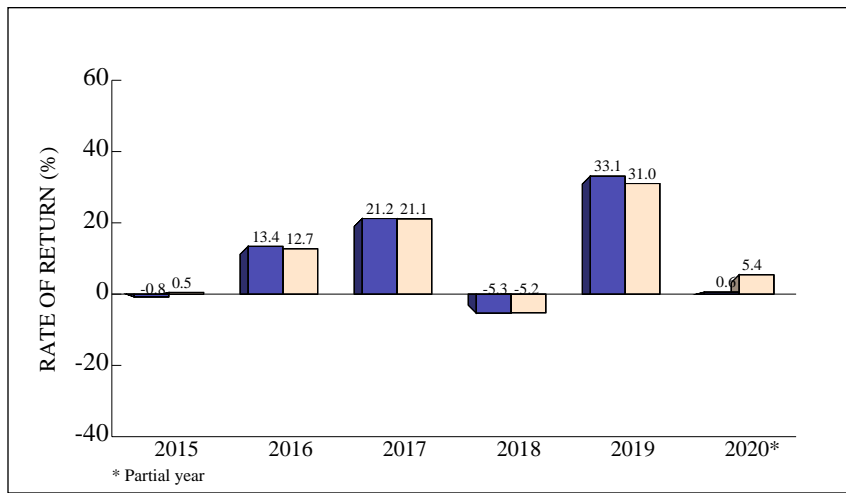
RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	7.3	7.4	-0.1
3/11	4.3	3.9	0.4
6/11	0.6	0.6	0.0
9/11	-12.1	-11.0	-1.1
12/11	6.6	6.3	0.3
3/12	9.2	8.5	0.7
6/12	-3.3	-2.2	-1.1
9/12	4.5	4.7	-0.2
12/12	2.5	1.9	0.6
3/13	5.5	5.4	0.1
6/13	0.4	0.3	0.1
9/13	6.6	5.6	1.0
12/13	5.8	5.7	0.1
3/14	1.8	1.5	0.3
6/14	3.3	3.9	-0.6
9/14	-1.5	-1.5	0.0
12/14	2.0	2.5	-0.5
3/15	3.3	2.6	0.7
6/15	0.9	0.7	0.2
9/15	-6.2	-6.2	0.0
12/15	2.4	3.5	-1.1
3/16	1.1	1.1	0.0
6/16	0.8	1.8	-1.0
9/16	5.2	4.4	0.8
12/16	1.5	1.1	0.4
3/17	5.1	4.4	0.7
6/17	4.0	3.2	0.8
9/17	4.2	3.8	0.4
12/17	3.9	4.0	-0.1
3/18	0.8	-0.2	1.0
6/18	1.4	1.4	0.0
9/18	3.3	3.1	0.2
12/18	-9.2	-8.8	-0.4
3/19	9.8	8.6	1.2
6/19	3.3	2.8	0.5
9/19	-0.2	0.2	-0.4
12/19	7.0	6.4	0.6
3/20	-15.4	-14.8	-0.6
6/20	13.5	12.2	1.3
9/20	5.5	4.9	0.6

Total Quarters Observed	40
Quarters At or Above the Benchmark	28
Quarters Below the Benchmark	12
Batting Average	.700

DOMESTIC EQUITY RETURN COMPARISONS



Domestic Equity Universe



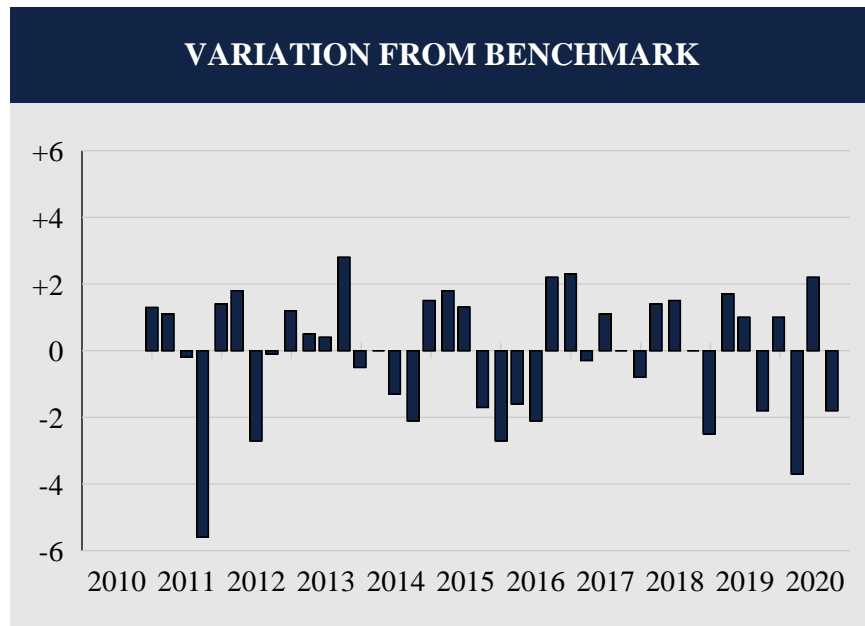
* Partial year

	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	7.4	33.3	0.6	10.7	10.2	12.5
(RANK)	(46)	(38)	(45)	(42)	(40)	(40)
5TH %ILE	13.9	55.1	29.7	43.2	24.1	21.0
25TH %ILE	9.7	39.2	10.2	19.5	14.0	14.7
MEDIAN	6.9	30.1	-2.7	5.3	6.9	10.5
75TH %ILE	4.4	23.4	-12.6	-6.0	0.6	6.6
95TH %ILE	0.6	15.8	-23.0	-17.1	-5.8	2.5
Russ 3000	9.2	33.3	5.4	15.0	11.6	13.7

Domestic Equity Universe

DOMESTIC EQUITY QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

COMPARATIVE BENCHMARK: RUSSELL 3000



RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	12.9	11.6	1.3
3/11	7.5	6.4	1.1
6/11	-0.2	0.0	-0.2
9/11	-20.9	-15.3	-5.6
12/11	13.5	12.1	1.4
3/12	14.7	12.9	1.8
6/12	-5.8	-3.1	-2.7
9/12	6.1	6.2	-0.1
12/12	1.5	0.3	1.2
3/13	11.6	11.1	0.5
6/13	3.1	2.7	0.4
9/13	9.2	6.4	2.8
12/13	9.6	10.1	-0.5
3/14	2.0	2.0	0.0
6/14	3.6	4.9	-1.3
9/14	-2.1	0.0	-2.1
12/14	6.7	5.2	1.5
3/15	3.6	1.8	1.8
6/15	1.4	0.1	1.3
9/15	-8.9	-7.2	-1.7
12/15	3.6	6.3	-2.7
3/16	-0.6	1.0	-1.6
6/16	0.5	2.6	-2.1
9/16	6.6	4.4	2.2
12/16	6.5	4.2	2.3
3/17	5.4	5.7	-0.3
6/17	4.1	3.0	1.1
9/17	4.6	4.6	0.0
12/17	5.5	6.3	-0.8
3/18	0.8	-0.6	1.4
6/18	5.4	3.9	1.5
9/18	7.1	7.1	0.0
12/18	-16.8	-14.3	-2.5
3/19	15.7	14.0	1.7
6/19	5.1	4.1	1.0
9/19	-0.6	1.2	-1.8
12/19	10.1	9.1	1.0
3/20	-24.6	-20.9	-3.7
6/20	24.2	22.0	2.2
9/20	7.4	9.2	-1.8

Total Quarters Observed	40
Quarters At or Above the Benchmark	23
Quarters Below the Benchmark	17
Batting Average	.575

LARGE CAP EQUITY MANAGERS

The combined large cap portfolio (excluding cash) returned 8.1%, which was 0.8% below the S&P 500 return of 8.9%. The Polen and William Blair portfolios both returned below their growth benchmark. Between the value managers, Eagle beat the index, but LSV did not.

**SSgA S&P 500
(Core)**

SSgA's S&P 500 fund continued to closely track the S&P 500 index over the short and long term. At quarter-end, this fund was valued at \$123,204,781.

**Polen
(Growth)**

The portfolio's performance in its heaviest sector fell short of its index counterpart. Since this sector (Information Technology) made up such a large portion of the portfolio and its benchmark, it had an outsize impact on the total return, resulting in last quarter's sub-par return.

**William Blair
(Growth)**

Unfavorable selection in all but two of the invested sectors resulted in the portfolio's shortfall against the index. The Consumer Staples and Health Care sectors beat their index counterparts, but that was not enough to eclipse the effects from the remaining sectors.

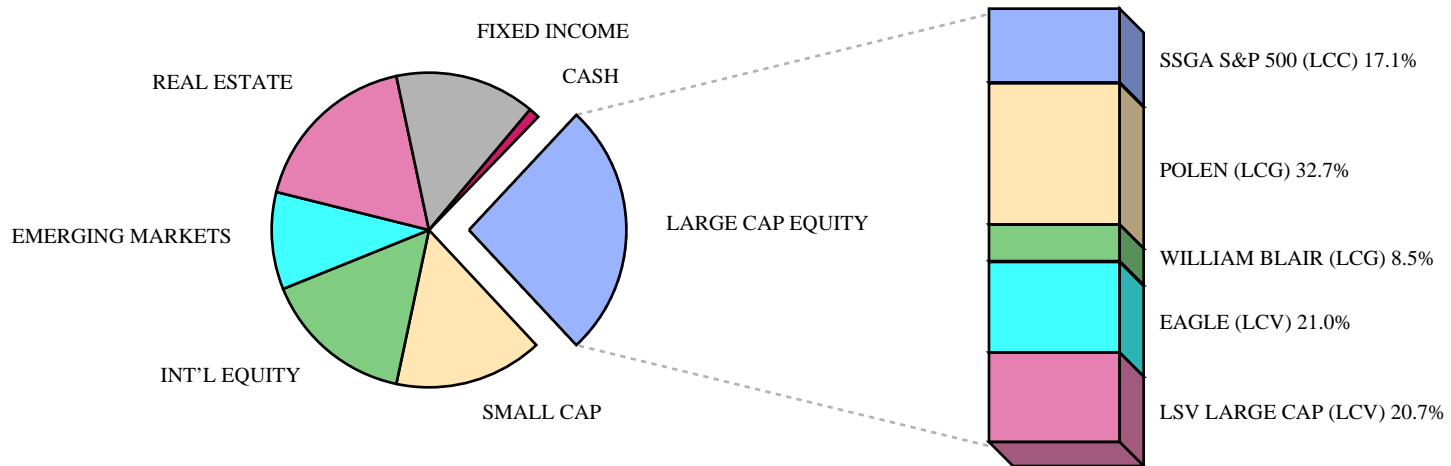
**Eagle
(Value)**

Increased weight in the well performing Consumer Discretionary sector and avoidance of the poorly performing Energy sector helped put the portfolio over the index last quarter.

**LSV Large Cap
(Value)**

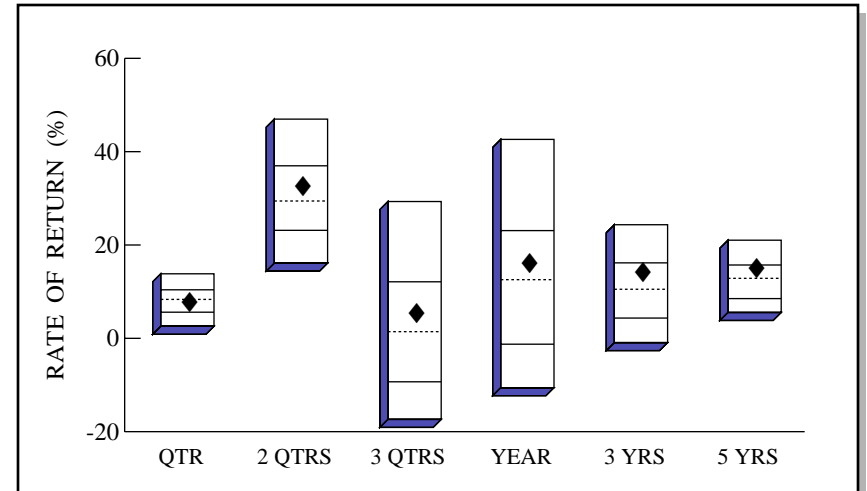
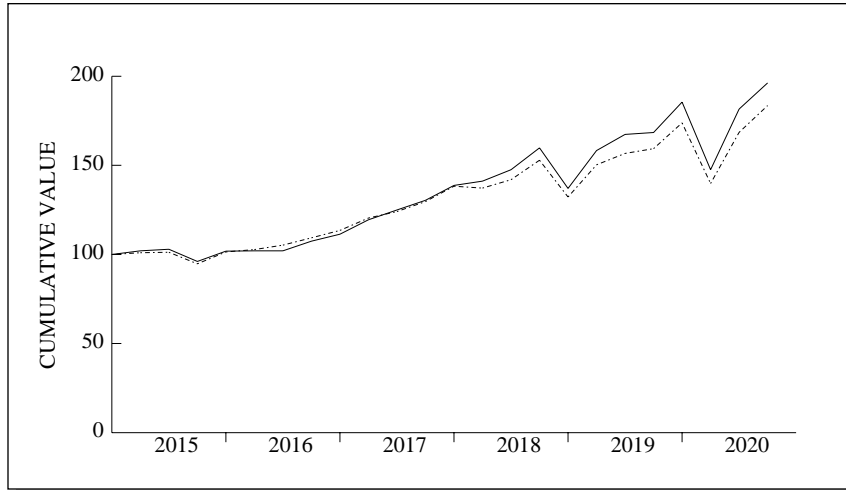
The portfolio's outsize position in the Information Technology sector worked against its favor, as this sector was not a prime source of return last quarter. Selection effects were mixed, but more sectors underperformed than outperformed.

LARGE CAP EQUITY MANAGER SUMMARY

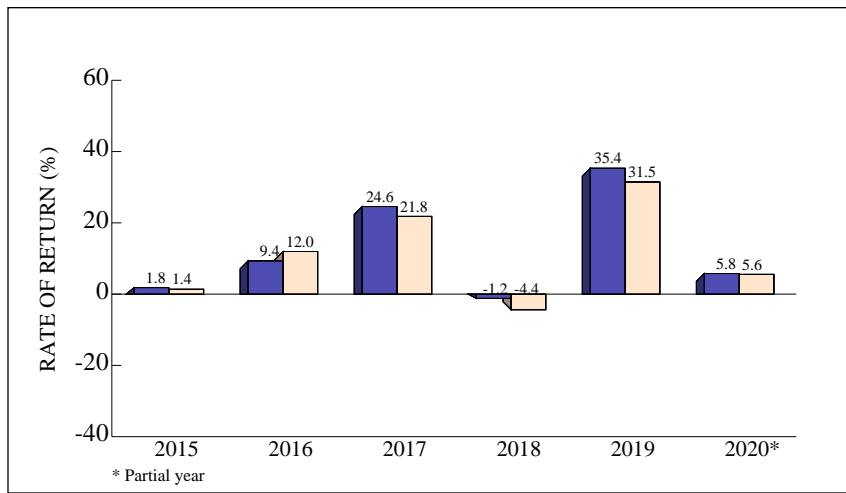


MANAGER	(UNIVERSE)	COMPONENT RETURNS AND RANKINGS					MARKET VALUE
		QTR	YTD	1 YEAR	3 YEARS	5 YEARS	
SSGA S&P 500	(Large Cap Core)	8.9 (40)	5.5 (39)	15.1 (37)	12.3 (34)	14.1 (27)	\$123,204,781
<i>S&P 500</i>		<i>8.9 ---</i>	<i>5.6 ---</i>	<i>15.1 ---</i>	<i>12.3 ---</i>	<i>14.1 ---</i>	---
POLEN	(Large Cap Growth)	10.5 (63)	23.5 (35)	36.8 (28)	26.0 (11)	21.9 (10)	\$235,556,318
WILLIAM BLAIR	(Large Cap Growth)	11.1 (48)	---	---	---	---	\$61,037,296
<i>Russell 1000 Growth</i>		<i>13.2 ---</i>	<i>24.3 ---</i>	<i>37.5 ---</i>	<i>21.7 ---</i>	<i>20.1 ---</i>	---
EAGLE	(Large Cap Value)	6.7 (36)	-2.7 (19)	8.3 (18)	10.5 (11)	---	\$151,157,841
LSV LARGE CAP	(Large Cap Value)	4.0 (74)	-14.2 (76)	-6.3 (70)	0.8 (78)	6.7 (75)	\$148,909,726
<i>Russell 1000 Value</i>		<i>5.6 ---</i>	<i>-11.6 ---</i>	<i>-5.0 ---</i>	<i>2.6 ---</i>	<i>7.6 ---</i>	---
TOTAL	(Large Cap)	8.1 (54)	5.8 (37)	16.5 (36)	14.6 (29)	15.4 (28)	\$719,865,962
<i>S&P 500</i>		<i>8.9 ---</i>	<i>5.6 ---</i>	<i>15.1 ---</i>	<i>12.3 ---</i>	<i>14.1 ---</i>	---

LARGE CAP EQUITY RETURN COMPARISONS



Large Cap Universe

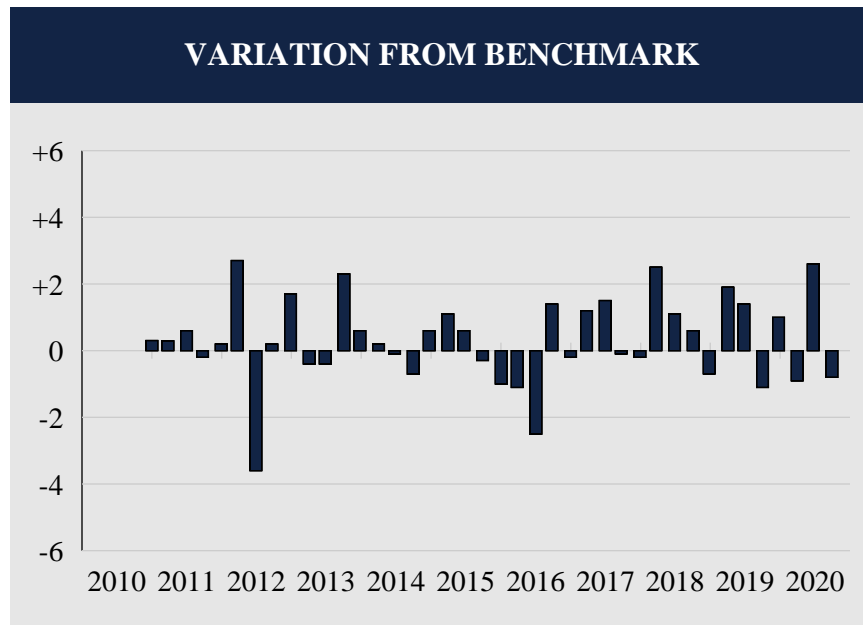


	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	8.1	33.0	5.8	16.5	14.6	15.4
(RANK)	(54)	(36)	(37)	(36)	(29)	(28)
5TH %ILE	13.8	47.0	29.3	42.6	24.3	21.0
25TH %ILE	10.4	37.0	12.1	23.1	16.2	15.7
MEDIAN	8.4	29.4	1.4	12.6	10.5	12.9
75TH %ILE	5.6	23.2	-9.3	-1.3	4.4	8.5
95TH %ILE	2.6	16.1	-17.4	-10.6	-0.9	5.5
S&P 500	8.9	31.3	5.6	15.1	12.3	14.1

Large Cap Universe

LARGE CAP EQUITY QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

COMPARATIVE BENCHMARK: S&P 500



RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	11.1	10.8	0.3
3/11	6.2	5.9	0.3
6/11	0.7	0.1	0.6
9/11	-14.1	-13.9	-0.2
12/11	12.0	11.8	0.2
3/12	15.3	12.6	2.7
6/12	-6.4	-2.8	-3.6
9/12	6.5	6.3	0.2
12/12	1.3	-0.4	1.7
3/13	10.2	10.6	-0.4
6/13	2.5	2.9	-0.4
9/13	7.5	5.2	2.3
12/13	11.1	10.5	0.6
3/14	2.0	1.8	0.2
6/14	5.1	5.2	-0.1
9/14	0.4	1.1	-0.7
12/14	5.5	4.9	0.6
3/15	2.0	0.9	1.1
6/15	0.9	0.3	0.6
9/15	-6.7	-6.4	-0.3
12/15	6.0	7.0	-1.0
3/16	0.2	1.3	-1.1
6/16	0.0	2.5	-2.5
9/16	5.3	3.9	1.4
12/16	3.6	3.8	-0.2
3/17	7.3	6.1	1.2
6/17	4.6	3.1	1.5
9/17	4.4	4.5	-0.1
12/17	6.4	6.6	-0.2
3/18	1.7	-0.8	2.5
6/18	4.5	3.4	1.1
9/18	8.3	7.7	0.6
12/18	-14.2	-13.5	-0.7
3/19	15.5	13.6	1.9
6/19	5.7	4.3	1.4
9/19	0.6	1.7	-1.1
12/19	10.1	9.1	1.0
3/20	-20.5	-19.6	-0.9
6/20	23.1	20.5	2.6
9/20	8.1	8.9	-0.8

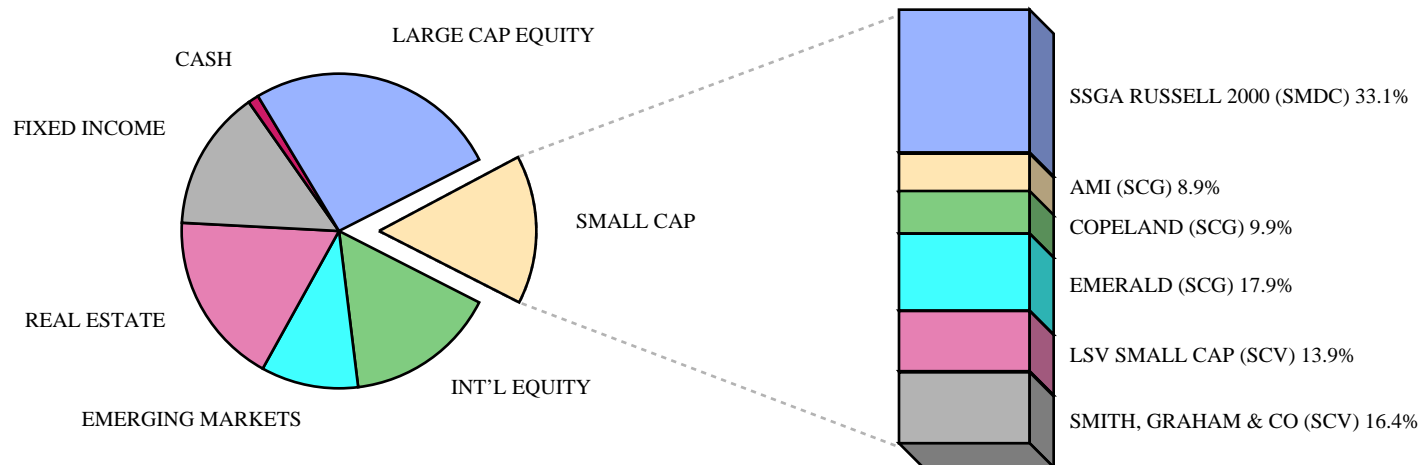
Total Quarters Observed	40
Quarters At or Above the Benchmark	23
Quarters Below the Benchmark	17
Batting Average	.575

SMALL CAP EQUITY MANAGERS

Last quarter, the Russell 2000 Growth Index returned 7.2% versus 2.6% for the Russell 2000 Value Index. The portfolio's small cap component (excluding cash) gained 6.2%, 1.3% above the Russell 2000 index return of 4.9%. AMI and Copeland fell behind their growth index, while Emerald finished ahead. On the value side, LSV beat the index, but Smith, Graham stood out, bucking the current growth bias with a double-digit return.

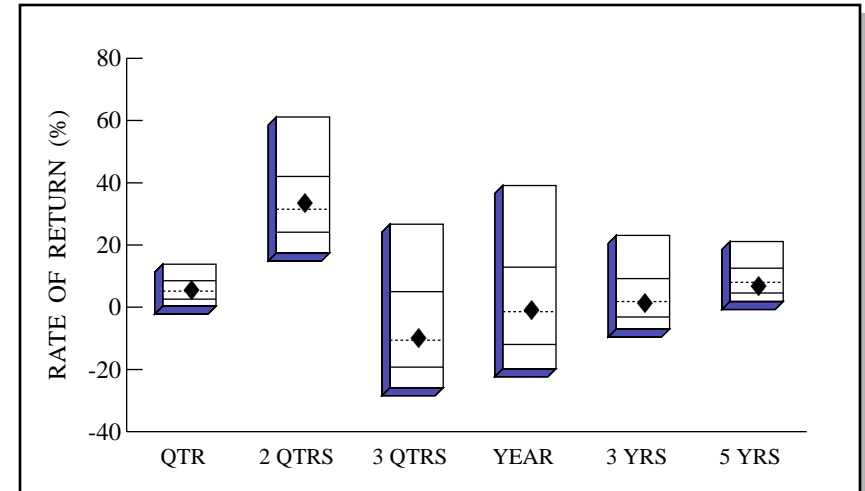
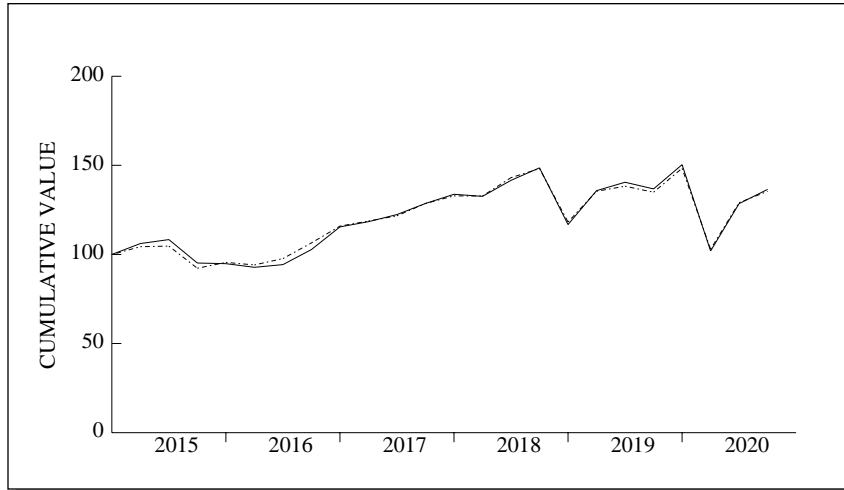
SSgA Russell 2000 (Core)	The SSgA small cap component performed in line with the Russell 2000 index. At quarter end, this investment was valued at \$139,041,532.
AMI (Growth)	The portfolio's emphasized sectors were not among the top sources of return in the small cap growth market last quarter, putting the portfolio at a disadvantage against the index. Selection effects were also negative across all invested sectors.
Copeland (Growth)	Only two of the portfolio's invested sectors produced returns above their index counterparts last quarter – Real Estate and Utilities. Underperformance in the remaining sectors resulted in the portfolio's shortfall against the Russell 2000 Growth.
Emerald (Growth)	Sector returns were mixed, but favorable selection in the Consumer Staples, Financials, and Information Technology sectors overshadowed negative selection effects from the Consumer Discretionary, Health Care, and Industrials sectors. The Energy sector, though only making up a sliver of the portfolio, generated explosive performance through its sole holding New Fortress Energy Inc.
LSV Small Cap (Value)	The portfolio's reduced position in Financials and Real Estate minimized the impact of weak returns in those sectors. Selection effects were mixed, with most sectors falling short of their index counterparts. Communication Services, Industrials, and Materials performed better for the portfolio than the index.
Smith, Graham & Co (Value)	Greater allocations in the Consumer Discretionary and Health Care sectors amplified the strong performance in those sectors. In the case of Health Care, the portfolio improved upon the market return, further adding value.

SMALL CAP EQUITY MANAGER SUMMARY

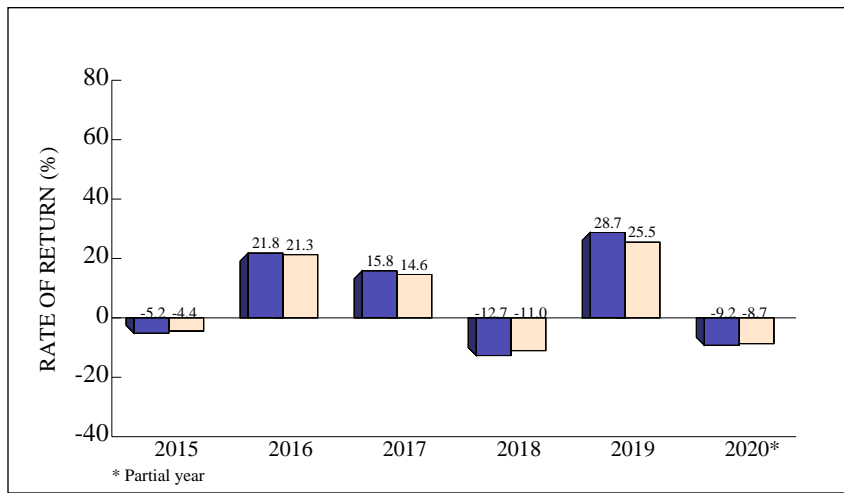


COMPONENT RETURNS AND RANKINGS							
MANAGER	(UNIVERSE)	QTR	YTD	1 YEAR	3 YEARS	5 YEARS	MARKET VALUE
SSGA RUSSELL 2000	(Small Cap)	4.9 (54)	-8.7 (47)	0.4 (47)	1.8 (51)	8.1 (49)	\$139,041,532
<i>Russell 2000</i>		<i>4.9 ---</i>	<i>-8.7 ---</i>	<i>0.4 ---</i>	<i>1.7 ---</i>	<i>8.0 ---</i>	<i>---</i>
AMI	(Small Cap Growth)	1.3 (99)	0.9 (75)	10.6 (72)	1.5 (95)	----	\$37,233,650
COPELAND	(Small Cap Growth)	3.8 (95)	-11.8 (98)	-6.8 (99)	5.0 (82)	----	\$41,436,524
EMERALD	(Small Cap Growth)	9.9 (38)	9.8 (55)	23.2 (46)	12.0 (57)	13.0 (64)	\$75,079,549
<i>Russell 2000 Growth</i>		<i>7.2 ---</i>	<i>3.9 ---</i>	<i>15.7 ---</i>	<i>8.1 ---</i>	<i>11.4 ---</i>	<i>---</i>
LSV SMALL CAP	(Small Cap Value)	4.2 (32)	-24.9 (84)	-18.2 (82)	-6.8 (87)	----	\$58,514,191
SMITH, GRAHAM & CO	(Small Cap Value)	11.1 (1)	-11.7 (14)	-1.1 (11)	-1.7 (29)	----	\$69,032,634
<i>Russell 2000 Value</i>		<i>2.6 ---</i>	<i>-21.6 ---</i>	<i>-14.9 ---</i>	<i>-5.1 ---</i>	<i>4.1 ---</i>	<i>---</i>
TOTAL	(Small Cap)	6.2 (41)	-9.2 (48)	-0.2 (48)	2.0 (49)	7.5 (54)	\$420,338,080
<i>Russell 2000</i>		<i>4.9 ---</i>	<i>-8.7 ---</i>	<i>0.4 ---</i>	<i>1.7 ---</i>	<i>8.0 ---</i>	<i>---</i>

SMALL CAP EQUITY RETURN COMPARISONS



Small Cap Universe



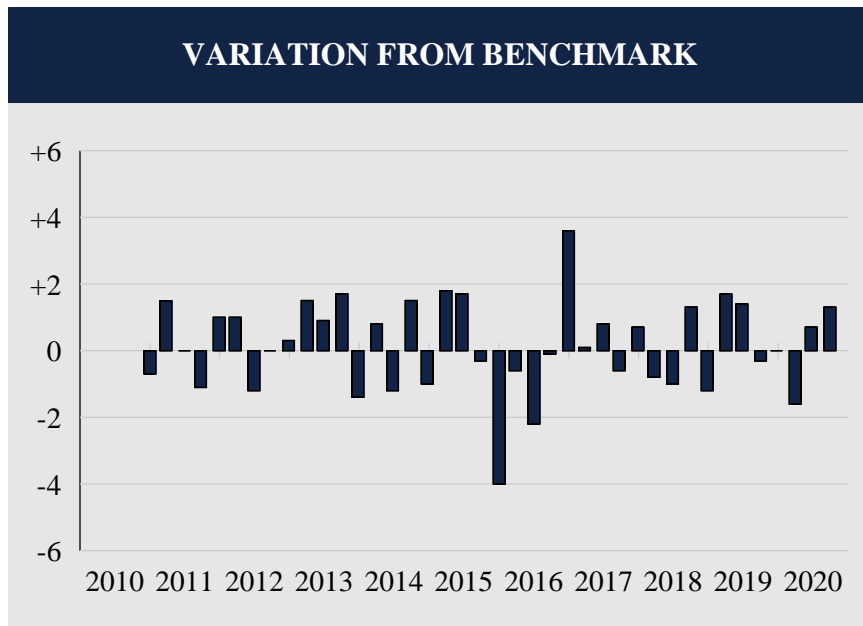
* Partial year

	QTR	2 QTRS	3 QTRS	YEAR	3 YRS	5 YRS
RETURN	6.2	33.9	-9.2	-0.2	2.0	7.5
(RANK)	(41)	(43)	(48)	(48)	(49)	(54)
5TH %ILE	13.8	61.2	26.7	39.1	23.1	21.1
25TH %ILE	8.5	42.0	5.0	12.9	9.2	12.6
MEDIAN	5.2	31.5	-10.6	-1.5	1.8	8.0
75TH %ILE	2.6	24.1	-19.3	-12.0	-3.1	4.6
95TH %ILE	0.4	17.5	-25.9	-19.7	-7.0	1.8
Russ 2000	4.9	31.6	-8.7	0.4	1.7	8.0

Small Cap Universe

SMALL CAP EQUITY QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

COMPARATIVE BENCHMARK: RUSSELL 2000



RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	15.6	16.3	-0.7
3/11	9.4	7.9	1.5
6/11	-1.6	-1.6	0.0
9/11	-23.0	-21.9	-1.1
12/11	16.5	15.5	1.0
3/12	13.4	12.4	1.0
6/12	-4.7	-3.5	-1.2
9/12	5.2	5.2	0.0
12/12	2.1	1.8	0.3
3/13	13.9	12.4	1.5
6/13	4.0	3.1	0.9
9/13	11.9	10.2	1.7
12/13	7.3	8.7	-1.4
3/14	1.9	1.1	0.8
6/14	0.8	2.0	-1.2
9/14	-5.9	-7.4	1.5
12/14	8.7	9.7	-1.0
3/15	6.1	4.3	1.8
6/15	2.1	0.4	1.7
9/15	-12.2	-11.9	-0.3
12/15	-0.4	3.6	-4.0
3/16	-2.1	-1.5	-0.6
6/16	1.6	3.8	-2.2
9/16	8.9	9.0	-0.1
12/16	12.4	8.8	3.6
3/17	2.6	2.5	0.1
6/17	3.3	2.5	0.8
9/17	5.1	5.7	-0.6
12/17	4.0	3.3	0.7
3/18	-0.9	-0.1	-0.8
6/18	6.8	7.8	-1.0
9/18	4.9	3.6	1.3
12/18	-21.4	-20.2	-1.2
3/19	16.3	14.6	1.7
6/19	3.5	2.1	1.4
9/19	-2.7	-2.4	-0.3
12/19	9.9	9.9	0.0
3/20	-32.2	-30.6	-1.6
6/20	26.1	25.4	0.7
9/20	6.2	4.9	1.3

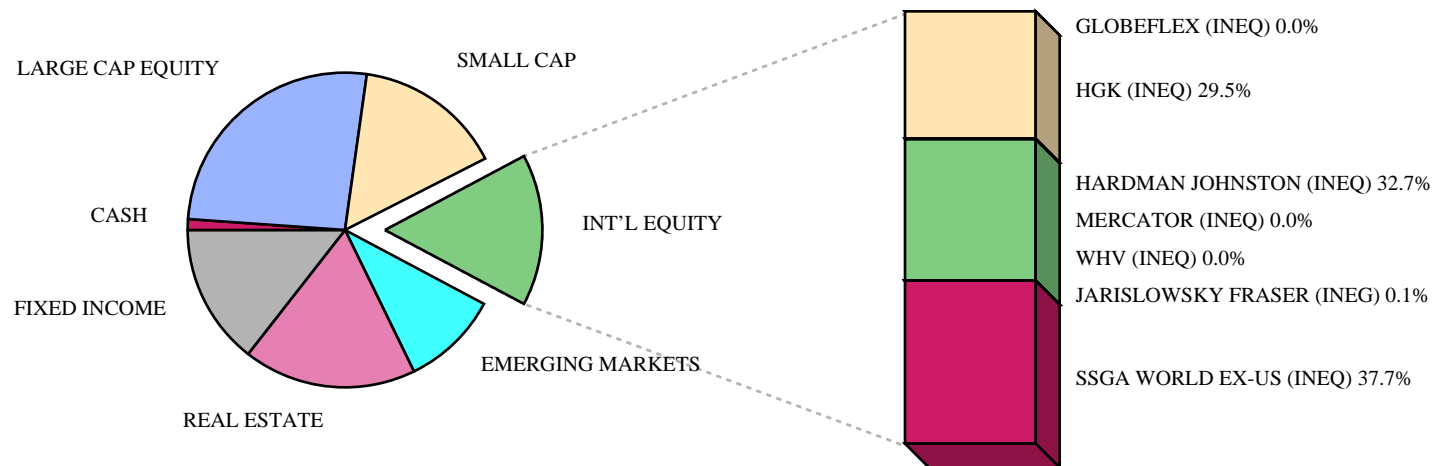
Total Quarters Observed	40
Quarters At or Above the Benchmark	23
Quarters Below the Benchmark	17
Batting Average	.575

INTERNATIONAL & EMERGING MARKETS EQUITY MANAGERS

The developed international portfolio (excluding cash) returned 8.1% over the quarter, 3.2% above the MSCI EAFE Index return of 4.9%. The S&P BMI Developed Markets Ex US returned 6.3% vs 4.7% for the MSCI World Ex US. The Emerging Markets portfolio, driven by its only manager, SSgA, gained 9.7%, in line with the MSCI Emerging Markets Index.

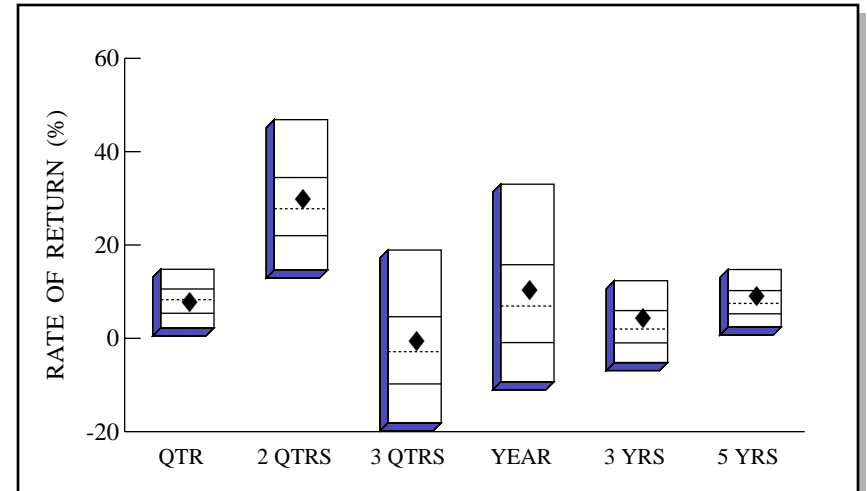
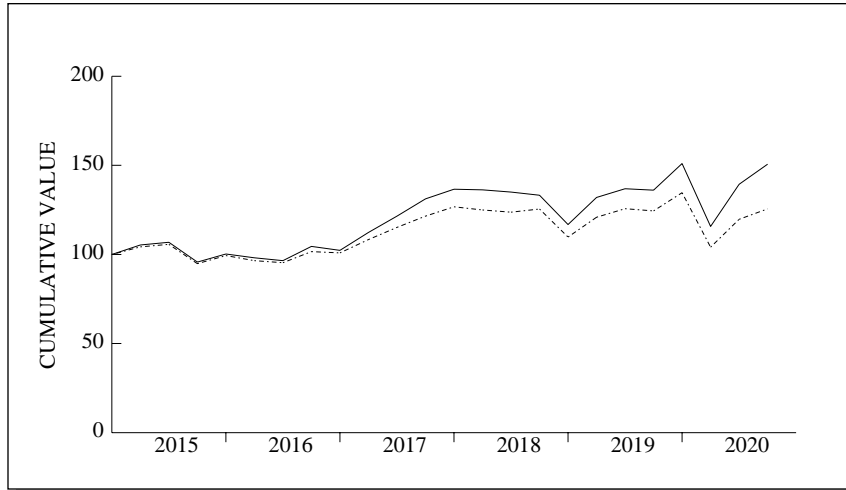
SSgA Developed	The SSgA developed markets component returned 5.0% during the quarter. Over the trailing year, this component was up 0.6%. This investment was valued at \$162,537,922 at quarter end.
Hardman Johnston	The Hardman Johnston international equity component earned 13.2% over the quarter. Over the last four quarters, the component gained 28.8%, while the S&P BMI Developed Ex US returned 6.3% and 3.0% over the quarter and trailing year.
HGK	HGK's equity component returned 6.8% last quarter. Over the trailing year, the HGK international equity component gained 8.0%.
SSgA Emerging	The SSgA emerging markets fund gained 9.7% during the quarter. Over the trailing year, this component returned 11.0%. At quarter end, this fund was valued at \$274,578,761.

INTERNATIONAL EQUITY MANAGER SUMMARY

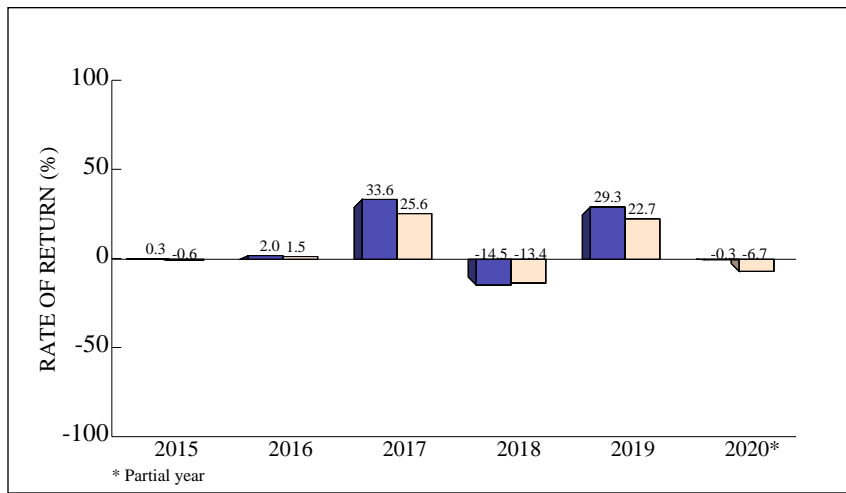
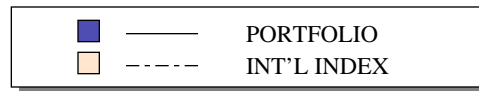


		COMPONENT RETURNS AND RANKINGS					
MANAGER	(UNIVERSE)	QTR	YTD	1 YEAR	3 YEARS	5 YEARS	MARKET VALUE
GLOBEFLEX	(International Equity)	----	----	----	----	----	\$2,850
HGK	(International Equity)	6.8 (64)	-4.0 (54)	8.0 (46)	2.8 (42)	8.6 (39)	\$126,992,160
HARDMAN JOHNSTON	(International Equity)	13.2 (11)	13.0 (11)	28.8 (7)	11.3 (7)	15.0 (5)	\$141,085,246
MERCATOR	(International Equity)	-----	----	----	----	----	\$18,951
WHV	(International Equity)	----	----	----	----	----	\$3,135
<i>S&P BMI Developed Ex US Index</i>		6.3 ---	-5.2 ---	3.0 ---	1.5 ---	6.4 ---	---
JARISLOWSKY FRASER	(International Equity)	----	----	----	----	----	\$314,601
<i>MSCI EAFE</i>		4.9 ---	-6.7 ---	0.9 ---	1.1 ---	5.8 ---	---
SSGA WORLD EX-US	(International Equity)	5.0 (79)	-6.7 (65)	0.6 (72)	1.0 (59)	5.8 (69)	\$162,537,922
<i>MSCI World Ex US</i>		4.7 ---	-8.7 ---	-1.5 ---	0.4 ---	5.5 ---	---
TOTAL	(International Equity)	8.1 (52)	-0.3 (38)	10.7 (37)	4.7 (32)	9.5 (30)	\$430,954,865
<i>Blended International Index</i>		4.9 ---	-6.7 ---	0.9 ---	1.1 ---	5.8 ---	---

INTERNATIONAL EQUITY RETURN COMPARISONS



International Equity Universe

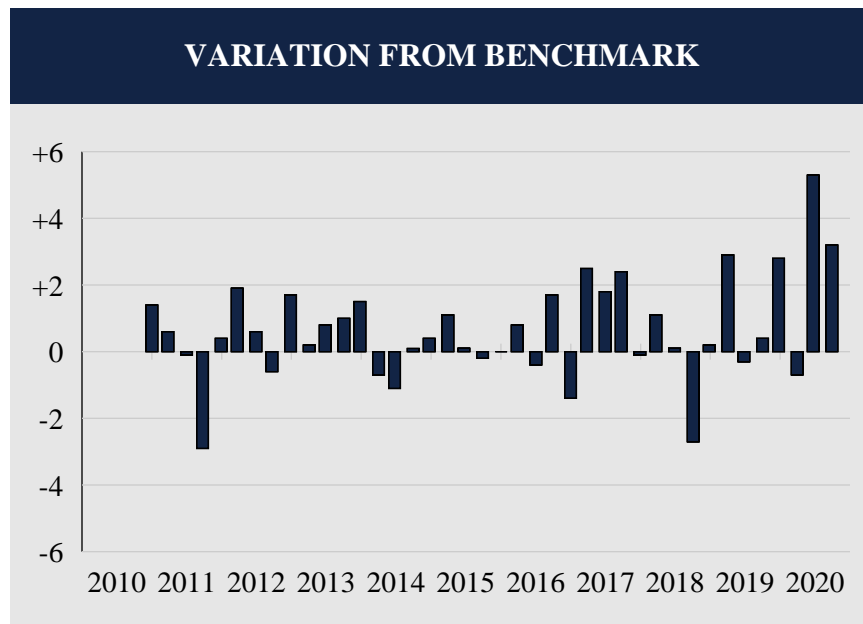


	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	8.1	30.1	-0.3	10.7	4.7	9.5
(RANK)	(52)	(41)	(38)	(37)	(32)	(30)
5TH %ILE	14.8	46.9	18.9	33.0	12.3	14.8
25TH %ILE	10.6	34.4	4.6	15.8	5.9	10.2
MEDIAN	8.3	27.8	-2.9	6.9	2.0	7.5
75TH %ILE	5.4	22.0	-9.8	-0.9	-1.0	5.2
95TH %ILE	2.2	14.6	-18.1	-9.3	-5.2	2.4
Intl Index	4.9	20.7	-6.7	0.9	1.1	5.8

International Equity Universe

INTERNATIONAL EQUITY QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

COMPARATIVE BENCHMARK: BLENDED INTERNATIONAL INDEX

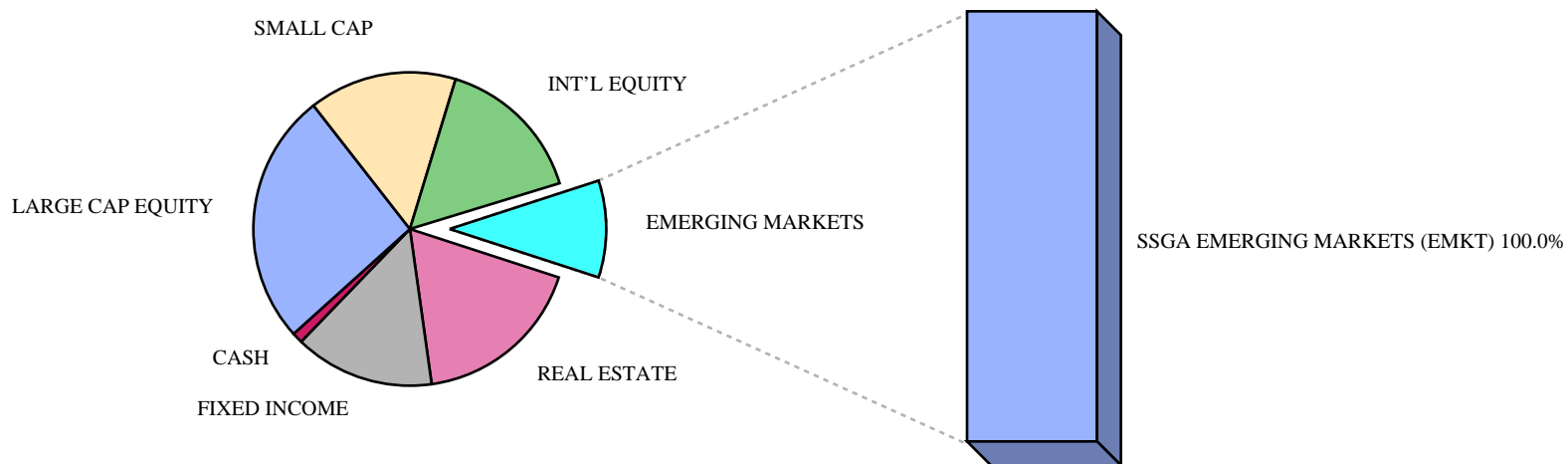


RATES OF RETURN

Date	Portfolio	Benchmark	Difference
12/10	9.5	8.1	1.4
3/11	4.6	4.0	0.6
6/11	0.5	0.6	-0.1
9/11	-22.2	-19.3	-2.9
12/11	3.7	3.3	0.4
3/12	14.2	12.3	1.9
6/12	-6.6	-7.2	0.6
9/12	7.1	7.7	-0.6
12/12	7.5	5.8	1.7
3/13	5.1	4.9	0.2
6/13	-1.0	-1.8	0.8
9/13	12.9	11.9	1.0
12/13	6.9	5.4	1.5
3/14	0.5	1.2	-0.7
6/14	3.7	4.8	-1.1
9/14	-5.8	-5.9	0.1
12/14	-3.3	-3.7	0.4
3/15	5.3	4.2	1.1
6/15	1.4	1.3	0.1
9/15	-10.4	-10.2	-0.2
12/15	4.7	4.7	0.0
3/16	-2.1	-2.9	0.8
6/16	-1.6	-1.2	-0.4
9/16	8.2	6.5	1.7
12/16	-2.1	-0.7	-1.4
3/17	9.9	7.4	2.5
6/17	8.2	6.4	1.8
9/17	7.9	5.5	2.4
12/17	4.2	4.3	-0.1
3/18	-0.3	-1.4	1.1
6/18	-0.9	-1.0	0.1
9/18	-1.3	1.4	-2.7
12/18	-12.3	-12.5	0.2
3/19	13.0	10.1	2.9
6/19	3.7	4.0	-0.3
9/19	-0.6	-1.0	0.4
12/19	11.0	8.2	2.8
3/20	-23.4	-22.7	-0.7
6/20	20.4	15.1	5.3
9/20	8.1	4.9	3.2

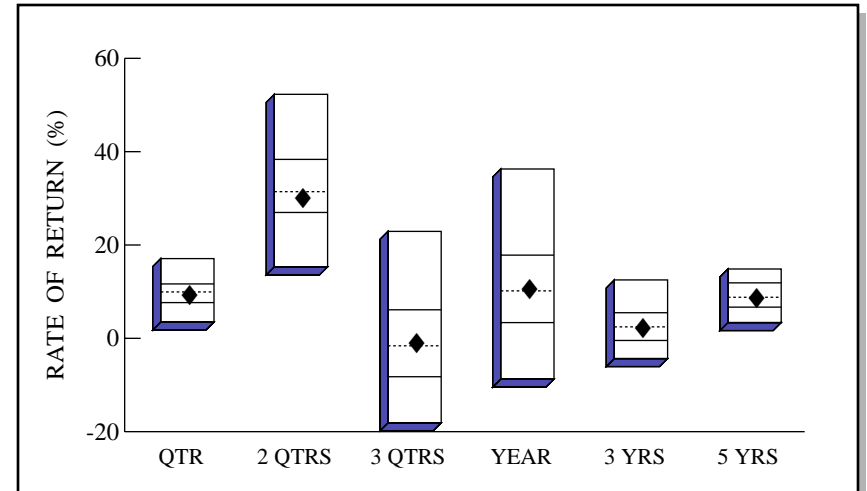
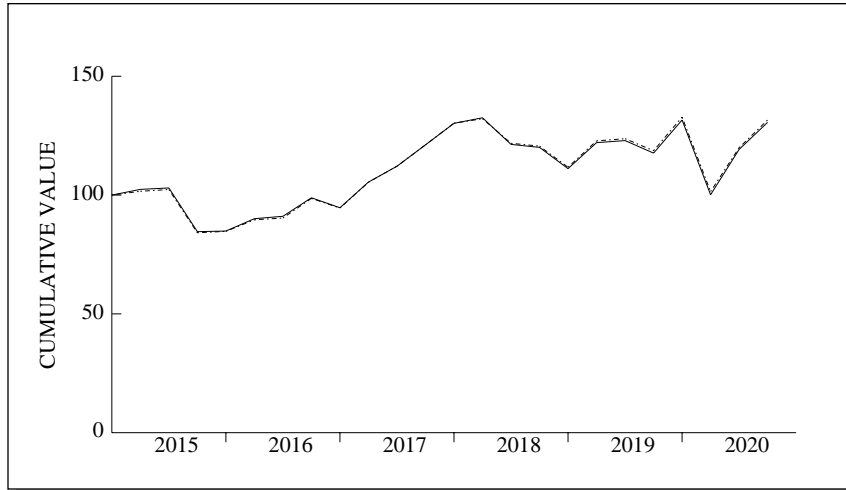
Total Quarters Observed	40
Quarters At or Above the Benchmark	28
Quarters Below the Benchmark	12
Batting Average	.700

EMERGING MARKETS EQUITY MANAGER SUMMARY

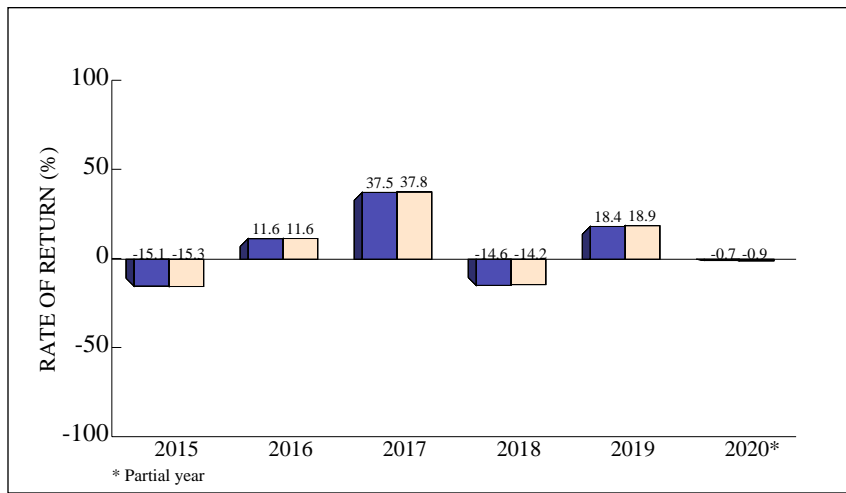


MANAGER	(UNIVERSE)	COMPONENT RETURNS AND RANKINGS					MARKET VALUE
		QTR	YTD	1 YEAR	3 YEARS	5 YEARS	
SSGA EMERGING MARKETS	(Emerging Markets)	9.6 (56)	-0.7 (46)	11.0 (46)	2.5 (49)	9.1 (44)	\$274,578,761
<i>Blended Emerging Markets Index</i>		<i>9.7 ----</i>	<i>-0.9 ----</i>	<i>10.9 ----</i>	<i>2.8 ----</i>	<i>9.4 ----</i>	<i>----</i>
TOTAL	(Emerging Markets)	9.6 (56)	-0.7 (46)	11.0 (46)	2.5 (49)	9.1 (44)	\$274,578,761
<i>Blended Emerging Markets Index</i>		<i>9.7 ----</i>	<i>-0.9 ----</i>	<i>10.9 ----</i>	<i>2.8 ----</i>	<i>9.4 ----</i>	<i>----</i>

EMERGING MARKETS EQUITY RETURN COMPARISONS



Emerging Markets Universe

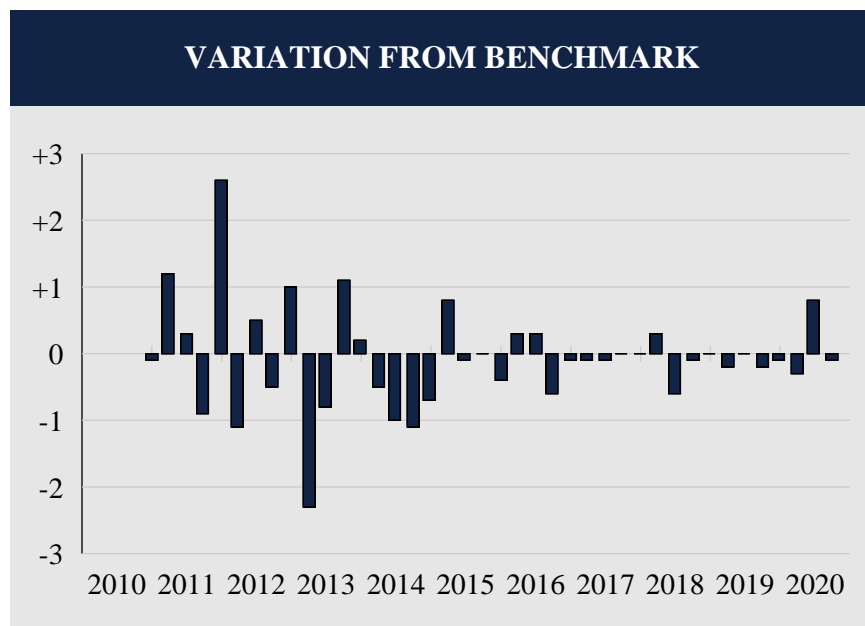


	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	9.6	30.4	-0.7	11.0	2.6	9.1
(RANK)	(56)	(56)	(46)	(46)	(49)	(44)
5TH %ILE	17.1	52.3	22.9	36.3	12.5	14.9
25TH %ILE	11.7	38.4	6.1	17.8	5.5	11.9
MEDIAN	9.9	31.4	-1.6	10.2	2.4	8.8
75TH %ILE	7.7	27.0	-8.2	3.4	-0.4	6.7
95TH %ILE	3.5	15.3	-18.1	-8.7	-4.4	3.4
EM Index	9.7	29.6	-0.9	10.9	2.8	9.4

Emerging Markets Universe

EMERGING MARKETS EQUITY QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

COMPARATIVE BENCHMARK: BLENDED EMERGING MARKETS INDEX

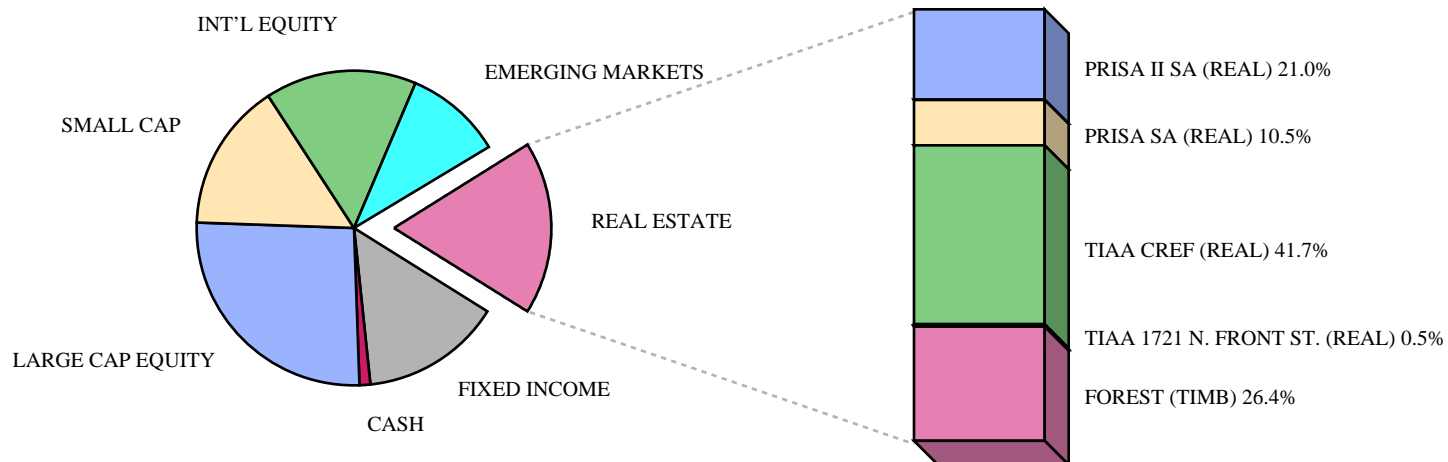


Total Quarters Observed	40
Quarters At or Above the Benchmark	17
Quarters Below the Benchmark	23
Batting Average	.425

RATES OF RETURN

Date	Portfolio	Benchmark	Difference
12/10	7.2	7.3	-0.1
3/11	1.9	0.7	1.2
6/11	-1.2	-1.5	0.3
9/11	-23.4	-22.5	-0.9
12/11	5.7	3.1	2.6
3/12	13.8	14.9	-1.1
6/12	-8.4	-8.9	0.5
9/12	7.0	7.5	-0.5
12/12	6.6	5.6	1.0
3/13	-2.6	-0.3	-2.3
6/13	-8.1	-7.3	-0.8
9/13	5.8	4.7	1.1
12/13	2.2	2.0	0.2
3/14	-0.7	-0.2	-0.5
6/14	6.6	7.6	-1.0
9/14	-3.6	-2.5	-1.1
12/14	-4.7	-4.0	-0.7
3/15	2.4	1.6	0.8
6/15	0.6	0.7	-0.1
9/15	-17.8	-17.8	0.0
12/15	0.3	0.7	-0.4
3/16	6.1	5.8	0.3
6/16	1.1	0.8	0.3
9/16	8.6	9.2	-0.6
12/16	-4.2	-4.1	-0.1
3/17	11.4	11.5	-0.1
6/17	6.3	6.4	-0.1
9/17	8.0	8.0	0.0
12/17	7.5	7.5	0.0
3/18	1.8	1.5	0.3
6/18	-8.5	-7.9	-0.6
9/18	-1.0	-0.9	-0.1
12/18	-7.4	-7.4	0.0
3/19	9.8	10.0	-0.2
6/19	0.7	0.7	0.0
9/19	-4.3	-4.1	-0.2
12/19	11.8	11.9	-0.1
3/20	-23.9	-23.6	-0.3
6/20	19.0	18.2	0.8
9/20	9.6	9.7	-0.1

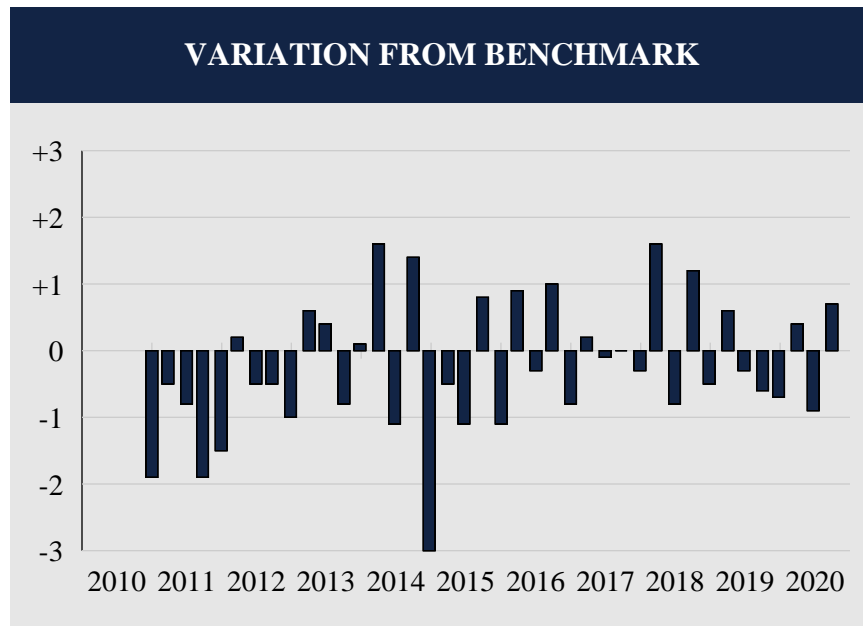
REAL ESTATE MANAGER SUMMARY



MANAGER	(UNIVERSE)	COMPONENT RETURNS AND RANKINGS					MARKET VALUE
		QTR	YTD	1 YEAR	3 YEARS	5 YEARS	
PRISA II SA		0.4 ---	-0.7 ---	1.4 ---	6.2 ---	7.9 ---	\$103,711,028
PRISA SA		0.5 ---	1.1 ---	2.4 ---	6.0 ---	7.1 ---	\$51,854,386
TIAA CREF		2.9 ---	1.9 ---	3.5 ---	7.0 ---	7.6 ---	\$206,119,761
<i>NCREIF NFI-ODCE Index</i>		<i>0.5 ---</i>	<i>-0.1 ---</i>	<i>1.4 ---</i>	<i>5.2 ---</i>	<i>6.6 ---</i>	---
TIAA 1721 N. FRONT ST.		1.3 ---	3.7 ---	5.9 ---	2.2 ---	---	\$2,329,743
<i>NCREIF Property Index</i>		<i>0.7 ---</i>	<i>0.5 ---</i>	<i>2.0 ---</i>	<i>5.1 ---</i>	<i>6.3 ---</i>	---
FOREST		0.3 ---	-0.6 ---	-2.0 ---	1.7 ---	3.3 ---	\$130,868,837
<i>NCREIF Timber Index</i>		<i>0.0 ---</i>	<i>0.2 ---</i>	<i>0.2 ---</i>	<i>2.1 ---</i>	<i>2.6 ---</i>	---
TOTAL		1.4 ---	0.6 ---	1.4 ---	5.2 ---	6.3 ---	\$494,883,755
<i>NCREIF Property Index</i>		<i>0.7 ---</i>	<i>0.5 ---</i>	<i>2.0 ---</i>	<i>5.1 ---</i>	<i>6.3 ---</i>	---

REAL ESTATE QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

COMPARATIVE BENCHMARK: NCREIF PROPERTY INDEX



RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	2.7	4.6	-1.9
3/11	2.9	3.4	-0.5
6/11	3.1	3.9	-0.8
9/11	1.4	3.3	-1.9
12/11	1.5	3.0	-1.5
3/12	2.8	2.6	0.2
6/12	2.2	2.7	-0.5
9/12	1.8	2.3	-0.5
12/12	1.5	2.5	-1.0
3/13	3.2	2.6	0.6
6/13	3.3	2.9	0.4
9/13	1.8	2.6	-0.8
12/13	2.6	2.5	0.1
3/14	4.3	2.7	1.6
6/14	1.8	2.9	-1.1
9/14	4.0	2.6	1.4
12/14	0.0	3.0	-3.0
3/15	3.1	3.6	-0.5
6/15	2.0	3.1	-1.1
9/15	3.9	3.1	0.8
12/15	1.8	2.9	-1.1
3/16	3.1	2.2	0.9
6/16	1.7	2.0	-0.3
9/16	2.8	1.8	1.0
12/16	0.9	1.7	-0.8
3/17	1.7	1.5	0.2
6/17	1.7	1.8	-0.1
9/17	1.7	1.7	0.0
12/17	1.5	1.8	-0.3
3/18	3.3	1.7	1.6
6/18	1.0	1.8	-0.8
9/18	2.9	1.7	1.2
12/18	0.9	1.4	-0.5
3/19	2.4	1.8	0.6
6/19	1.2	1.5	-0.3
9/19	0.8	1.4	-0.6
12/19	0.8	1.5	-0.7
3/20	1.1	0.7	0.4
6/20	-1.9	-1.0	-0.9
9/20	1.4	0.7	0.7

Total Quarters Observed	40
Quarters At or Above the Benchmark	16
Quarters Below the Benchmark	24
Batting Average	.400

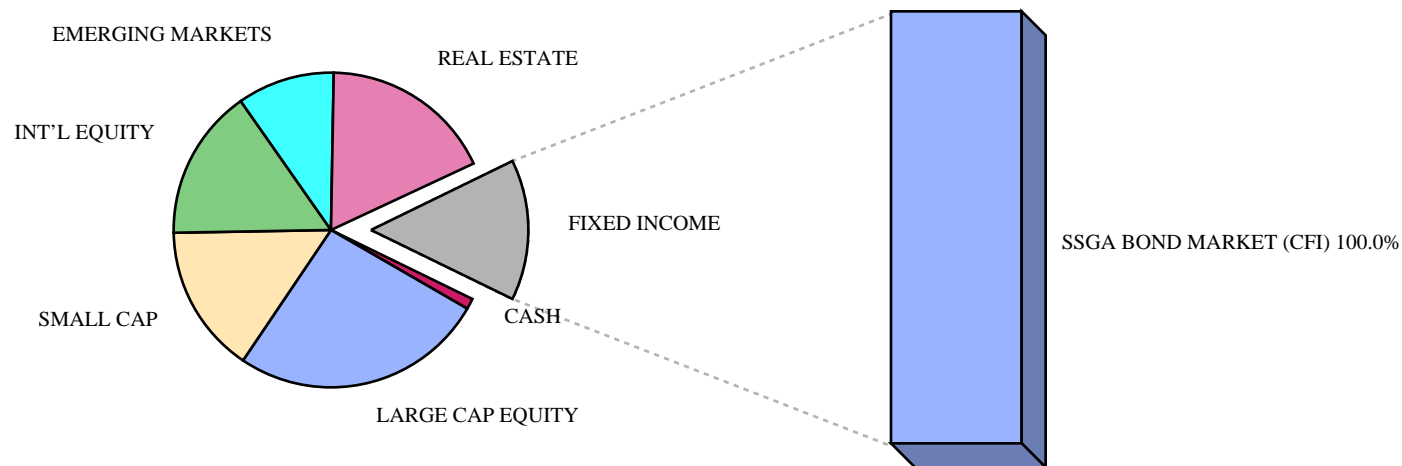
FIXED INCOME MANAGER

The Bloomberg Barclays US Aggregate Index returned 0.6% last quarter, while the Bloomberg Barclays Gov/Credit index was up 0.8%. For the trailing year they returned 6.8% and 8.0%, respectively.

**SSgA
(Broad Market)**

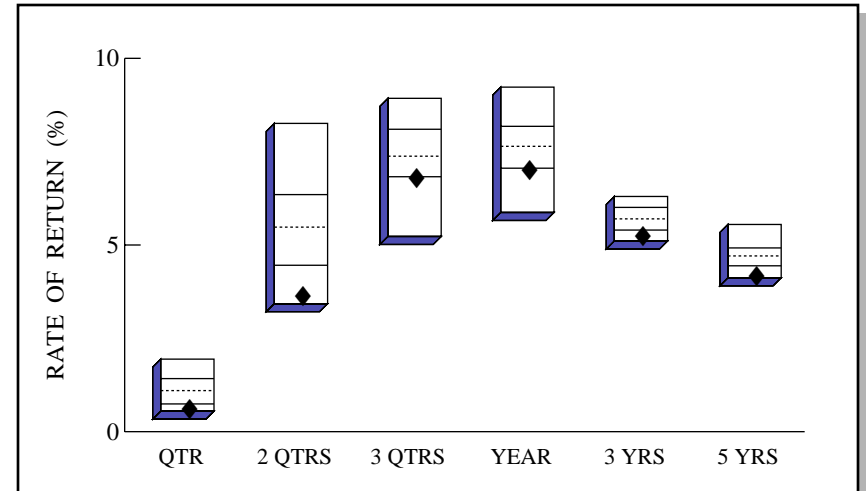
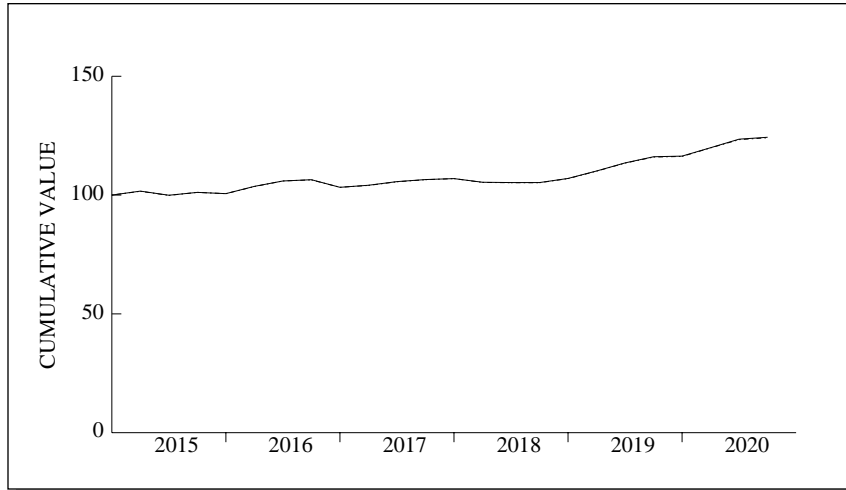
The SSgA fixed income component returned 0.7% last quarter. Over the trailing year, the fund rose 7.1%. At year end, this investment was valued at \$397,218,043.

FIXED INCOME MANAGER SUMMARY

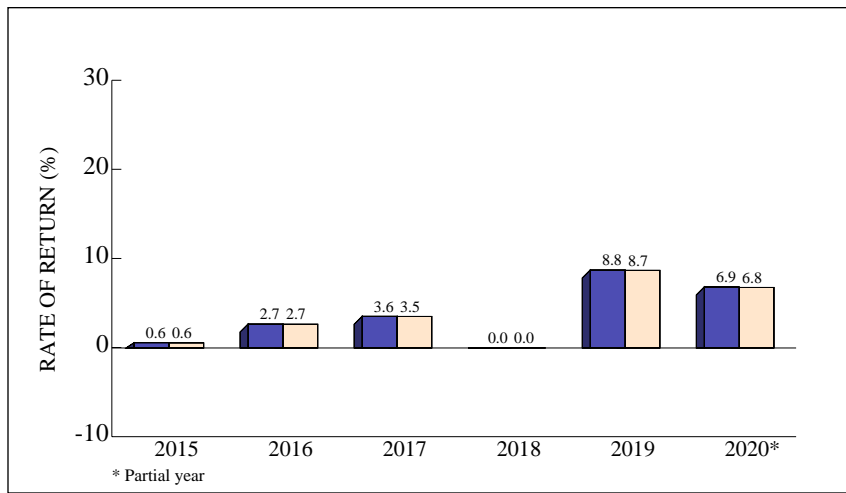
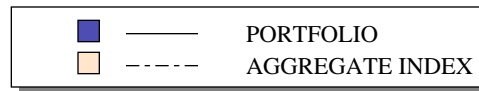


MANAGER	(UNIVERSE)	COMPONENT RETURNS AND RANKINGS					MARKET VALUE
		QTR	YTD	1 YEAR	3 YEARS	5 YEARS	
SSGA BOND MARKET	(Core Fixed Income)	0.7 (82)	6.9 (73)	7.0 (77)	5.3 (88)	4.2 (88)	\$397,218,043
<i>Bloomberg Barclays Aggregate Index</i>		0.6 ---	6.8 ---	7.0 ---	5.2 ---	4.2 ---	---
TOTAL	(Core Fixed Income)	0.7 (82)	6.9 (73)	7.0 (77)	5.3 (88)	4.2 (88)	\$397,218,043
<i>Bloomberg Barclays Aggregate Index</i>		0.6 ---	6.8 ---	7.0 ---	5.2 ---	4.2 ---	---

FIXED INCOME RETURN COMPARISONS



Core Fixed Income Universe



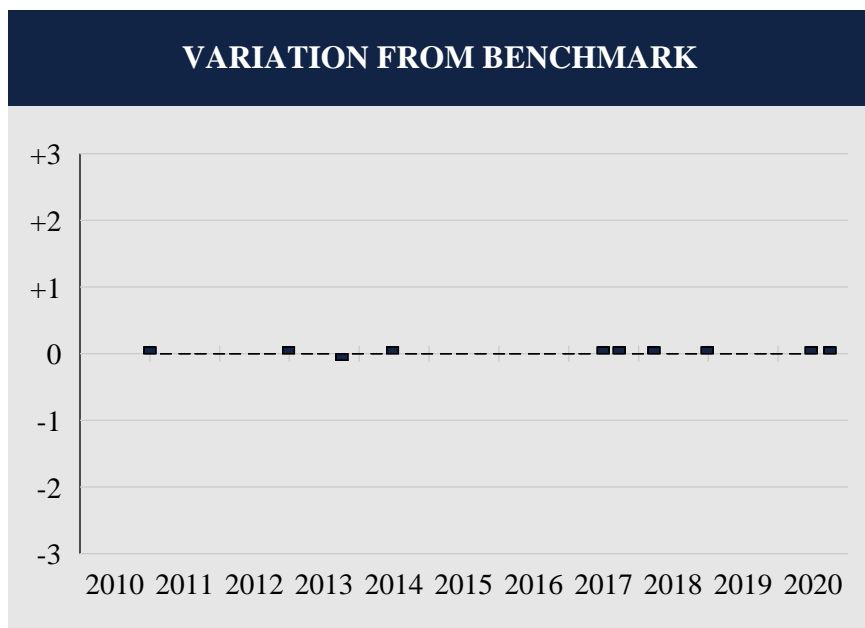
* Partial year

	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	0.7	3.7	6.9	7.0	5.3	4.2
(RANK)	(82)	(85)	(73)	(77)	(88)	(88)
5TH %ILE	1.9	8.3	8.9	9.2	6.3	5.6
25TH %ILE	1.4	6.4	8.1	8.2	6.0	4.9
MEDIAN	1.1	5.5	7.4	7.6	5.7	4.7
75TH %ILE	0.7	4.5	6.8	7.1	5.4	4.4
95TH %ILE	0.6	3.4	5.2	5.9	5.1	4.1
Agg	0.6	3.5	6.8	7.0	5.2	4.2

Core Fixed Income Universe

FIXED INCOME QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

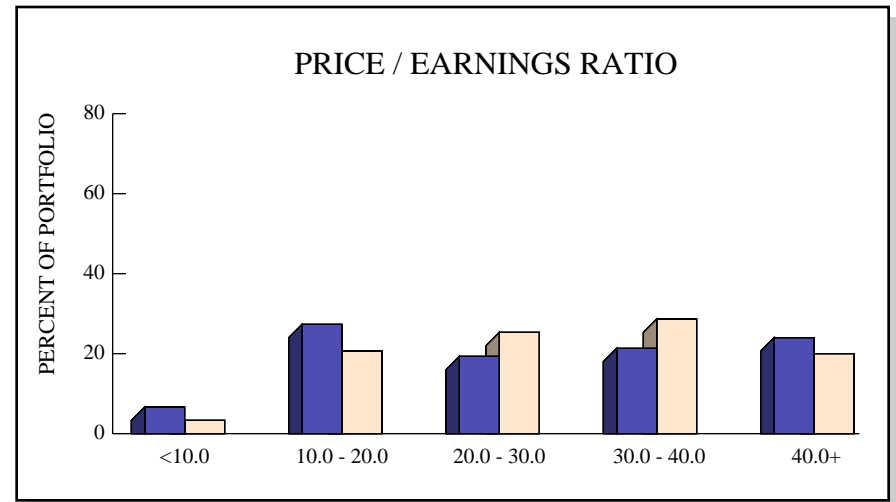
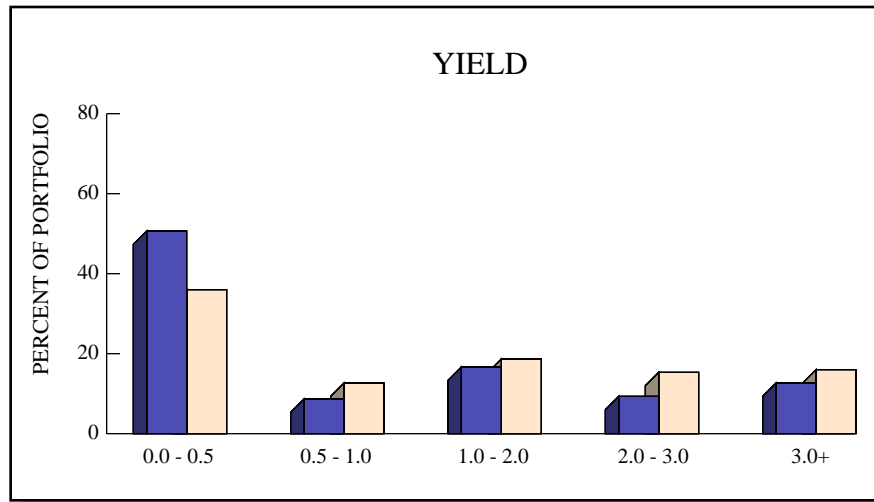
COMPARATIVE BENCHMARK: BLOOMBERG BARCLAYS AGGREGATE INDEX



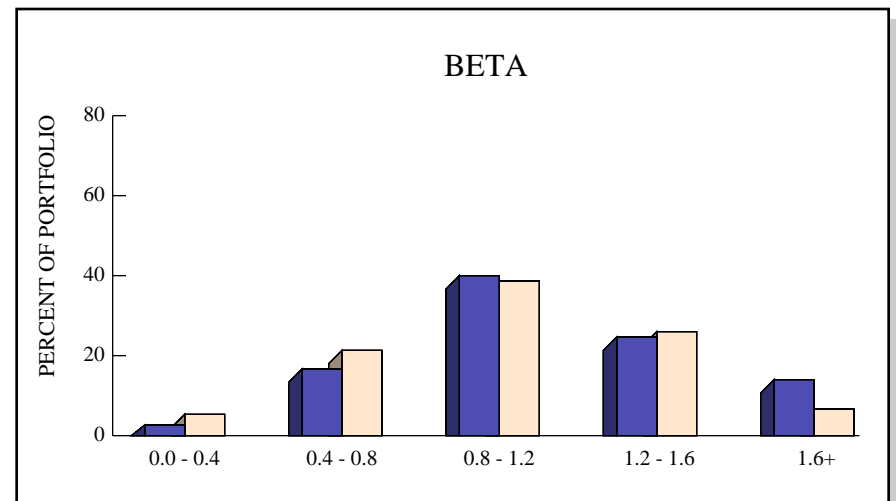
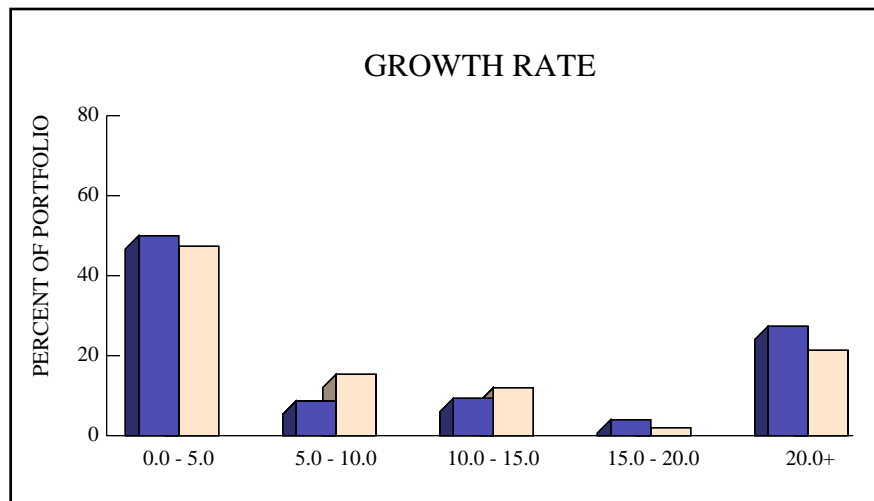
RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	-1.2	-1.3	0.1
3/11	0.4	0.4	0.0
6/11	2.3	2.3	0.0
9/11	3.8	3.8	0.0
12/11	1.1	1.1	0.0
3/12	0.3	0.3	0.0
6/12	2.1	2.1	0.0
9/12	1.6	1.6	0.0
12/12	0.3	0.2	0.1
3/13	-0.1	-0.1	0.0
6/13	-2.3	-2.3	0.0
9/13	0.5	0.6	-0.1
12/13	-0.1	-0.1	0.0
3/14	1.8	1.8	0.0
6/14	2.1	2.0	0.1
9/14	0.2	0.2	0.0
12/14	1.8	1.8	0.0
3/15	1.6	1.6	0.0
6/15	-1.7	-1.7	0.0
9/15	1.2	1.2	0.0
12/15	-0.6	-0.6	0.0
3/16	3.0	3.0	0.0
6/16	2.2	2.2	0.0
9/16	0.5	0.5	0.0
12/16	-3.0	-3.0	0.0
3/17	0.8	0.8	0.0
6/17	1.5	1.4	0.1
9/17	0.9	0.8	0.1
12/17	0.4	0.4	0.0
3/18	-1.4	-1.5	0.1
6/18	-0.2	-0.2	0.0
9/18	0.0	0.0	0.0
12/18	1.7	1.6	0.1
3/19	2.9	2.9	0.0
6/19	3.1	3.1	0.0
9/19	2.3	2.3	0.0
12/19	0.2	0.2	0.0
3/20	3.1	3.1	0.0
6/20	3.0	2.9	0.1
9/20	0.7	0.6	0.1

Total Quarters Observed	40
Quarters At or Above the Benchmark	39
Quarters Below the Benchmark	1
Batting Average	.975

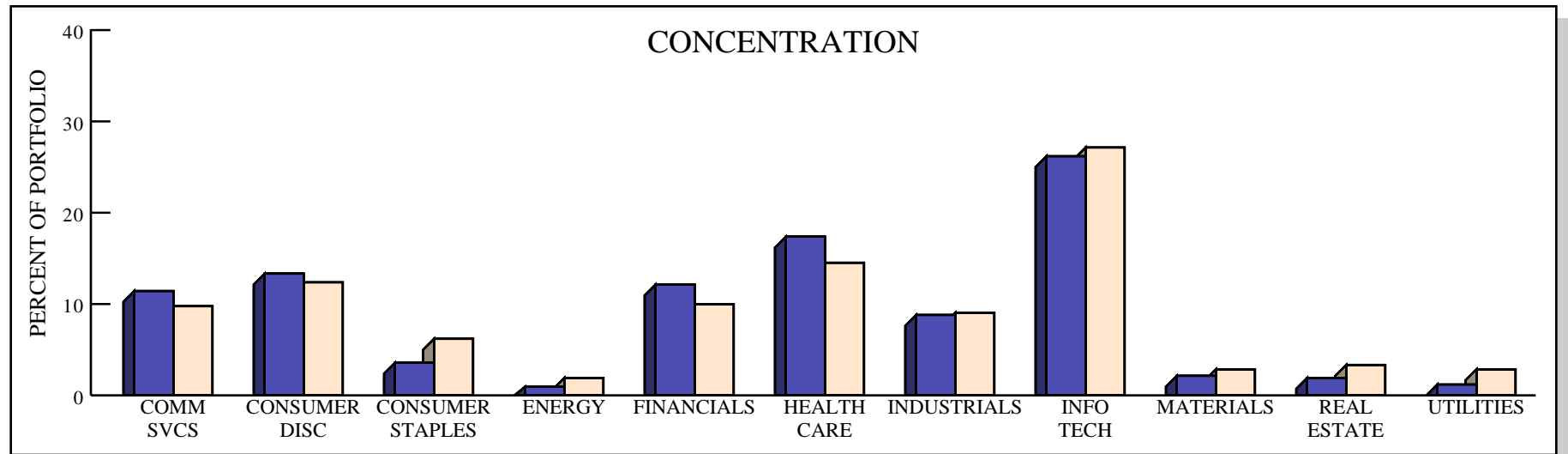
STOCK CHARACTERISTICS



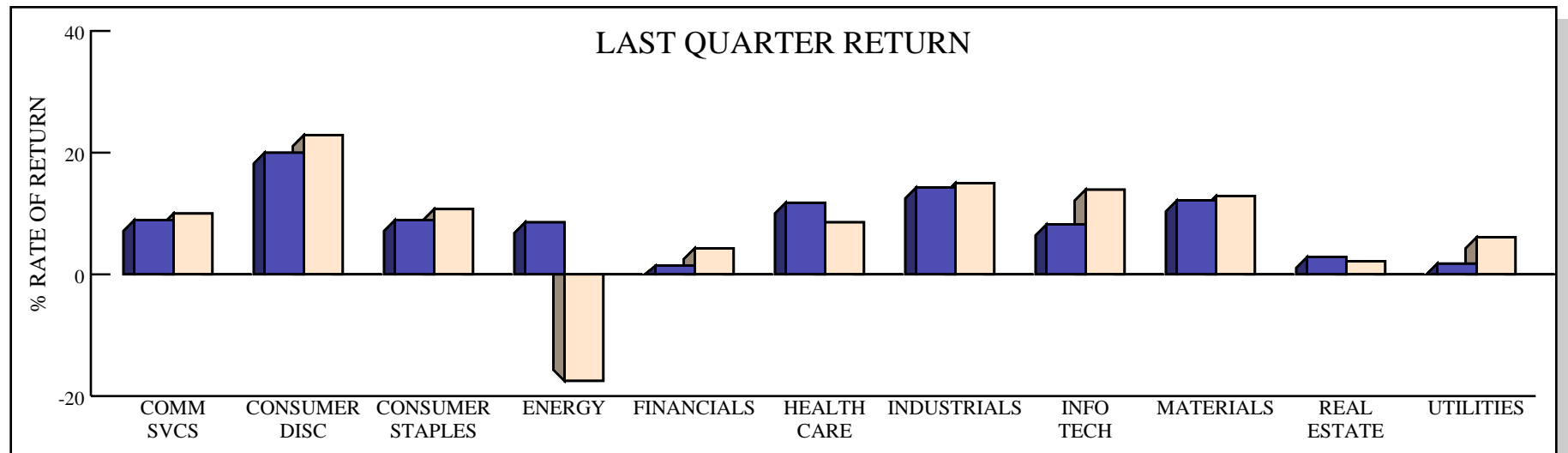
	# HOLDINGS	YIELD	GROWTH	P/E	BETA
PORTFOLIO	2,644	1.2%	6.6%	32.3	1.13
RUSSELL 3000	3,036	1.5%	6.0%	33.3	1.03



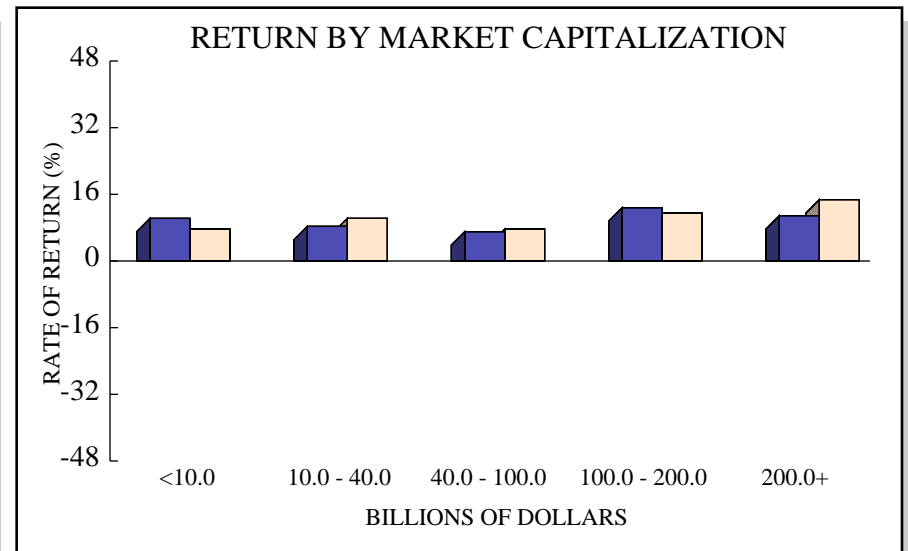
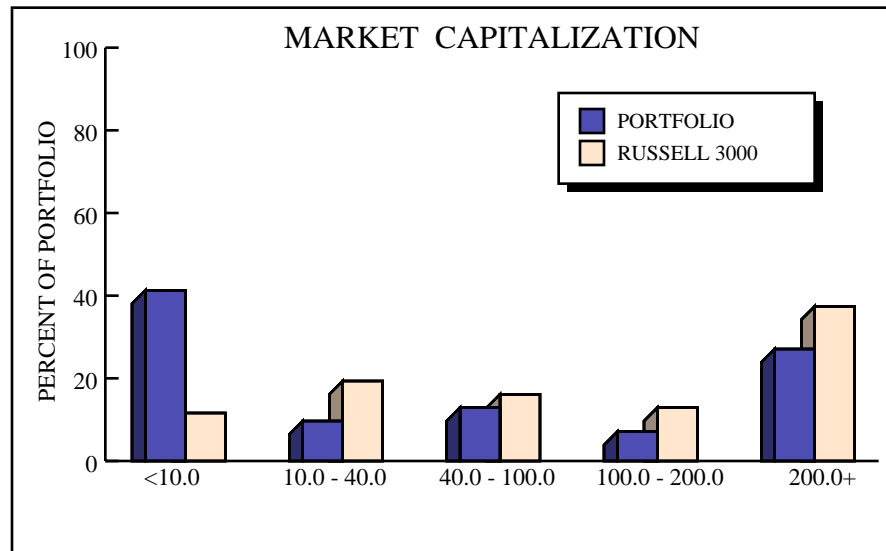
STOCK INDUSTRY ANALYSIS



■ PORTFOLIO ■ RUSSELL 3000



TOP TEN HOLDINGS



TOP TEN EQUITY HOLDINGS

RANK	NAME	VALUE	% EQUITY	RETURN	INDUSTRY SECTOR	MKT CAP
1	MICROSOFT CORP	\$ 47,768,888	4.19%	3.6%	Information Technology	\$ 1591.7 B
2	FACEBOOK INC	32,204,009	2.82%	15.3%	Communication Services	746.1 B
3	ALPHABET INC	31,816,839	2.79%	4.0%	Communication Services	490.3 B
4	AMAZON.COM INC	22,390,619	1.96%	14.1%	Consumer Discretionary	1577.2 B
5	ADOBE INC	21,519,087	1.89%	12.7%	Information Technology	235.3 B
6	ABBOTT LABORATORIES	16,428,433	1.44%	19.5%	Health Care	192.7 B
7	MASTERCARD INC	16,317,718	1.43%	14.5%	Information Technology	338.5 B
8	UNITEDHEALTH GROUP INC	16,085,149	1.41%	6.1%	Health Care	296.3 B
9	COMCAST CORP	14,946,097	1.31%	18.7%	Communication Services	211.3 B
10	SALESFORCE.COM INC	13,981,686	1.23%	34.2%	Information Technology	228.7 B

Domestic Industry Sector Allocations
(Percent of Invested Equity)
As of September 30, 2020

	Comm Services	Consumer Discretionary	Consumer Staples	Energy	Financials	Health Care	Industrials	Information Technology	Materials	Real Estate	Utilities
Eagle	33.9	16.0	0.0	0.0	28.2	6.1	5.1	9.5	1.3	0.0	0.0
LSV Large Cap	7.7	12.0	6.3	2.1	14.1	19.6	9.1	22.4	4.7	0.7	1.4
Russell 1000 Value	9.6	7.6	8.4	4.0	18.1	14.3	13.1	9.7	4.8	4.6	6.0
Polen	17.3	8.8	0.0	0.0	1.9	21.5	0.0	50.5	0.0	0.0	0.0
William Blair	10.5	17.3	4.8	0.0	1.8	13.7	6.6	43.7	1.6	0.0	0.0
Russell 1000 Growth	10.9	16.5	4.8	0.1	2.0	14.0	4.6	44.5	0.8	1.8	0.0
AMI	0.0	9.9	14.5	0.0	9.6	24.3	13.7	26.0	2.0	0.0	0.0
Copeland	3.3	11.0	7.8	0.0	14.4	12.5	17.1	16.0	2.2	9.8	5.8
Emerald	2.7	22.8	6.2	1.3	7.2	23.7	14.7	19.1	0.7	1.6	0.0
Russell 2000 Growth	2.3	13.7	3.2	0.1	4.2	34.4	13.8	20.1	2.6	3.8	1.7
LSV Small Cap	1.8	13.6	1.6	1.4	18.3	14.7	20.9	14.6	7.5	4.1	1.5
Smith, Graham & Co	0.0	18.3	2.8	1.3	19.2	19.1	13.6	21.0	2.6	1.0	1.1
Russell 2000 Value	2.4	13.3	3.7	3.9	26.6	6.9	16.8	6.0	5.6	9.9	5.0
S&P 500	10.8	11.6	7.0	2.1	9.7	14.2	8.3	28.2	2.6	2.6	3.0

Allocations may not total to 100% due to rounding.

International Industry Sector Allocations
(Percent of Invested Equity)
As of September 30, 2020

	Comm Services	Consumer Discretionary	Consumer Staples	Energy	Financials	Health Care	Industrials	Information Technology	Materials	Real Estate	Utilities
HGK	5.0	19.6	11.5	1.8	7.3	0.0	31.9	12.8	3.5	3.8	2.8
Hardman Johnston	4.9	19.7	2.0	0.0	6.2	19.0	20.6	27.6	0.0	0.0	0.0
S&P Developed Ex US BMI	5.6	11.3	9.9	3.2	14.9	12.2	15.8	11.0	8.4	4.1	3.6

Allocations may not total to 100% due to rounding. Sector weights for international equity portfolios are provided by each respective manager and may differ slightly from custodian accounting.

APPENDIX - MAJOR MARKET INDEX RETURNS

Economic Data	Style	QTR	YTD	1 Year	3 years	5 Years
Consumer Price Index	Economic Data	1.0	1.3	1.4	1.8	1.8
Domestic Equity	Style	QTR	YTD	1 Year	3 years	5 Years
Russell 3000	Broad Equity	9.2	5.4	15.0	11.6	13.7
S&P 500	Large Cap Core	8.9	5.6	15.1	12.3	14.1
Russell 1000	Large Cap	9.5	6.4	16.0	12.4	14.1
Russell 1000 Growth	Large Cap Growth	13.2	24.3	37.5	21.7	20.1
Russell 1000 Value	Large Cap Value	5.6	-11.6	-5.0	2.6	7.6
Russell Mid Cap	Midcap	7.5	-2.3	4.5	7.1	10.1
Russell Mid Cap Growth	Midcap Growth	9.4	13.9	23.2	16.2	15.5
Russell Mid Cap Value	Midcap Value	6.4	-12.8	-7.3	0.8	6.4
Russell 2000	Small Cap	4.9	-8.7	0.4	1.7	8.0
Russell 2000 Growth	Small Cap Growth	7.2	3.9	15.7	8.1	11.4
Russell 2000 Value	Small Cap Value	2.6	-21.6	-14.9	-5.1	4.1
International Equity	Style	QTR	YTD	1 Year	3 years	5 Years
MSCI All Country World Ex US	Foreign Equity	6.4	-5.1	3.4	1.6	6.7
MSCI EAFE	Developed Markets Equity	4.9	-6.7	0.9	1.1	5.8
MSCI EAFE Growth	Developed Markets Growth	8.5	4.9	13.8	7.5	9.6
MSCI EAFE Value	Developed Markets Value	1.3	-17.9	-11.4	-5.3	1.7
MSCI Emerging Markets	Emerging Markets Equity	9.7	-0.9	10.9	2.8	9.4
Domestic Fixed Income	Style	QTR	YTD	1 Year	3 years	5 Years
Bloomberg Barclays Aggregate Index	Core Fixed Income	0.6	6.8	7.0	5.2	4.2
Bloomberg Barclays Capital Gov't Bond	Treasuries	0.2	8.8	8.0	5.5	3.7
Bloomberg Barclays Capital Credit Bond	Corporate Bonds	1.5	6.4	7.5	6.2	5.7
Intermediate Aggregate	Core Intermediate	0.5	5.2	5.7	4.2	3.3
ML/BoA 1-3 Year Treasury	Short Term Treasuries	0.1	3.1	3.6	2.6	1.8
Bloomberg Barclays Capital High Yield	High Yield Bonds	4.6	0.6	3.3	4.2	6.8
Alternative Assets	Style	QTR	YTD	1 Year	3 years	5 Years
Bloomberg Barclays Global Treasury Ex US	International Treasuries	3.8	4.7	4.5	3.5	3.8
NCREIF NFI-ODCE Index	Real Estate	0.5	-0.1	1.4	5.2	6.6
HFRI FOF Composite	Hedge Funds	4.1	2.5	5.6	2.8	3.1

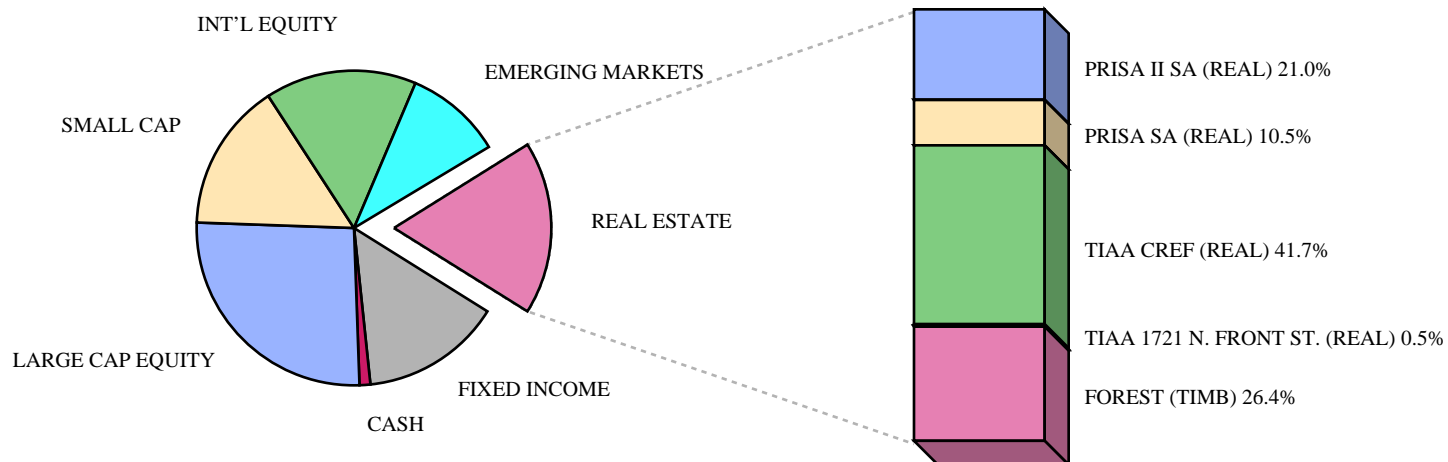
APPENDIX - DISCLOSURES

- * The shadow index is a customized index that matches your portfolio's asset allocation on a monthly basis. This index was calculated using the following asset classes and corresponding benchmarks:

Large Cap Equity	S&P 500
Small Cap Equity	Russell 2000
International Equity	Blended International Index
Emerging Markets Equity	Blended Emerging Markets Index
Real Estate	NCREIF Property Index
Fixed Income	Bloomberg Barclays Aggregate Index
Cash & Equivalent	90 Day T Bill
- * The Blended International Index utilizes the returns of the S&P Developed BMI through April 30, 2015 and the MSCI EAFE Index thereafter.
- * The Blended Emerging Markets Index utilizes the returns of the S&P Emerging BMI through April 30, 2015 and the MSCI Emerging Markets Index thereafter.
- * Dahab Associates utilizes data provided by a custodian and other vendors it believes are reliable. However, it cannot assume responsibility for errors and omissions therefrom.
- * All returns were calculated on a time-weighted basis, and are gross of fees unless otherwise noted.
- * All returns for periods greater than one year are annualized.
- * Dahab Associates uses the modified duration measure to present average duration.
- * All values are in US dollars.

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
REAL ESTATE
PERFORMANCE REVIEW
SEPTEMBER 2020

REAL ESTATE MANAGER SUMMARY

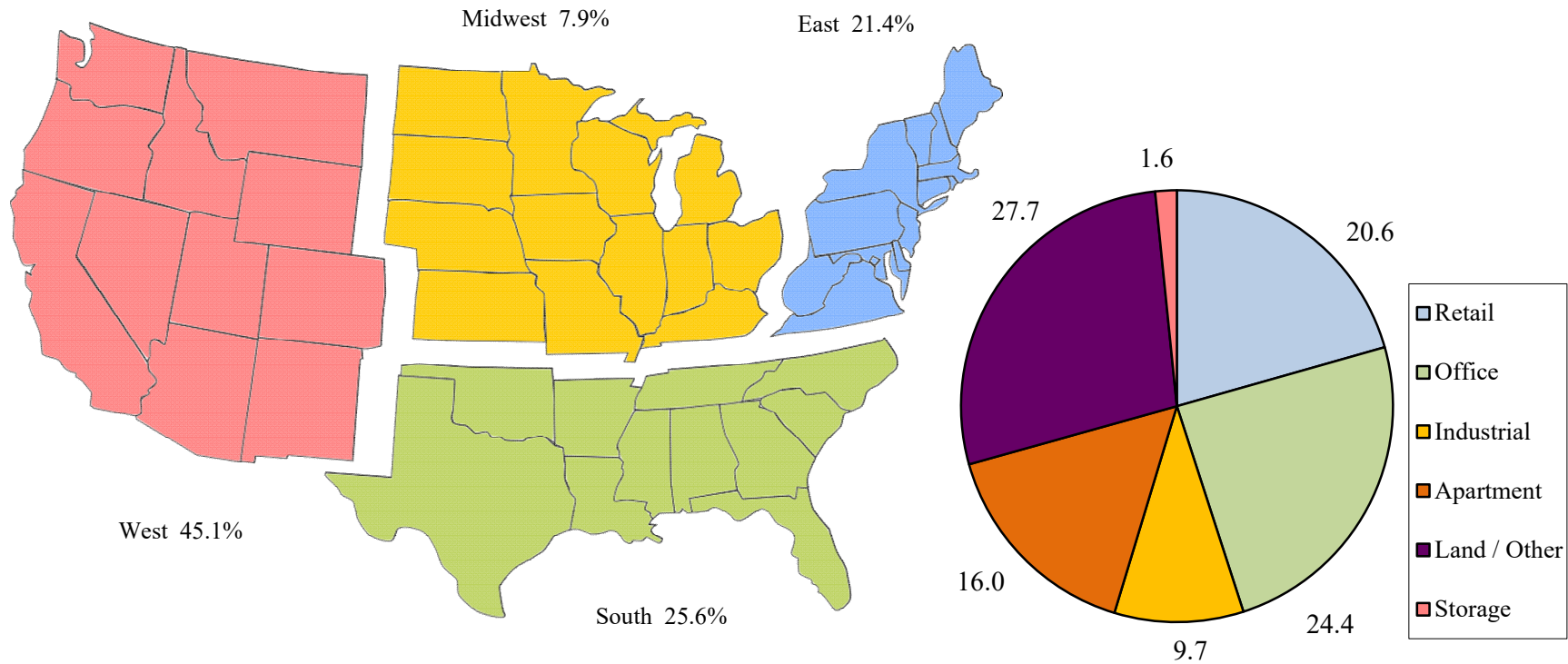


MANAGER	(UNIVERSE)	COMPONENT RETURNS AND RANKINGS					MARKET VALUE
		QTR	YTD	1 YEAR	3 YEARS	5 YEARS	
PRISA II SA		0.4 ---	-0.7 ---	1.4 ---	6.2 ---	7.9 ---	\$103,711,028
PRISA SA		0.5 ---	1.1 ---	2.4 ---	6.0 ---	7.1 ---	\$51,854,386
TIAA CREF		2.9 ---	1.9 ---	3.5 ---	7.0 ---	7.6 ---	\$206,119,761
<i>NCREIF NFI-ODCE Index</i>		<i>0.5 ---</i>	<i>-0.1 ---</i>	<i>1.4 ---</i>	<i>5.2 ---</i>	<i>6.6 ---</i>	---
TIAA 1721 N. FRONT ST.		1.3 ---	3.7 ---	5.9 ---	2.2 ---	---	\$2,329,743
<i>NCREIF Property Index</i>		<i>0.7 ---</i>	<i>0.5 ---</i>	<i>2.0 ---</i>	<i>5.1 ---</i>	<i>6.3 ---</i>	---
FOREST		0.3 ---	-0.6 ---	-2.0 ---	1.7 ---	3.3 ---	\$130,868,837
<i>NCREIF Timber Index</i>		<i>0.0 ---</i>	<i>0.2 ---</i>	<i>0.2 ---</i>	<i>2.1 ---</i>	<i>2.6 ---</i>	---
TOTAL		1.4 ---	0.6 ---	1.4 ---	5.2 ---	6.3 ---	\$494,883,755
<i>NCREIF Property Index</i>		<i>0.7 ---</i>	<i>0.5 ---</i>	<i>2.0 ---</i>	<i>5.1 ---</i>	<i>6.3 ---</i>	---

PMRS Real Estate Commitment

As of September 30th, the Pennsylvania Municipal Retirement System's aggregate real estate portfolio was valued at \$494,883,755, representing 17.9% of the total System's assets. TIAA distributed \$1,511,839 in July and FIA distributed 1,600,000 in September. For reference, the NCREIF Property Index returned 0.7 in the third quarter. Over the trailing year, that index returned 2.0%, and an annualized 6.3% for the last five years. Over the same time frames, the Bloomberg Barclays Aggregate Index returned 0.6%, 7.0%, and an annualized 4.2%, respectively.

Property Type/Geographical Distribution



PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM REAL ESTATE MANAGERS

PRISA SA

PRISA is an open-end, commingled, broadly diversified, core real estate equity fund invested in completed, income producing and well-leased properties.

Investment Return

On September 30th, 2020, the Pennsylvania Municipal Retirement System's Prudential PRISA SA portfolio was valued at \$51,854,386, representing an increase of \$132,649 from the June quarter's ending value of \$51,721,737. Last quarter, the Fund posted withdrawals totaling \$124,548, which offset the portfolio's net investment return of \$257,197. Since there were no income receipts for the third quarter, the portfolio's net investment return figure was the product of net realized and unrealized capital gains totaling \$257,197.

Property Type/Geographical Distribution

The office sector made up 33.6% of the PRISA SA portfolio. Industrial and retail properties made up 21.4% and 13.0% respectively. Apartments comprised 24.6% of the portfolio's value, storage was 6.0%, and the remaining 1.4% was in other sectors or vacant land.

Geographically, PRISA's portfolio was mostly situated in the East and West, whose percentages were 37.8% and 36.5%. Another 18.5% of the portfolio was situated in the South, while the remaining 7.2% resided in the Midwest.

Account Performance

During the third quarter, the Prudential PRISA SA account returned 0.5%, which was equal to the NCREIF NFI-ODCE Index's return of 0.5%. Over the trailing year, the portfolio returned 2.4%, which was 1.0% above the benchmark's 1.4% return. Since December 1990, the Prudential PRISA SA portfolio returned 7.7% per annum, while the NCREIF NFI-ODCE Index returned an annualized 7.3% over the same time frame.

PRISA II

Investment Return

As of September 30th, 2020, the Pennsylvania Municipal Retirement System's Prudential PRISA II SA portfolio was valued at \$103,711,028, which represented an increase of \$158,296 from the June quarter's ending value of \$103,552,732. Last quarter, the portfolio recorded a net withdrawal of \$286,562, which offset the fund's net investment return of \$444,858. In the absence of income receipts for the quarter, the portfolio's net investment return was the product of \$444,858 in realized and unrealized capital gains.

Property Type/Geographical Distribution

Apartments made up the largest sector of the PRISA II portfolio last quarter, at 34.5%, with office coming in at a close second with 34.1%. Retail represented 17.1%, while storage made up 4.7%. Investment in land was 5.4%, and industrial properties represented 4.2%.

Geographically, 33.5% of this portfolio was situated in the West, 40.0% resided in the East, while 24.3% was in the South. The remaining 2.2% was located in the Midwest.

Account Performance

In the third quarter, the Prudential PRISA II SA account gained 0.4%, which was 0.1% less than the NCREIF NFI-ODCE Index's return of 0.5%. Over the trailing twelve-month period, the account returned 1.4%, which was equal to the benchmark's 1.4% performance. Since June 2007, the Prudential PRISA II SA portfolio returned 4.6% annualized, while the NCREIF NFI-ODCE Index returned an annualized 5.3% over the same time frame.

FOREST INVESTMENT ADVISORS

The Forest Investment Advisors account is a discretionary account invested in land holdings mostly in the South, with lesser representation in the East and West.

Investment Return

As of September 30th, 2020, the Pennsylvania Municipal Retirement System's Forest Investment Associates Keystone Forest Investments portfolio was valued at \$130,868,837, a decrease of \$1,149,645 relative to the June quarter's ending value of \$132,018,482. Last quarter, the Fund recorded withdrawals totaling \$1,600,000, which overshadowed the fund's net investment return of \$450,355. Since there were no income receipts during the quarter, the portfolio's net investment return was the product of \$450,355 in realized and unrealized capital gains.

Property Type/Geographical Distribution

The Forest fund held 47.2% of its assets in the South, 22.8% in the East, and 30.0% in the West. The Forest Investment Advisors account was solely invested in Timberland.

Forest held investments in Bear Island (Virginia), Fitz-Weller (New York), Carter-Pasture (Texas), Dupont (Georgia), Bennetts Creek (North Carolina), Black River (South Carolina), Coquille (Oregon), Bucktails (Pennsylvania), and North River (Washington).

Account Performance

During the third quarter, the Forest Investment Associates Keystone Forest Investments portfolio returned 0.3%, which was 0.3% above the NCREIF Timber Index's return of 0.0%. Over the trailing twelve-month period, the account returned -2.0%, which was 2.2% less than the benchmark's 0.2% return. Since March 1999, the Forest Investment Associates Keystone Forest Investments portfolio returned 4.6% annualized, while the NCREIF Timber Index returned an annualized 5.9% over the same period.

TIAA-CREF

TIAA CREF is a discretionary account with investments in office, retail, industrial, and multi-family properties. The account holds eight properties: The Shoppes at Monarch Lakes is a retail shopping center in Miramar, Florida, and Des Peres Corner, another retail shopping center, is located in Des Peres, Missouri. The SR Ranch Shopping Center and Copley Corporate Center are located in San Diego, California. Industrial properties include Republic Distribution Center in Pasadena, Texas and the 526 Rt. 46 property is located in Teterboro, New Jersey. Stream Uptown is an apartment building in Seattle, Washington. The portfolio's most recent acquisition, the Fairway Center, is located in Connecticut.

TIAA CREF is a non-leveraged investment, whereas portfolios in the NCREIF NFD-ODCE index do utilize leverage.

Investment Return

On September 30th, 2020, the Pennsylvania Municipal Retirement System's TIAA CREF portfolio was valued at \$206,119,761, representing an increase of \$3,841,052 from the June quarter's ending value of \$202,278,709. Last quarter, the Fund posted withdrawals totaling \$1,511,839, which offset the portfolio's net investment return of \$5,352,891. Income receipts totaling \$2,709,908 plus net realized and unrealized capital gains of \$2,642,983 combined to produce the portfolio's net investment return.

Property Type/Geographical Distribution

As of the quarter end, the TIAA CREF portfolio was situated mostly in the West, which comprised 63.1%. The Midwest represented 16.0%, while the South made up 14.6% and the remaining 6.2% was in the East.

Retail space was the largest sector, making up 37.5%. Offices comprised 31.9%, while 14.8% was in apartments and 15.7% was industrial.

Account Performance

For the third quarter, the TIAA CREF account gained 2.9%, which was 2.4% greater than the NCREIF NFI-ODCE Index's return of 0.5%. Over the trailing twelve-month period, the account returned 3.5%, which was 2.1% above the benchmark's 1.4% performance. Since June 2008, the portfolio returned 3.9% per annum, while the NCREIF NFI-ODCE Index returned an annualized 5.1% over the same period.

TIAA NORTH FRONT STREET

The office building at 1721 N. Front St. in Harrisburg, PA was purchased in 2016.

Investment Return

On September 30th, 2020, the Pennsylvania Municipal Retirement System's TIAA CREF 1721 North Front Street portfolio was valued at \$2,329,743, representing an \$18,627 increase from the June quarter's ending value of \$2,311,116. During the last three months, the account recorded no net contributions or withdrawals, making the entire increase in value the result of \$18,627 in net investment returns.

Account Performance

In the third quarter, the TIAA CREF 1721 North Front Street portfolio gained 1.3%, which was 0.6% greater than the NCREIF Property Index's return of 0.7%. Over the trailing twelve-month period, the account returned 5.9%, which was 3.9% greater than the benchmark's 2.0% return. Since June 2016, the TIAA CREF 1721 North Front Street portfolio returned 1.3% per annum, while the NCREIF Property Index returned an annualized 5.7% over the same time frame.

Real Estate Investor Report
TIAA CREF (Excluding N. Front Street)

Net IRR Since Inception **6.59%**
Market Value **\$ 206,119,761** **As of**
9/30/2020

<u>Year</u>	<u>Capital Calls</u>	<u>Distributions</u>	<u>Fees</u>
2008	\$ 34,330,250	\$ -	\$ 244,006
2009	\$ -	\$ 1,168,000	\$ 319,220
2010	\$ 50,300,736	\$ -	\$ 422,549
2011	\$ 23,903,720	\$ 406,336	\$ 690,494
2012	\$ -	\$ 3,600,000	\$ 892,330
2013	\$ 15,642,440	\$ 6,240,000	\$ 972,519
2014	\$ 47,594,800	\$ 28,000,000	\$ 1,210,923
2015	\$ -	\$ 24,000,000	\$ 1,493,589
2016	\$ 26,333,676	\$ 6,308,805	\$ 1,604,408
2017	\$ -	\$ 8,062,624	\$ 1,709,860
2018	\$ -	\$ 7,721,531	\$ 1,756,438
2019	\$ -	\$ 7,209,262	\$ 1,813,349
2020	\$ -	\$ 3,100,356	\$ 1,403,861
Total	\$ 198,105,622	\$ 95,816,914	\$ 14,533,546



Pennsylvania Municipal Retirement System

Performance Report (Finalized) September 2020

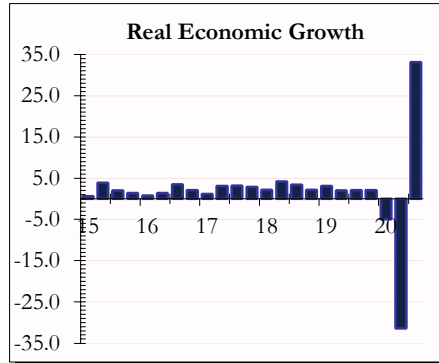


DAHAB ASSOCIATES
New York Massachusetts Pennsylvania Texas Florida

ECONOMIC ENVIRONMENT

Open Questions

Global equity markets continued their march forward in Q3, despite a decline in September as risk appetites slipped. Advance



estimates of Q3 2020 GDP from the U.S. Bureau of Economic Analysis increased at an annual rate of 33.1%, the largest gain ever recorded. It should be noted that this followed the largest decline in GDP since the data series started. As lockdowns have

been eased and restrictions loosened, economic activity has moved back in the direction of normalcy.

However, there are many outstanding questions that investors are attempting to answer when trying to forecast the odds of continued economic expansion. Some of those questions include:

- How will the pandemic evolve as we move towards winter and the flu season?
- How quickly will useful medical breakthroughs get through the approval process, scale-up production, and make their way to market?
- Will the upcoming elections prove disruptive to the economy and markets?
- Will the government provide additional stimulus, and will it be sufficient to support the economy?
- Will the Fed, who has indicated they will be using average inflation in setting interest rates, be able to spur inflation?

Market volatility, in addition to implied future market volatility, has increased as market participants try to determine the likelihood of the above outstanding items and what that will mean for markets in general.

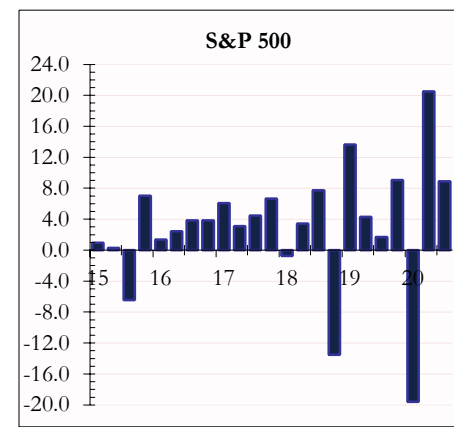
Labor statistics continue to show improvement, but are in no way back to where they were before the pandemic. The U.S. unemployment rate dropped to 7.9% in September from 11.9% in July.

The Industrial Production index was virtually flat at quarter-end. This indicates a slowdown in the recovery of manufacturing. The Industrial Production Index is an economic indicator that measures real output for all manufacturing, mining, and electric & gas utilities facilities located in the United States.

DOMESTIC EQUITIES

The Growth/Value Divergence Continues

All broad-based U.S. market equity indices rose in the quarter. The S&P 500, an index made up of large-capitalization companies,



gained 8.9%, bringing the year-to-date return to 5.6%. Growth continues to outpace its Value counterparts across all market capitalization sizes. As one example, the Russell 3000 Growth gained 12.9% in the quarter, while the Russell 3000 Value gained 5.4%. For the year-to-

date, the Russell 3000 Growth has gained 23.0%, while the Russell 3000 Value lost 12.2%.

The relative outperformance of growth can be attributed to outsized gains in Information Technology and Consumer Discretionary. Information Technology stocks have benefited from work-from-home policies and have dealt with little of the headwinds that other sectors have faced. The Consumer Discretionary sector has been led by Amazon, which has benefited from coronavirus-related retail shutdowns, which accelerated the trend of e-commerce.

The Value style underperformance can be attributed to the struggles of the Finance and Energy sectors. The Financial sector has been hurt by lower interest rates, which affects their net interest margin, and stock buyback bans from the U.S. Federal Reserve. The Energy sector has been affected by lower oil prices, which are still floundering due to a supply glut and OPEC policies.

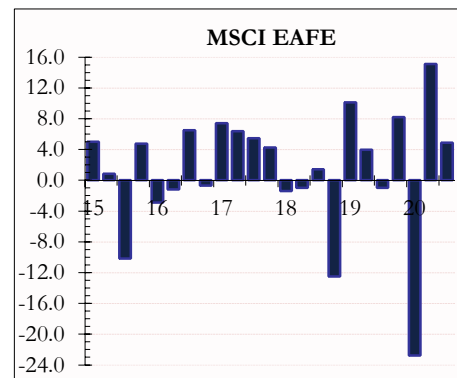
Publicly traded REITs continued their downward trend in the third quarter across all market capitalization sizes. Smaller capitalization REITs, which are the largest contingent within the universe, lost 1.4% in the third quarter. This brings their year-to-date return to -26.2%.

INTERNATIONAL EQUITIES

Looking Forward

The MSCI EAFE Index increased by 4.8%, while the MSCI ACWI ex USA Index climbed 6.3% in the third quarter. Markets advanced over the first two months of the quarter before pulling back in September. Asia and Europe & Middle East were the strongest

performers, while the U.K. lagged. Global manufacturing and world goods trade have led the recovery, while services continue to be strongly hampered. On a sector basis, nine of the eleven sectors within the MSCI EAFE Index posted gains, led by Materials, Industrials, and Consumer Discretionary. Energy and Financials

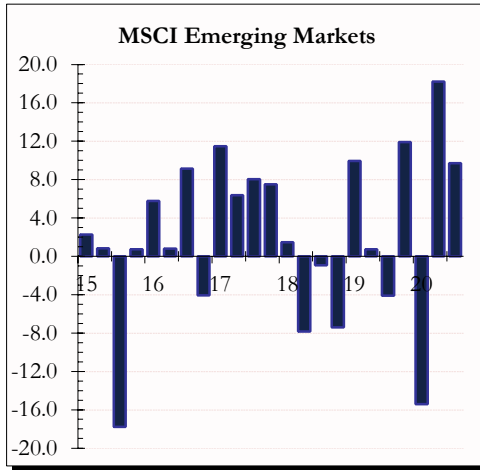


had negative returns and were the worst-performing sectors, followed by Health Care. Overall progress towards the reopening of economies was mixed, as parts of Europe experienced a second wave of confirmed cases. Nevertheless, the

European countries that reported an uptick in cases have refrained from new lockdowns and are instead utilizing targeted measures such as travel restrictions and face-covering requirements. The European Union's passage of a €750 billion package and progress with various vaccine candidates helped provided a sense of optimism.

Emerging Market equities rose 9.7% in the third quarter, bringing its year-to-date total to -0.9%. Emerging Markets equities were led higher by the Technology and Consumer Discretionary sectors.

China reported 3.2% second-quarter GDP growth and showed continued progress toward returning to pre-pandemic activities. As the first to be hit by the virus and the first to emerge from trying



to keep it in check, it is the only major economy that is likely to see a positive growth rate for the current year. The Organization for Economic Co-operation and Development is projecting global GDP growth in 2021 at 5.0%, following a 4.5% decline in the current year.

Corporate bonds, in particular, received this news well and enjoyed a decidedly positive quarter. Riskier assets were widely buoyant: Investment grade bonds returned 1.8%, single-B securities returned 4.5%, and CCC securities returned 7.3%.

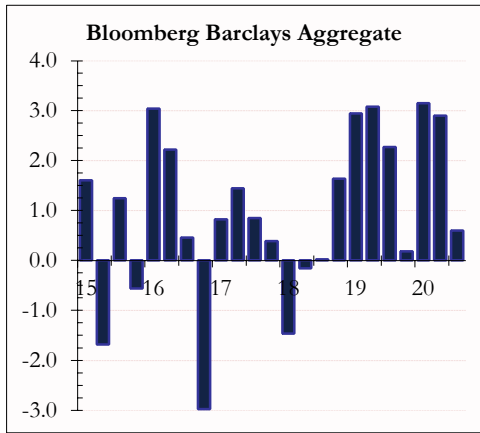
The Global Aggregate index was up 4.6%, while emerging market debt rose a slight 0.7%.

Convertible Bonds, as measured by the Bloomberg Barclays Convertibles Index, returned 13.9%, bringing its year-to-date total to 23.5%.

BOND MARKET

Onward March

The broad U.S. fixed income market continues to deliver steady returns. The Bloomberg Barclays U.S. Aggregate index returned



0.6% in the quarter and is now up 6.8% year-to-date.

The major story in fixed income was that the Federal Reserve announced a change to its inflation targeting policy in August, saying it would now target an average 2% inflation rate. This would

allow them to overshoot the 2% target due to the low inflation seen over the past decade.

CASH EQUIVALENTS

Effectively Zero

The three-month T-Bill returned 0.03% for the third quarter. Return expectations continue to be low. Low prevailing yields taken in coordination with the Federal Reserve's explicit inflation targeting make it unlikely the asset class will see positive real returns.

Economic Statistics

	Current Quarter	Previous Quarter
GDP	33.1%	-31.4%
Unemployment	7.9%	11.2%
CPI All Items Year/Year	1.4%	0.6%
Fed Funds Rate	0.25%	0.25%
Industrial Capacity	71.5%	68.6%
U.S. Dollars per Euro	1.17	1.12

Major Index Returns

Index	Quarter	12 Months
Russell 3000	9.2%	15.0%
S&P 500	8.9%	15.2%
Russell Midcap	7.5%	4.6%
Russell 2000	4.9%	0.4%
MSCI EAFE	4.9%	0.9%
MSCI Emg Markets	9.7%	10.9%
NCREIF ODCE	0.5%	1.4%
U.S. Aggregate	0.6%	7.0%
90 Day T-bills	0.0%	0.7%

Domestic Equity Return Distributions

Quarter	Trailing Year		
	VAL	COR	GRO
LC	4.8	8.9	11.8
MC	6.4	7.5	9.4
SC	2.6	4.9	7.2

Market Summary

- All Equity markets see gains
- Growth continues to outpace Value
- Information Technology leads the way
- Credit spreads tighten
- Estimates of Q3 GDP show a large expansion

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System was valued at \$2,767,491,032, representing an increase of \$117,867,221 from the June quarter's ending value of \$2,649,623,811. Last quarter, the Fund posted withdrawals totaling \$26,071,017, which partially offset the portfolio's net investment return of \$143,938,238. Income receipts totaling \$5,748,841 plus net realized and unrealized capital gains of \$138,189,397 combined to produce the portfolio's net investment return.

RELATIVE PERFORMANCE

Total Fund

For the third quarter, the total portfolio returned 5.5%, which was 0.6% above the Shadow Index's return of 4.9% and ranked in the 33rd percentile of the Public Fund universe. Over the trailing year, the portfolio returned 8.4%, which was 1.8% above the benchmark's 6.6% return, ranking in the 37th percentile. Since December 1985, the portfolio returned 8.7% annualized. The Shadow Index returned an annualized 9.0% over the same period.

Large Cap Equity

The large cap equity portion of the portfolio returned 8.1% last quarter; that return was 0.8% less than the S&P 500 Index's return of 8.9% and ranked in the 54th percentile of the Large Cap universe. Over the trailing twelve-month period, this component returned 16.5%, 1.4% above the benchmark's 15.1% performance, ranking in the 36th percentile. Since December 1985, this component returned 11.1% on an annualized basis. The S&P 500 returned an annualized 10.8% during the same period.

Small Cap Equity

During the third quarter, the small cap equity component returned 6.2%, which was 1.3% greater than the Russell 2000 Index's return of 4.9% and ranked in the 41st percentile of the Small Cap universe. Over the trailing year, the small cap equity portfolio returned -0.2%, which was 0.6% less than the benchmark's 0.4% return, and ranked in the 48th percentile.

International Equity

The international equity portfolio gained 8.1% in the third quarter, 3.2% above the Blended International Index's return of 4.9% and ranked in the 52nd percentile of the International Equity universe. Over the trailing year, this segment returned 10.7%, 9.8% above the benchmark's 0.9% performance, and ranked in the 37th percentile.

Emerging Markets Equity

The emerging markets equity segment returned 9.6% during the third quarter; that return was 0.1% below the Blended Emerging Markets Index's return of 9.7% and ranked in the 56th percentile of the Emerging Markets universe. Over the trailing twelve months, the emerging markets equity portfolio returned 11.0%, 0.1% greater than the benchmark's 10.9% performance, ranking in the 46th percentile.

Real Estate

For the third quarter, the real estate segment gained 1.4%, which was 0.7% above the NCREIF Property Index's return of 0.7%. Over the trailing year, this segment returned 1.4%, which was 0.6% below the benchmark's 2.0% performance. Since December 1985, this component returned 6.8% on an annualized basis, while the NCREIF Property Index returned an annualized 7.6% over the same period.

Fixed Income

The fixed income component returned 0.7% during the third quarter, 0.1% above the Bloomberg Barclays Aggregate Index's return of 0.6% and ranked in the 82nd percentile of the Core Fixed Income universe. Over the trailing twelve-month period, this component returned 7.0%; that return was equal to the benchmark's 7.0% return, and ranked in the 77th percentile. Since December 1985, this component returned 6.5% on an annualized basis. For comparison, the Bloomberg Barclays Aggregate Index returned an annualized 6.4% during the same time frame.

ASSET ALLOCATION

On September 30, 2020, the allocation of assets was as follows*:

TOTAL PORTFOLIO	100.0%	\$2,767,491,032
Domestic Large Cap	26.0%	\$719,865,962
Domestic Small Cap	15.2%	\$420,338,080
Total Domestic Equity	41.2%	\$1,140,204,042
International Developed Markets	15.6%	\$430,954,865
International Emerging Markets	9.9%	\$274,578,761
Total International Equity	25.5%	\$705,533,626
Total Equity	66.7%	\$1,845,737,668
Real Estate	17.9%	\$494,883,755
Fixed Income	14.4%	\$397,218,043
Cash and Equivalents	1.1%	\$29,651,566

* Numbers may not add to 100% due to rounding.

EXECUTIVE SUMMARY - GROSS OF FEES

PERFORMANCE SUMMARY

	Quarter	YTD	1 Year	3 Year	5 Year	10 Year	Since 12/85
Total Portfolio	5.5	1.3	8.4	6.9	9.2	8.6	8.7
<i>PUBLIC FUND RANK</i>	(33)	(68)	(37)	(35)	(15)	(18)	----
Shadow Index	4.9	0.2	6.6	5.7	8.2	8.1	9.0
Domestic Equity	7.4	0.6	10.7	10.2	12.5	12.7	----
<i>DOMESTIC EQUITY RANK</i>	(46)	(45)	(42)	(40)	(40)	(45)	----
Russell 3000	9.2	5.4	15.0	11.6	13.7	13.5	10.6
Large Cap Equity	8.1	5.8	16.5	14.6	15.4	14.8	11.1
<i>LARGE CAP RANK</i>	(54)	(37)	(36)	(29)	(28)	(27)	----
S&P 500	8.9	5.6	15.1	12.3	14.1	13.7	10.8
Small Cap Equity	6.2	-9.2	-0.2	2.0	7.5	10.2	----
<i>SMALL CAP RANK</i>	(41)	(48)	(48)	(49)	(54)	(57)	----
Russell 2000	4.9	-8.7	0.4	1.7	8.0	9.8	8.9
International Equity	8.1	-0.3	10.7	4.7	9.5	7.4	----
<i>INTERNATIONAL EQUITY RANK</i>	(52)	(38)	(37)	(32)	(30)	(29)	----
Int'l Index	4.9	-6.7	0.9	1.1	5.8	5.1	----
S&P BMI Ex US	6.3	-5.2	3.0	1.5	6.4	5.4	----
MSCI World Ex US	4.7	-8.7	-1.5	0.4	5.5	4.7	6.9
MSCI EAFE	4.9	-6.7	0.9	1.1	5.8	5.1	7.4
Emerging Markets Equity	9.6	-0.7	11.0	2.6	9.1	2.5	----
<i>EMERGING MARKETS RANK</i>	(56)	(46)	(46)	(49)	(44)	(72)	----
EM Index	9.7	-0.9	10.9	2.8	9.4	2.8	----
S&P BMI EMGM	9.0	-2.0	8.9	2.8	9.5	2.9	----
MSCI Emg Mkts	9.7	-0.9	10.9	2.8	9.4	2.9	----
Real Estate	1.4	0.6	1.4	5.2	6.3	8.3	6.8
NCREIF NPI	0.7	0.5	2.0	5.1	6.3	9.4	7.6
Aggregate Index	0.6	6.8	7.0	5.2	4.2	3.6	6.4
Fixed Income	0.7	6.9	7.0	5.3	4.2	3.7	6.5
<i>CORE FIXED INCOME RANK</i>	(82)	(73)	(77)	(88)	(88)	(90)	----
Aggregate Index	0.6	6.8	7.0	5.2	4.2	3.6	6.4

ASSET ALLOCATION

Large Cap Equity	26.0%	\$ 719,865,962
Small Cap	15.2%	420,338,080
Int'l Equity	15.6%	430,954,865
Emerging Markets	9.9%	274,578,761
Real Estate	17.9%	494,883,755
Fixed Income	14.4%	397,218,043
Cash	1.1%	29,651,566
Total Portfolio	100.0%	2,767,491,032

INVESTMENT RETURN

Market Value 6/2020	\$ 2,649,623,811
Contribs / Withdrawals	- 26,071,017
Income	5,748,841
Capital Gains / Losses	138,189,397
Market Value 9/2020	\$ 2,767,491,032

EXECUTIVE SUMMARY - NET OF FEES

PERFORMANCE SUMMARY

	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Total Portfolio - Net	5.4	1.0	7.9	6.4	8.7	8.2
Shadow Index	4.9	0.2	6.6	5.7	8.2	8.1
Domestic Equity - Net	7.3	0.2	10.2	9.6	12.0	12.2
Russell 3000	9.2	5.4	15.0	11.6	13.7	13.5
Large Cap Equity - Net	8.0	5.4	16.0	14.0	14.8	14.4
S&P 500	8.9	5.6	15.1	12.3	14.1	13.7
Small Cap Equity - Net	6.1	-9.6	-0.7	1.4	6.9	9.7
Russell 2000	4.9	-8.7	0.4	1.7	8.0	9.8
International Equity - Net	8.0	-0.6	10.2	4.2	9.0	6.9
Int'l Index	4.9	-6.7	0.9	1.1	5.8	5.1
S&P BMI Ex US	6.3	-5.2	3.0	1.5	6.4	5.4
MSCI World Ex US	4.7	-8.7	-1.5	0.4	5.5	4.7
MSCI EAFE	4.9	-6.7	0.9	1.1	5.8	5.1
Emerging Markets Equity - Net	9.6	-0.8	10.9	2.5	9.0	2.4
EM Index	9.7	-0.9	10.9	2.8	9.4	2.8
S&P BMI EMGM	9.0	-2.0	8.9	2.8	9.5	2.9
MSCI Emg Mkts	9.7	-0.9	10.9	2.8	9.4	2.9
Real Estate - Net	1.2	-0.1	0.5	4.2	5.3	7.3
NCREIF NPI	0.7	0.5	2.0	5.1	6.3	9.4
Aggregate Index	0.6	6.8	7.0	5.2	4.2	3.6
Fixed Income - Net	0.6	6.8	7.0	5.3	4.2	3.6
Aggregate Index	0.6	6.8	7.0	5.2	4.2	3.6

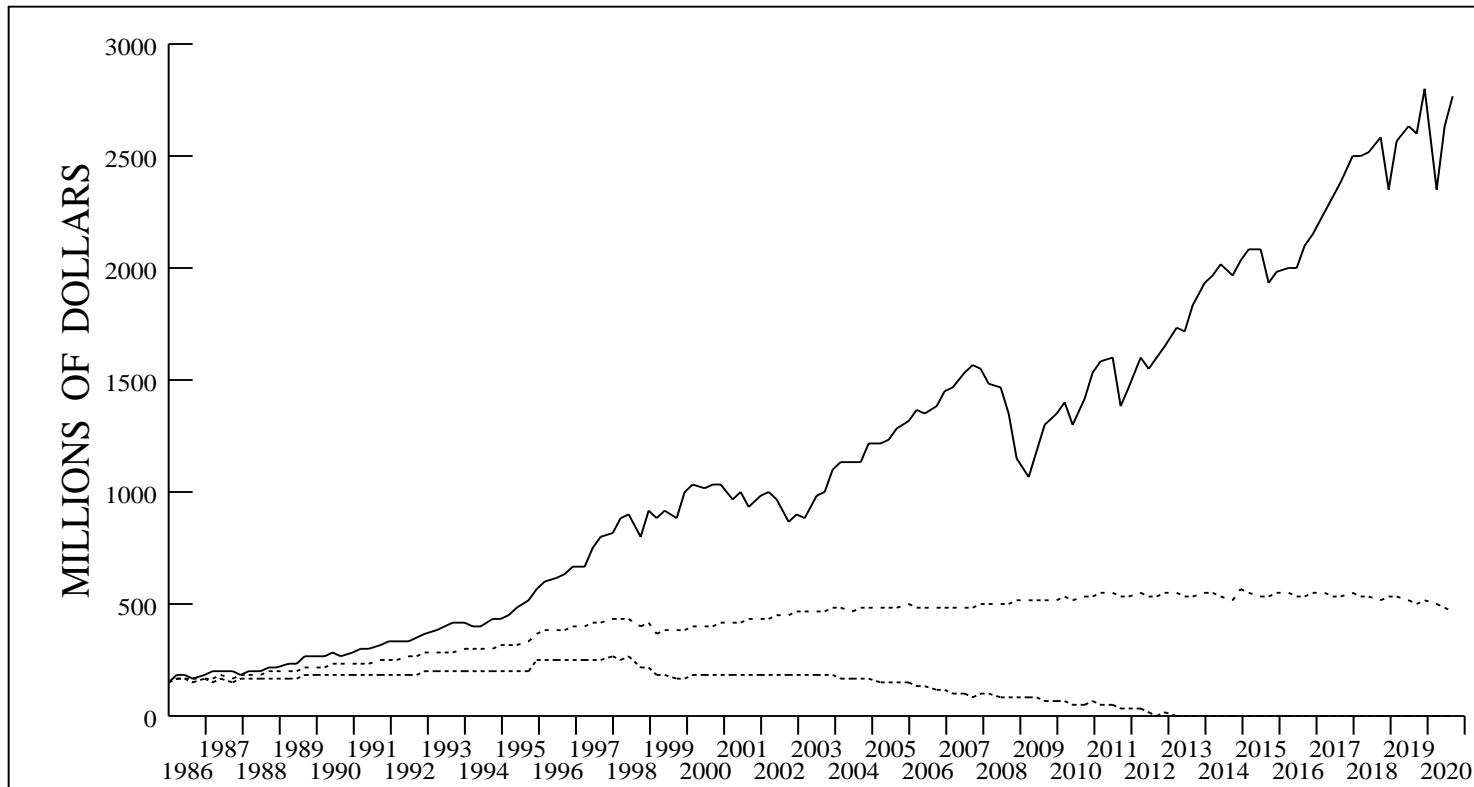
ASSET ALLOCATION

Large Cap Equity	26.0%	\$ 719,865,962
Small Cap	15.2%	420,338,080
Int'l Equity	15.6%	430,954,865
Emerging Markets	9.9%	274,578,761
Real Estate	17.9%	494,883,755
Fixed Income	14.4%	397,218,043
Cash	1.1%	29,651,566
Total Portfolio	100.0%	2,767,491,032

INVESTMENT RETURN

Market Value 6/2020	\$ 2,649,623,811
Contribs / Withdrawals	- 26,071,017
Income	5,748,841
Capital Gains / Losses	138,189,397
Market Value 9/2020	\$ 2,767,491,032

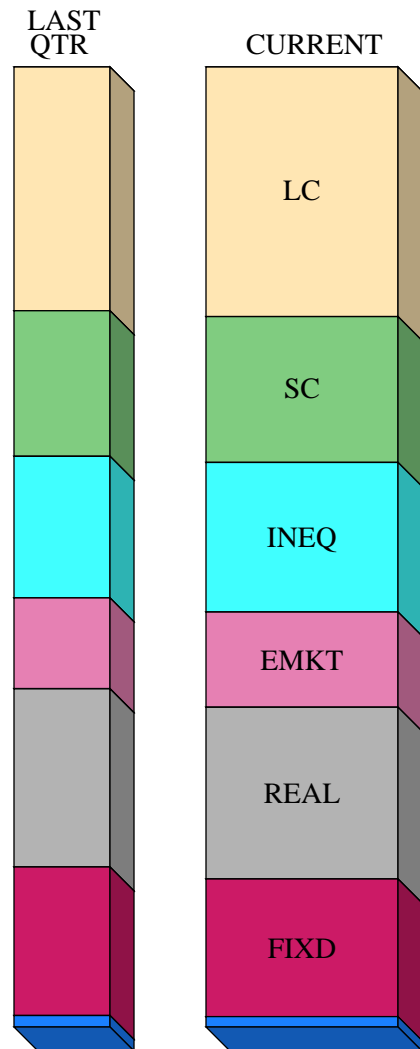
INVESTMENT GROWTH



— ACTUAL RETURN
 - - - 5.25%
 0.0%

VALUE ASSUMING
 5.25% RETURN \$ 473,428,232

	LAST QUARTER	PERIOD 12/85 - 9/20
BEGINNING VALUE	\$ 2,649,623,811	\$ 162,395,431
NET CONTRIBUTIONS	- 26,071,017	-440,645,335
<u>INVESTMENT RETURN</u>	<u>143,938,238</u>	<u>3,045,740,936</u>
ENDING VALUE	\$ 2,767,491,032	\$ 2,767,491,032
INCOME	5,748,841	587,254,246
<u>CAPITAL GAINS (LOSSES)</u>	<u>138,189,397</u>	<u>2,458,486,690</u>
INVESTMENT RETURN	143,938,238	3,045,740,936



	<u>VALUE</u>	<u>PERCENT</u>	<u>TARGET</u>	<u>DIFFERENCE</u> <u>+ / -</u>
■ LARGE CAP EQUITY	\$ 719, 865, 962	26.0%	25.0%	1.0%
■ SMALL CAP EQUITY	420, 338, 080	15.2%	15.0%	0.2%
■ INTERNATIONAL EQUITY	430, 954, 865	15.6%	15.0%	0.6%
■ EMERGING MARKETS EQUITY	274, 578, 761	9.9%	10.0%	-0.1%
■ REAL ESTATE	494, 883, 755	17.9%	20.0%	-2.1%
■ FIXED INCOME	397, 218, 043	14.4%	15.0%	-0.6%
■ CASH & EQUIVALENT	29, 651, 566	1.1%	0.0%	1.1%
TOTAL FUND	\$ 2, 767, 491, 032	100.0%		

**PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
ALLOCATIONS & TARGETS AS OF SEPTEMBER 2020**

Manager	Target	Market Value	%	+ / -	Market Value Ex-cash	%	+ / -
Total Portfolio	-	\$2,767,491,032	100%		\$2,767,491,032	100%	
Large Cap	25	735,957,053	26.6	1.6	719,865,962	26.0	1.0
Eagle		157,474,802	5.7		151,157,841	5.5	
LSV Large Cap		149,595,153	5.4		148,909,726	5.4	
Polen		244,381,864	8.8		235,556,318	8.5	
SSgA S&P 500		123,204,781	4.5		123,204,781	4.5	
William Blair		61,300,453	2.2		61,037,296	2.2	
Small Cap	15	424,256,750	15.3	0.3	420,338,080	15.2	0.2
AMI		37,856,794	1.4		37,233,650	1.3	
Copeland		42,217,494	1.5		41,436,524	1.5	
Emerald		76,456,863	2.8		75,079,549	2.7	
LSV Small Cap		58,865,704	2.1		58,514,191	2.1	
Smith, Graham & Co		69,818,363	2.5		69,032,634	2.5	
SSgA Russell 2000		139,041,532	5.0		139,041,532	5.0	
International Equity	15	434,065,277	15.7	0.7	430,954,865	15.6	0.6
GlobeFlex		3,552	0.0		2,850	0.0	
HGK		129,808,735	4.7		126,992,160	4.6	
Jarislowsky Fraser		315,076	0.0		314,601	0.0	
Johnston		141,377,906	5.1		141,085,246	5.1	
Mercator		18,951	0.0		18,951	0.0	
SSgA International		162,537,922	5.9		162,537,922	5.9	
WHV		3,135	0.0		3,135	0.0	
Emerging Markets	10	274,578,761	9.9	-0.1	274,578,761	9.9	-0.1
SSgA Emerging Mkts		274,578,761	9.9		274,578,761	9.9	
Real Assets	20	494,883,755	17.9	-2.1	494,883,755	17.9	-2.1
Forest		130,868,837	4.7		130,868,837	4.7	
PRISA I		51,854,386	1.9		51,854,386	1.9	
PRISA II		103,711,028	3.7		103,711,028	3.7	
TIAA N. Front St.		2,329,743	0.1		2,329,743	0.1	
TIAA CREF		206,119,761	7.4		206,119,761	7.4	
Fixed Income	15	397,218,043	14.4	-0.6	397,218,043	14.4	-0.6
SSgA BC Aggregate		397,218,043	14.4		397,218,043	14.4	
Cash & Equivalents	0	6,531,393	0.2	0.2	29,651,566	1.1	1.1
BNY Cash		2,448,188	0.1		2,448,188	0.1	
STIP Cash		4,083,205	0.1		4,083,205	0.1	
Manager Cash		<i>n/a</i>	-		23,120,173	0.8	

MANAGER QUARTERLY FEE SUMMARY

ALL FEES ARE ESTIMATED / ACCRUED

PORTFOLIO	TOTAL RETURN (GROSS OF FEES)	FEE	% FEE
AMI	1.3%	\$74,274	0.20%
Copeland	3.8%	\$85,230	0.21%
Eagle	6.5%	\$301,320	0.20%
Emerald	9.6%	\$97,139	0.14%
Forest	0.3%	\$242,419	0.18%
Hardman Johnston	12.9%	\$217,203	0.17%
HGK	6.4%	\$216,618	0.18%
LSV Large Cap	4.0%	\$144,042	0.10%
LSV Small Cap	4.2%	\$86,553	0.15%
Polen	10.2%	\$221,955	0.10%
PRISA SA	0.5%	\$124,548	0.24%
PRISA II SA	0.4%	\$286,562	0.28%
Smith, Graham & Co	10.9%	\$123,897	0.20%
SSgA	4.9%	\$134,906	0.01%
SSgA S&P 500	8.9%	\$9,894	0.01%
SSgA Russell 2000	4.9%	\$15,612	0.01%
SSgA World Ex-US	5.0%	\$24,242	0.02%
SSgA Emerging Markets	9.6%	\$54,168	0.02%
SSgA Bond Market	0.7%	\$30,990	0.01%
TIAA CREF	2.9%	\$465,461	0.23%
TIAA 1721 N. Front St.	1.3%	\$12,500	0.54%
William Blair	11.1%	\$72,496	0.13%

MANAGER PERFORMANCE SUMMARY - GROSS OF FEES

Portfolio	(Universe)	QTR	CYTD	1 Year	3 Years	5 Years	10 Years	Inception	
Composite	(Public Fund)	5.5 (33)	1.3 (68)	8.4 (37)	6.9 (35)	9.2 (15)	8.6 (18)	8.7 ----	12/85
<i>Shadow Index</i>		<i>4.9 ----</i>	<i>0.2 ----</i>	<i>6.6 ----</i>	<i>5.7 ----</i>	<i>8.2 ----</i>	<i>8.1 ----</i>	<i>9.0 ----</i>	<i>12/85</i>
SSgA	(Balanced)	4.9 (67)	1.9 (74)	7.9 (67)	4.2 (78)	6.7 (76)	4.5 (94)	6.4 ----	03/97
<i>Shadow Index</i>		<i>4.8 ----</i>	<i>1.2 ----</i>	<i>7.2 ----</i>	<i>4.1 ----</i>	<i>6.6 ----</i>	<i>4.6 ----</i>	<i>7.1 ----</i>	<i>03/97</i>
Polen	(LC Growth)	10.2 (67)	22.5 (43)	35.4 (35)	24.9 (14)	21.1 (16)	18.6 (11)	18.6 (11)	09/10
<i>Russell 1000G</i>		<i>13.2 ----</i>	<i>24.3 ----</i>	<i>37.5 ----</i>	<i>21.7 ----</i>	<i>20.1 ----</i>	<i>17.3 ----</i>	<i>17.3 ----</i>	<i>09/10</i>
William Blair	(LC Growth)	11.1 (50)	----	----	----	----	----	11.1 (50)	06/20
<i>Russell 1000G</i>		<i>13.2 ----</i>	<i>24.3 ----</i>	<i>37.5 ----</i>	<i>21.7 ----</i>	<i>20.1 ----</i>	<i>17.3 ----</i>	<i>13.2 ----</i>	<i>06/20</i>
Eagle	(LC Value)	6.5 (37)	-3.1 (20)	7.6 (18)	10.2 (13)	----	----	13.6 (4)	03/16
<i>Russell 1000V</i>		<i>5.6 ----</i>	<i>-11.6 ----</i>	<i>-5.0 ----</i>	<i>2.6 ----</i>	<i>7.6 ----</i>	<i>9.9 ----</i>	<i>6.8 ----</i>	<i>03/16</i>
<i>Russell 1000</i>		<i>9.5 ----</i>	<i>6.4 ----</i>	<i>16.0 ----</i>	<i>12.4 ----</i>	<i>14.1 ----</i>	<i>13.8 ----</i>	<i>0.0 ----</i>	
LSV Large Cap	(LC Value)	4.0 (74)	-14.2 (76)	-6.2 (70)	0.7 (78)	6.7 (77)	10.3 (53)	7.5 ----	03/04
<i>Russell 1000V</i>		<i>5.6 ----</i>	<i>-11.6 ----</i>	<i>-5.0 ----</i>	<i>2.6 ----</i>	<i>7.6 ----</i>	<i>9.9 ----</i>	<i>6.9 ----</i>	<i>03/04</i>
AMI	(SC Growth)	1.3 (99)	1.5 (73)	10.9 (72)	1.8 (94)	----	----	1.8 (94)	09/17
<i>Russell 2000G</i>		<i>7.2 ----</i>	<i>3.9 ----</i>	<i>15.7 ----</i>	<i>8.1 ----</i>	<i>11.4 ----</i>	<i>12.3 ----</i>	<i>8.1 ----</i>	<i>09/17</i>
Copeland	(SC Growth)	3.8 (96)	-11.5 (98)	-6.6 (99)	4.8 (83)	----	----	4.8 (83)	09/17
<i>Russell 2000G</i>		<i>7.2 ----</i>	<i>3.9 ----</i>	<i>15.7 ----</i>	<i>8.1 ----</i>	<i>11.4 ----</i>	<i>12.3 ----</i>	<i>8.1 ----</i>	<i>09/17</i>
Emerald	(SC Growth)	9.6 (42)	9.4 (56)	22.5 (46)	11.7 (59)	12.6 (66)	15.7 (36)	11.4 ----	09/98
<i>Russell 2000G</i>		<i>7.2 ----</i>	<i>3.9 ----</i>	<i>15.7 ----</i>	<i>8.1 ----</i>	<i>11.4 ----</i>	<i>12.3 ----</i>	<i>8.0 ----</i>	<i>09/98</i>
LSV Small Cap	(SC Value)	4.2 (33)	-24.4 (81)	-17.8 (79)	-6.6 (83)	----	----	-4.0 (80)	12/16
<i>Russell 2000V</i>		<i>2.6 ----</i>	<i>-21.6 ----</i>	<i>-14.9 ----</i>	<i>-5.1 ----</i>	<i>4.1 ----</i>	<i>7.1 ----</i>	<i>-2.7 ----</i>	<i>12/16</i>
Smith, Graham & Co	(SC Value)	10.9 (2)	-11.6 (14)	-1.3 (11)	-1.7 (29)	----	----	0.9 (21)	12/16
<i>Russell 2000V</i>		<i>2.6 ----</i>	<i>-21.6 ----</i>	<i>-14.9 ----</i>	<i>-5.1 ----</i>	<i>4.1 ----</i>	<i>7.1 ----</i>	<i>-2.7 ----</i>	<i>12/16</i>
HGK	(Intl Eq)	6.4 (67)	-3.8 (53)	7.9 (47)	2.8 (43)	8.3 (42)	----	9.1 (10)	03/12
<i>S&P BMI Ex US</i>		<i>6.3 ----</i>	<i>-5.2 ----</i>	<i>3.0 ----</i>	<i>1.5 ----</i>	<i>6.4 ----</i>	<i>5.4 ----</i>	<i>5.6 ----</i>	<i>03/12</i>
Hardman Johnston	(Intl Eq)	12.9 (12)	11.7 (12)	27.1 (8)	11.1 (7)	14.5 (7)	----	10.7 (5)	03/12
<i>S&P BMI Ex US</i>		<i>6.3 ----</i>	<i>-5.2 ----</i>	<i>3.0 ----</i>	<i>1.5 ----</i>	<i>6.4 ----</i>	<i>5.4 ----</i>	<i>5.6 ----</i>	<i>03/12</i>
PRISA II SA		0.4 ----	-0.7 ----	1.4 ----	6.2 ----	7.9 ----	12.3 ----	4.6 ----	06/07
<i>NCREIF ODCE</i>		<i>0.5 ----</i>	<i>-0.1 ----</i>	<i>1.4 ----</i>	<i>5.2 ----</i>	<i>6.6 ----</i>	<i>10.3 ----</i>	<i>5.3 ----</i>	<i>06/07</i>
PRISA SA		0.5 ----	1.1 ----	2.4 ----	6.0 ----	7.1 ----	11.1 ----	7.7 ----	12/90
<i>NCREIF ODCE</i>		<i>0.5 ----</i>	<i>-0.1 ----</i>	<i>1.4 ----</i>	<i>5.2 ----</i>	<i>6.6 ----</i>	<i>10.3 ----</i>	<i>7.3 ----</i>	<i>12/90</i>
TIAA CREF		2.9 ----	1.9 ----	3.5 ----	7.0 ----	7.6 ----	9.0 ----	3.9 ----	06/08
<i>NCREIF ODCE</i>		<i>0.5 ----</i>	<i>-0.1 ----</i>	<i>1.4 ----</i>	<i>5.2 ----</i>	<i>6.6 ----</i>	<i>10.3 ----</i>	<i>5.1 ----</i>	<i>06/08</i>
TIAA 1721 N. Front St.		1.3 ----	3.7 ----	5.9 ----	2.2 ----	----	----	1.3 ----	06/16
<i>NCREIF NPI</i>		<i>0.7 ----</i>	<i>0.5 ----</i>	<i>2.0 ----</i>	<i>5.1 ----</i>	<i>6.3 ----</i>	<i>9.4 ----</i>	<i>5.7 ----</i>	<i>06/16</i>
Forest		0.3 ----	-0.6 ----	-2.0 ----	1.7 ----	3.3 ----	4.2 ----	4.6 ----	03/99
<i>NCREIF Timber</i>		<i>0.0 ----</i>	<i>0.2 ----</i>	<i>0.2 ----</i>	<i>2.1 ----</i>	<i>2.6 ----</i>	<i>4.4 ----</i>	<i>5.9 ----</i>	<i>03/99</i>

MANAGER PERFORMANCE SUMMARY - NET OF FEES

Portfolio	QTR	CYTD	1 Year	3 Years	5 Years	10 Years	Inception	
Composite	5.4	1.0	7.9	6.4	8.7	8.2	----	12/85
<i>Shadow Index</i>	<i>4.9</i>	<i>0.2</i>	<i>6.6</i>	<i>5.7</i>	<i>8.2</i>	<i>8.1</i>	<i>9.0</i>	<i>12/85</i>
SSgA	4.9	1.9	7.9	4.2	6.7	4.4	6.4	03/97
<i>Shadow Index</i>	<i>4.8</i>	<i>1.2</i>	<i>7.2</i>	<i>4.1</i>	<i>6.6</i>	<i>4.6</i>	<i>7.1</i>	<i>03/97</i>
Polen	10.1	22.1	34.9	24.5	20.6	18.1	18.1	09/10
<i>Russell 1000G</i>	<i>13.2</i>	<i>24.3</i>	<i>37.5</i>	<i>21.7</i>	<i>20.1</i>	<i>17.3</i>	<i>17.3</i>	<i>09/10</i>
William Blair	11.0	----	----	----	----	----	11.0	06/20
<i>Russell 1000G</i>	<i>13.2</i>	<i>24.3</i>	<i>37.5</i>	<i>21.7</i>	<i>20.1</i>	<i>17.3</i>	<i>13.2</i>	<i>06/20</i>
Eagle	6.3	-3.7	6.7	9.3	----	----	12.7	03/16
<i>Russell 1000V</i>	<i>5.6</i>	<i>-11.6</i>	<i>-5.0</i>	<i>2.6</i>	<i>7.6</i>	<i>9.9</i>	<i>6.8</i>	<i>03/16</i>
<i>Russell 1000</i>	<i>9.5</i>	<i>6.4</i>	<i>16.0</i>	<i>12.4</i>	<i>14.1</i>	<i>13.8</i>	<i>0.0</i>	
LSV Large Cap	3.9	-14.5	-6.6	0.3	6.2	9.8	7.1	03/04
<i>Russell 1000V</i>	<i>5.6</i>	<i>-11.6</i>	<i>-5.0</i>	<i>2.6</i>	<i>7.6</i>	<i>9.9</i>	<i>6.9</i>	<i>03/04</i>
AMI	1.1	0.9	10.1	1.0	----	----	1.0	09/17
<i>Russell 2000G</i>	<i>7.2</i>	<i>3.9</i>	<i>15.7</i>	<i>8.1</i>	<i>11.4</i>	<i>12.3</i>	<i>8.1</i>	<i>09/17</i>
Copeland	3.5	-12.1	-7.4	4.0	----	----	4.0	09/17
<i>Russell 2000G</i>	<i>7.2</i>	<i>3.9</i>	<i>15.7</i>	<i>8.1</i>	<i>11.4</i>	<i>12.3</i>	<i>8.1</i>	<i>09/17</i>
Emerald	9.4	9.0	21.9	11.1	12.1	15.2	10.9	09/98
<i>Russell 2000G</i>	<i>7.2</i>	<i>3.9</i>	<i>15.7</i>	<i>8.1</i>	<i>11.4</i>	<i>12.3</i>	<i>8.0</i>	<i>09/98</i>
LSV Small Cap	4.0	-24.8	-18.3	-7.1	----	----	-4.6	12/16
<i>Russell 2000V</i>	<i>2.6</i>	<i>-21.6</i>	<i>-14.9</i>	<i>-5.1</i>	<i>4.1</i>	<i>7.1</i>	<i>-2.7</i>	<i>12/16</i>
Smith, Graham & Co	10.7	-12.2	-2.0	-2.5	----	----	0.2	12/16
<i>Russell 2000V</i>	<i>2.6</i>	<i>-21.6</i>	<i>-14.9</i>	<i>-5.1</i>	<i>4.1</i>	<i>7.1</i>	<i>-2.7</i>	<i>12/16</i>
HGK	6.2	-4.3	7.1	2.1	7.5	----	8.4	03/12
<i>S&P BMI Ex US</i>	<i>6.3</i>	<i>-5.2</i>	<i>3.0</i>	<i>1.5</i>	<i>6.4</i>	<i>5.4</i>	<i>5.6</i>	<i>03/12</i>
Hardman Johnston	12.8	11.1	26.3	10.4	13.8	----	10.0	03/12
<i>S&P BMI Ex US</i>	<i>6.3</i>	<i>-5.2</i>	<i>3.0</i>	<i>1.5</i>	<i>6.4</i>	<i>5.4</i>	<i>5.6</i>	<i>03/12</i>
PRISA II SA	0.2	-1.5	0.3	5.1	6.7	11.1	3.5	06/07
<i>NCREIF ODCE</i>	<i>0.5</i>	<i>-0.1</i>	<i>1.4</i>	<i>5.2</i>	<i>6.6</i>	<i>10.3</i>	<i>5.3</i>	<i>06/07</i>
PRISA SA	0.3	0.3	1.4	5.0	6.1	10.0	----	12/90
<i>NCREIF ODCE</i>	<i>0.5</i>	<i>-0.1</i>	<i>1.4</i>	<i>5.2</i>	<i>6.6</i>	<i>10.3</i>	<i>7.3</i>	<i>12/90</i>
TIAA CREF	2.7	1.2	2.5	6.1	6.7	8.1	3.0	06/08
<i>NCREIF ODCE</i>	<i>0.5</i>	<i>-0.1</i>	<i>1.4</i>	<i>5.2</i>	<i>6.6</i>	<i>10.3</i>	<i>5.1</i>	<i>06/08</i>
TIAA 1721 N. Front St.	0.8	2.1	3.7	0.1	----	----	-1.0	06/16
<i>NCREIF NPI</i>	<i>0.7</i>	<i>0.5</i>	<i>2.0</i>	<i>5.1</i>	<i>6.3</i>	<i>9.4</i>	<i>5.7</i>	<i>06/16</i>
Forest	0.2	-1.1	-2.8	0.9	2.5	3.4	4.1	03/99
<i>NCREIF Timber</i>	<i>0.0</i>	<i>0.2</i>	<i>0.2</i>	<i>2.1</i>	<i>2.6</i>	<i>4.4</i>	<i>5.9</i>	<i>03/99</i>

MANAGER VALUE ADDED

Portfolio	Benchmark	1 Quarter	1 Year	3 Years	5 Years
SSgA	Shadow Index	0.1	0.7	0.1	0.1
Polen	Russell 1000G	-3.0	-2.1	3.2	1.0
William Blair	Russell 1000G	-2.1	N/A	N/A	N/A
Eagle	Russell 1000V	0.9	12.6	7.6	N/A
LSV Large Cap	Russell 1000V	-1.6	-1.2	-1.9	-0.9
AMI	Russell 2000G	-5.9	-4.8	-6.3	N/A
Copeland	Russell 2000G	-3.4	-22.3	-3.3	N/A
Emerald	Russell 2000G	2.4	6.8	3.6	1.2
LSV Small Cap	Russell 2000V	1.6	-2.9	-1.5	N/A
Smith, Graham & Co	Russell 2000V	8.3	13.6	3.4	N/A
HGK	S&P BMI Ex US	0.1	4.9	1.3	1.9
Hardman Johnston	S&P BMI Ex US	6.6	24.1	9.6	8.1
PRISA II SA	NCREIF ODCE	-0.1	0.0	1.0	1.3
PRISA SA	NCREIF ODCE	0.0	1.0	0.8	0.5
TIAA CREF	NCREIF ODCE	2.4	2.1	1.8	1.0
TIAA 1721 N. Front St.	NCREIF NPI	0.6	3.9	-2.9	N/A
Forest	NCREIF Timber	0.3	-2.2	-0.4	0.7
Total Portfolio	Shadow Index	0.6 	1.8 	1.2 	1.0

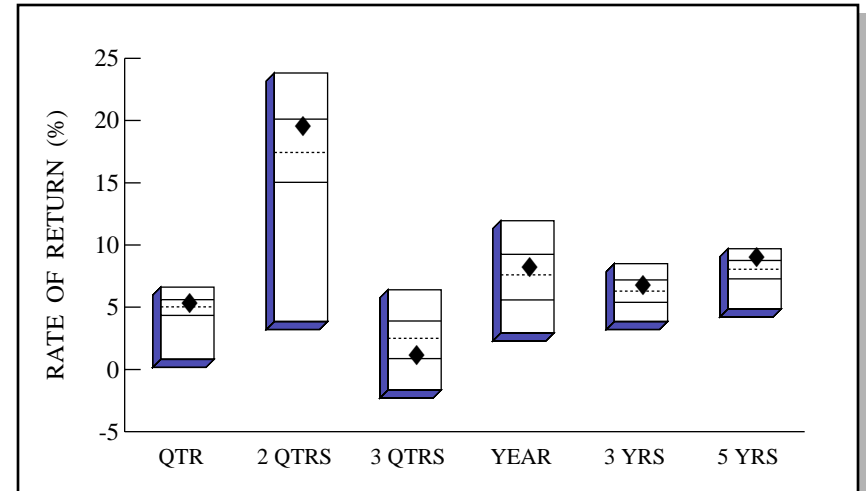
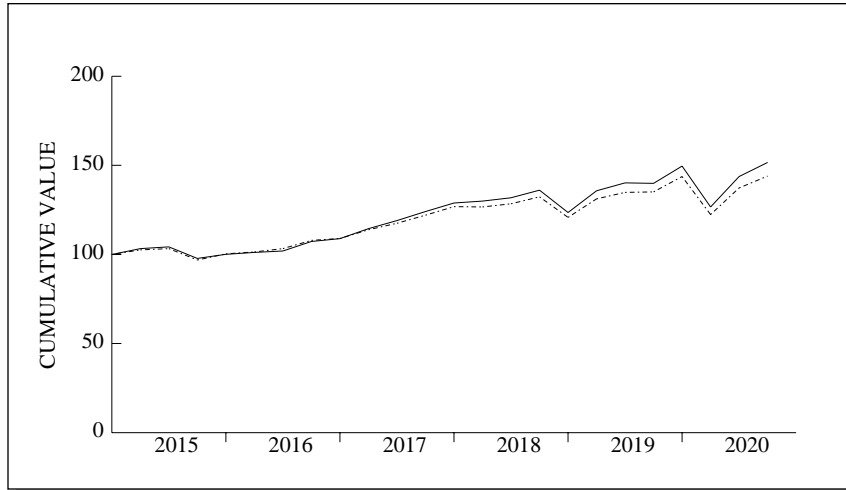
INVESTMENT RETURN SUMMARY - ONE QUARTER

Name	Quarter Total Return	Market Value June 30th, 2020	Net Cashflow	Net Investment Return	Market Value September 30th, 2020
Abel Noser Transition (LC)	---	8,729	-8,730	1	0
SSgA S&P 500 (LCC)	8.9	113,121,142	0	10,083,639	123,204,781
Federated (LCG)	---	2	0	-2	0
Polen (LCG)	10.2	221,955,072	-228,446	22,655,238	244,381,864
William Blair (LCG)	11.1	55,202,723	-23,906	6,121,636	61,300,453
Eagle (LCV)	6.5	148,169,600	-272,424	9,577,626	157,474,802
LSV Large Cap (LCV)	4.0	143,936,827	-136,738	5,795,064	149,595,153
SSgA Russell 2000 (SMDC)	4.9	138,256,020	-6,000,000	6,785,512	139,041,532
AMI (SCG)	1.3	37,442,685	-70,862	484,971	37,856,794
Copeland (SCG)	3.8	40,739,295	-49,836	1,528,035	42,217,494
Emerald (SCG)	9.6	69,869,615	-85,960	6,673,208	76,456,863
LSV Small Cap (SCV)	4.2	56,589,070	-80,836	2,357,470	58,865,704
Smith, Graham & Co (SCV)	10.9	63,090,367	-109,301	6,837,297	69,818,363
GlobeFlex (INEQ)	---	4,292	0	-740	3,552
HGK (INEQ)	6.4	122,180,682	-195,263	7,823,316	129,808,735
Hardman Johnston (INEQ)	12.9	125,362,457	-179,673	16,195,122	141,377,906
Mercator (INEQ)	---	18,151	0	800	18,951
WHV (INEQ)	---	3,002	0	133	3,135
Jarislowsky Fraser (INEG)	---	303,979	-727	11,824	315,076
SSgA World Ex-US (INEQ)	5.0	154,837,145	0	7,700,777	162,537,922
SSgA Emerging Markets (EMKT)	9.6	250,547,615	0	24,031,146	274,578,761
PRISA II SA (REAL)	0.4	103,552,732	-286,562	444,858	103,711,028
PRISA SA (REAL)	0.5	51,721,737	-124,548	257,197	51,854,386
TIAA CREF (REAL)	2.9	202,278,709	-1,511,839	5,352,891	206,119,761
TIAA 1721 N. Front St. (REAL)	1.3	2,311,116	0	18,627	2,329,743
Forest (TIMB)	0.3	132,018,482	-1,600,000	450,355	130,868,837
SSgA Bond Market (CFI)	0.7	409,985,424	-15,500,000	2,732,619	397,218,043
BNY Cash (CASH)	---	947,803	1,486,284	14,101	2,448,188
Treasury STIP (CASH)	---	5,169,338	-1,091,650	5,517	4,083,205
Total Portfolio	5.5	2,649,623,811	-26,071,017	143,938,238	2,767,491,032

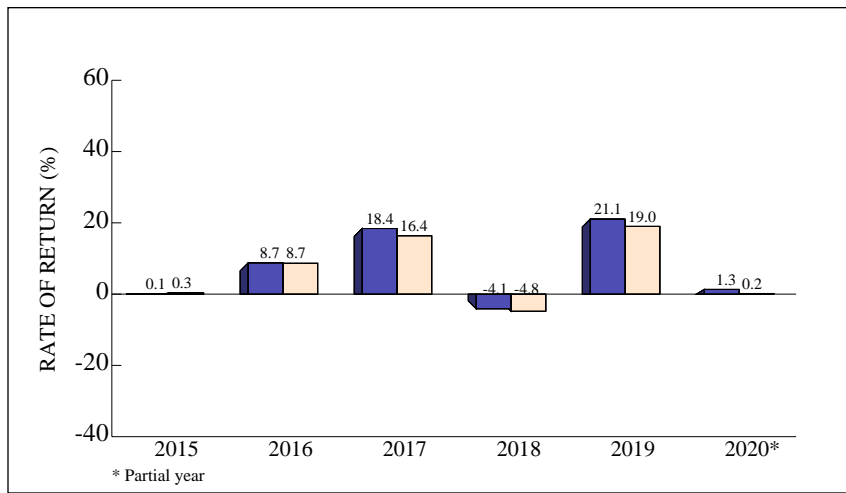
MANAGER RISK STATISTICS SUMMARY - FIVE-YEAR HISTORY

Name	Alpha	Batting Average	Sharpe Ratio	Information Ratio	Up Capture	Down Capture
SSgA <i>Shadow Index</i>	0.02	0.700	0.62	0.27	100.5	99.2
SSgA S&P 500 <i>S&P 500</i>	0.00	0.900	0.89	-0.83	99.8	99.9
Polen <i>Russell 1000G</i>	2.06	0.600	1.23	0.22	99.0	86.1
LSV Large Cap <i>Russell 1000V</i>	-1.64	0.550	0.40	-0.09	103.2	111.4
SSgA Russell 2000 <i>Russell 2000</i>	0.10	0.950	0.44	1.85	100.3	99.8
Emerald <i>Russell 2000G</i>	0.80	0.650	0.60	0.36	108.5	103.5
HGK <i>S&P BMI Ex US</i>	1.64	0.600	0.49	0.48	112.2	99.3
Hardman Johnston <i>S&P BMI Ex US</i>	7.55	0.800	0.77	1.41	150.5	92.8
SSgA World Ex-US <i>MSCI World Ex US</i>	0.31	0.600	0.38	0.51	101.1	98.7
SSgA Emerging Markets <i>EM Index</i>	-0.40	0.400	0.53	-0.36	100.2	102.4
PRISA II SA <i>NCREIF ODCE</i>	-0.91	0.750	2.64	1.33	120.4	156.0
PRISA SA <i>NCREIF ODCE</i>	1.42	0.600	3.59	0.83	105.3	70.3
TIAA CREF <i>NCREIF ODCE</i>	2.90	0.650	2.63	0.47	116.7	148.9
Forest <i>NCREIF Timber</i>	3.18	0.450	0.49	0.18	96.7	----
SSgA Bond Market <i>Aggregate Index</i>	0.03	1.000	0.97	0.54	100.5	99.5

TOTAL RETURN COMPARISONS



Public Fund Universe



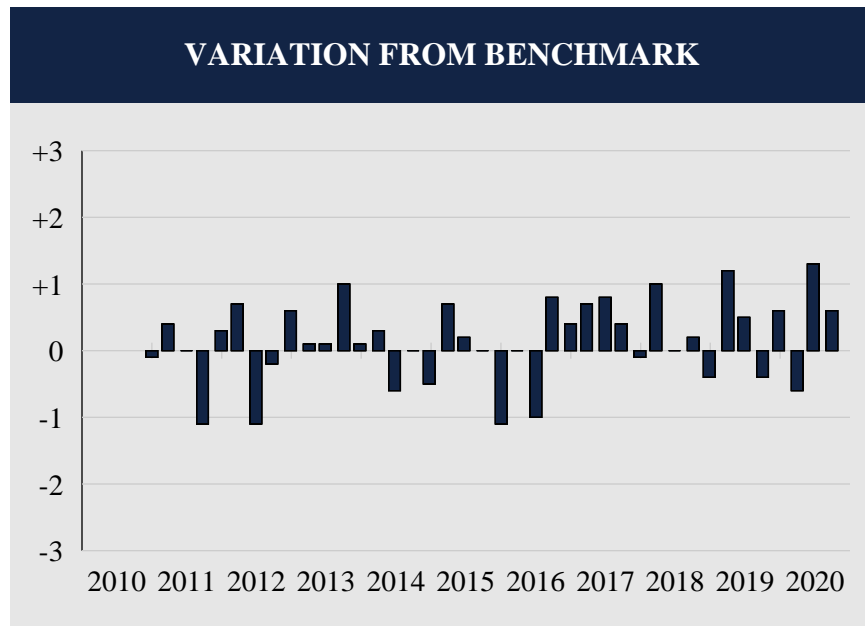
* Partial year

	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	5.5	19.7	1.3	8.4	6.9	9.2
(RANK)	(33)	(29)	(68)	(37)	(35)	(15)
5TH %ILE	6.6	23.8	6.4	12.0	8.5	9.7
25TH %ILE	5.6	20.1	3.9	9.3	7.2	8.8
MEDIAN	5.0	17.4	2.5	7.6	6.3	8.0
75TH %ILE	4.3	15.0	0.9	5.6	5.4	7.3
95TH %ILE	0.8	3.8	-1.7	2.9	3.9	4.9
<i>Shadow Idx</i>	<i>4.9</i>	<i>17.6</i>	<i>0.2</i>	<i>6.6</i>	<i>5.7</i>	<i>8.2</i>

Public Fund Universe

TOTAL PORTFOLIO QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

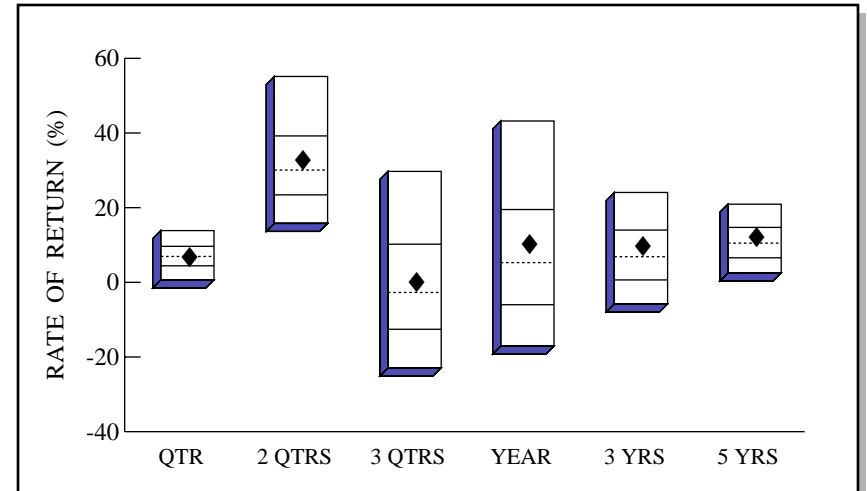
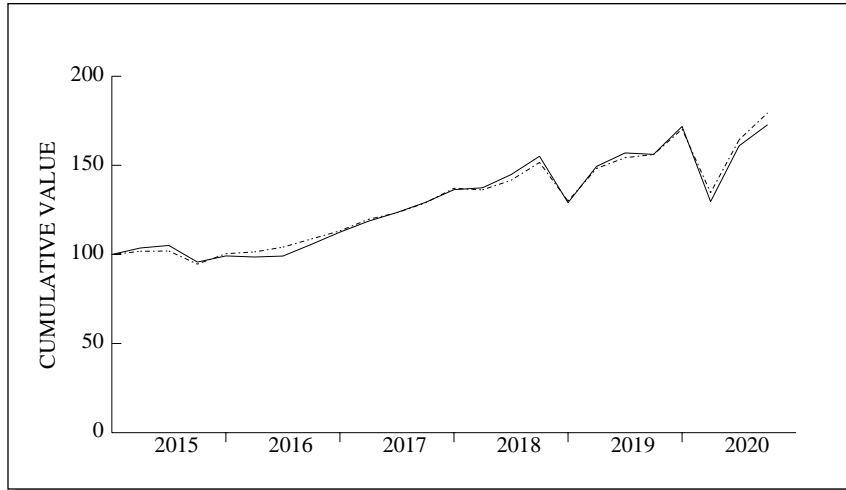
COMPARATIVE BENCHMARK: SHADOW INDEX



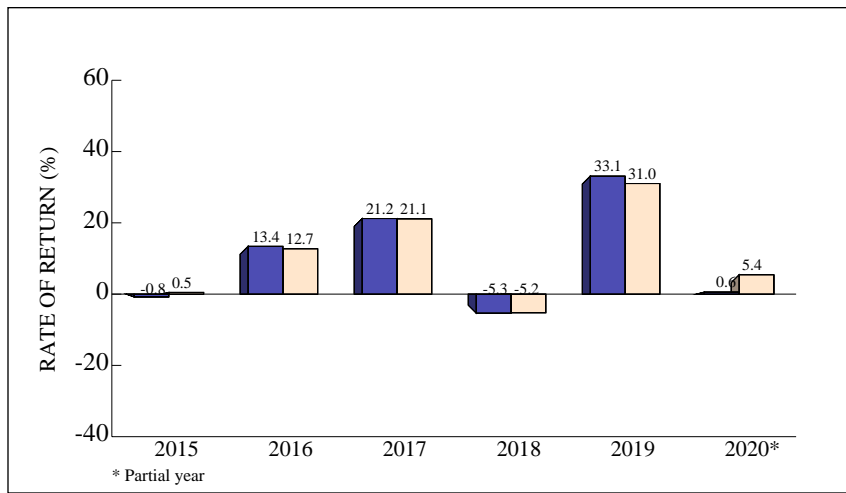
Total Quarters Observed	40
Quarters At or Above the Benchmark	28
Quarters Below the Benchmark	12
Batting Average	.700

RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	7.3	7.4	-0.1
3/11	4.3	3.9	0.4
6/11	0.6	0.6	0.0
9/11	-12.1	-11.0	-1.1
12/11	6.6	6.3	0.3
3/12	9.2	8.5	0.7
6/12	-3.3	-2.2	-1.1
9/12	4.5	4.7	-0.2
12/12	2.5	1.9	0.6
3/13	5.5	5.4	0.1
6/13	0.4	0.3	0.1
9/13	6.6	5.6	1.0
12/13	5.8	5.7	0.1
3/14	1.8	1.5	0.3
6/14	3.3	3.9	-0.6
9/14	-1.5	-1.5	0.0
12/14	2.0	2.5	-0.5
3/15	3.3	2.6	0.7
6/15	0.9	0.7	0.2
9/15	-6.2	-6.2	0.0
12/15	2.4	3.5	-1.1
3/16	1.1	1.1	0.0
6/16	0.8	1.8	-1.0
9/16	5.2	4.4	0.8
12/16	1.5	1.1	0.4
3/17	5.1	4.4	0.7
6/17	4.0	3.2	0.8
9/17	4.2	3.8	0.4
12/17	3.9	4.0	-0.1
3/18	0.8	-0.2	1.0
6/18	1.4	1.4	0.0
9/18	3.3	3.1	0.2
12/18	-9.2	-8.8	-0.4
3/19	9.8	8.6	1.2
6/19	3.3	2.8	0.5
9/19	-0.2	0.2	-0.4
12/19	7.0	6.4	0.6
3/20	-15.4	-14.8	-0.6
6/20	13.5	12.2	1.3
9/20	5.5	4.9	0.6

DOMESTIC EQUITY RETURN COMPARISONS



Domestic Equity Universe



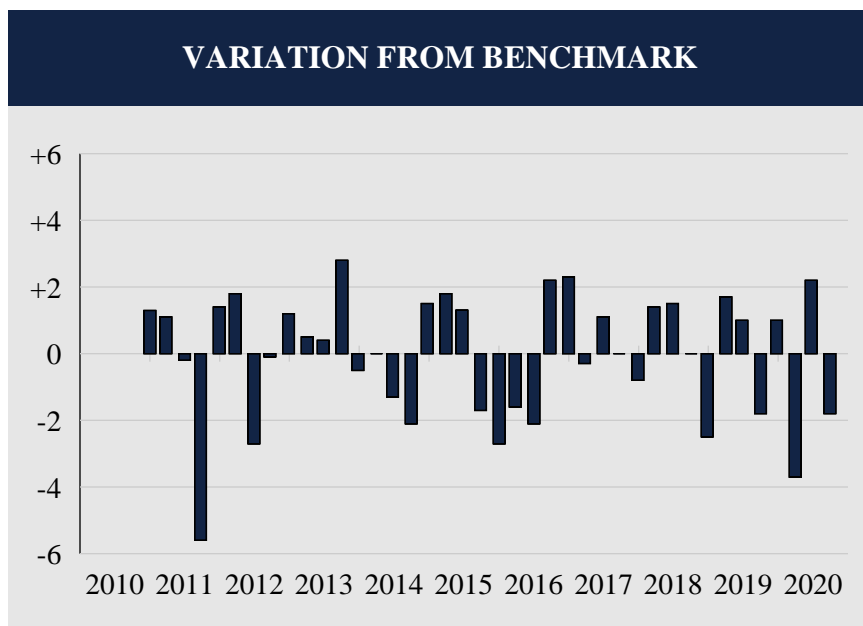
* Partial year

	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	7.4	33.3	0.6	10.7	10.2	12.5
(RANK)	(46)	(38)	(45)	(42)	(40)	(40)
5TH %ILE	13.9	55.1	29.7	43.2	24.1	21.0
25TH %ILE	9.7	39.2	10.2	19.5	14.0	14.7
MEDIAN	6.9	30.1	-2.7	5.3	6.9	10.5
75TH %ILE	4.4	23.4	-12.6	-6.0	0.6	6.6
95TH %ILE	0.6	15.8	-23.0	-17.1	-5.8	2.5
Russ 3000	9.2	33.3	5.4	15.0	11.6	13.7

Domestic Equity Universe

DOMESTIC EQUITY QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

COMPARATIVE BENCHMARK: RUSSELL 3000



RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	12.9	11.6	1.3
3/11	7.5	6.4	1.1
6/11	-0.2	0.0	-0.2
9/11	-20.9	-15.3	-5.6
12/11	13.5	12.1	1.4
3/12	14.7	12.9	1.8
6/12	-5.8	-3.1	-2.7
9/12	6.1	6.2	-0.1
12/12	1.5	0.3	1.2
3/13	11.6	11.1	0.5
6/13	3.1	2.7	0.4
9/13	9.2	6.4	2.8
12/13	9.6	10.1	-0.5
3/14	2.0	2.0	0.0
6/14	3.6	4.9	-1.3
9/14	-2.1	0.0	-2.1
12/14	6.7	5.2	1.5
3/15	3.6	1.8	1.8
6/15	1.4	0.1	1.3
9/15	-8.9	-7.2	-1.7
12/15	3.6	6.3	-2.7
3/16	-0.6	1.0	-1.6
6/16	0.5	2.6	-2.1
9/16	6.6	4.4	2.2
12/16	6.5	4.2	2.3
3/17	5.4	5.7	-0.3
6/17	4.1	3.0	1.1
9/17	4.6	4.6	0.0
12/17	5.5	6.3	-0.8
3/18	0.8	-0.6	1.4
6/18	5.4	3.9	1.5
9/18	7.1	7.1	0.0
12/18	-16.8	-14.3	-2.5
3/19	15.7	14.0	1.7
6/19	5.1	4.1	1.0
9/19	-0.6	1.2	-1.8
12/19	10.1	9.1	1.0
3/20	-24.6	-20.9	-3.7
6/20	24.2	22.0	2.2
9/20	7.4	9.2	-1.8

Total Quarters Observed	40
Quarters At or Above the Benchmark	23
Quarters Below the Benchmark	17
Batting Average	.575

LARGE CAP EQUITY MANAGERS

The combined large cap portfolio (excluding cash) returned 8.1%, which was 0.8% below the S&P 500 return of 8.9%. The Polen and William Blair portfolios both returned below their growth benchmark. Between the value managers, Eagle beat the index, but LSV did not.

**SSgA S&P 500
(Core)**

SSgA's S&P 500 fund continued to closely track the S&P 500 index over the short and long term. At quarter-end, this fund was valued at \$123,204,781.

**Polen
(Growth)**

The portfolio's performance in its heaviest sector fell short of its index counterpart. Since this sector (Information Technology) made up such a large portion of the portfolio and its benchmark, it had an outsize impact on the total return, resulting in last quarter's sub-par return.

**William Blair
(Growth)**

Unfavorable selection in all but two of the invested sectors resulted in the portfolio's shortfall against the index. The Consumer Staples and Health Care sectors beat their index counterparts, but that was not enough to eclipse the effects from the remaining sectors.

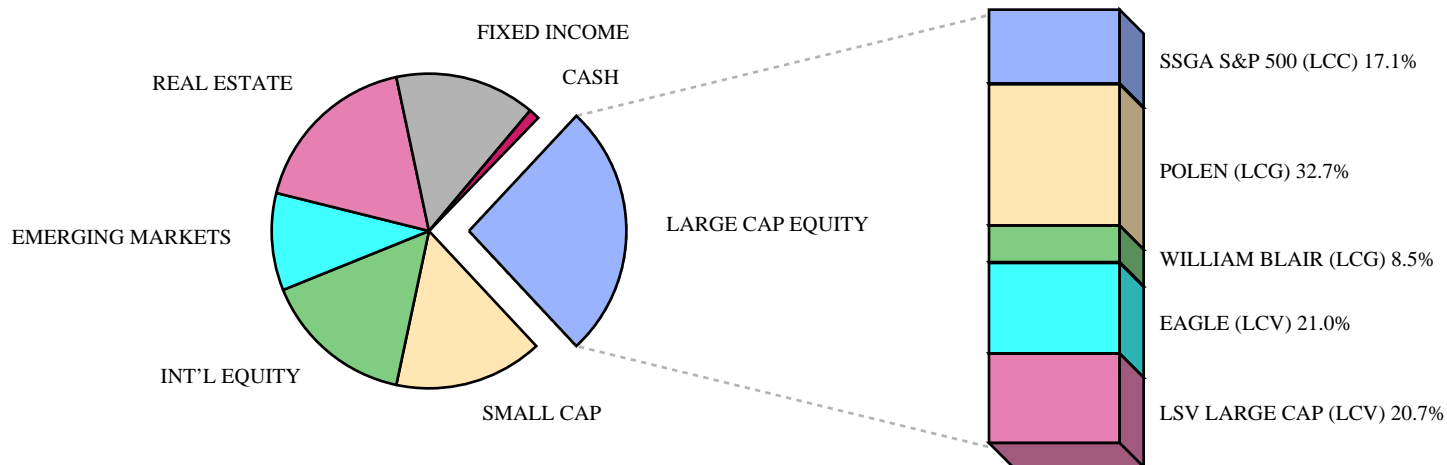
**Eagle
(Value)**

Increased weight in the well performing Consumer Discretionary sector and avoidance of the poorly performing Energy sector helped put the portfolio over the index last quarter.

**LSV Large Cap
(Value)**

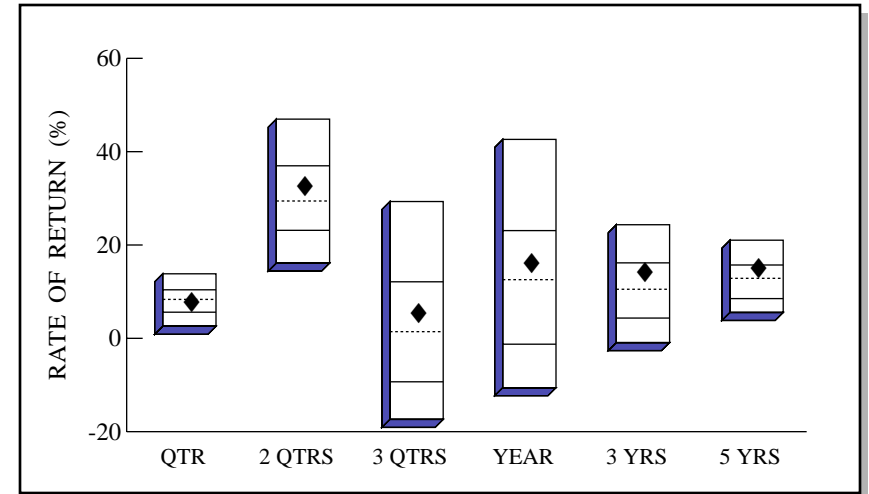
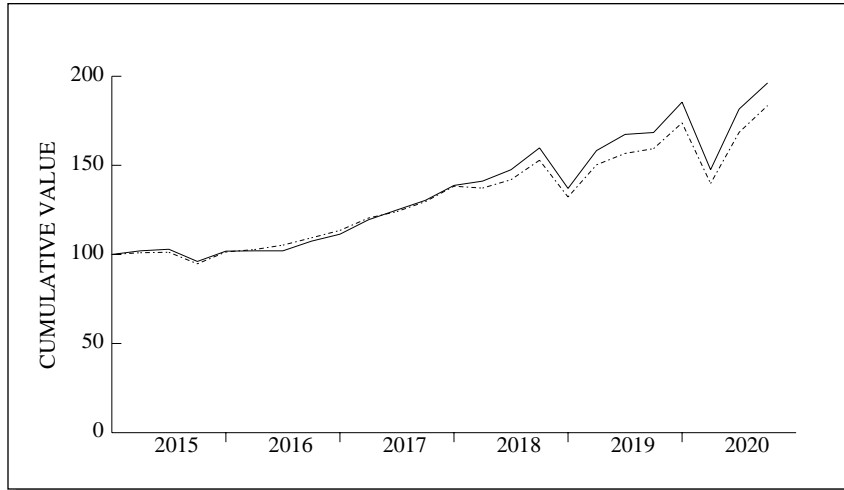
The portfolio's outsize position in the Information Technology sector worked against its favor, as this sector was not a prime source of return last quarter. Selection effects were mixed, but more sectors underperformed than outperformed.

LARGE CAP EQUITY MANAGER SUMMARY

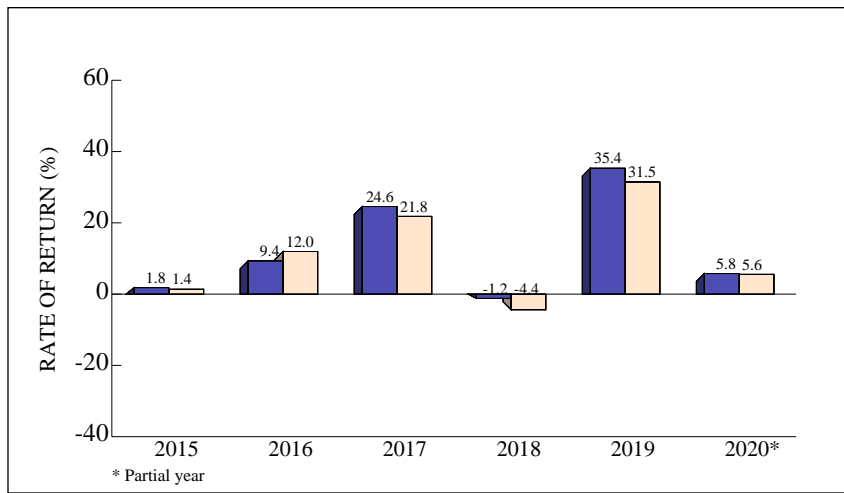


MANAGER	(UNIVERSE)	COMPONENT RETURNS AND RANKINGS					MARKET VALUE
		QTR	YTD	1 YEAR	3 YEARS	5 YEARS	
SSGA S&P 500	(Large Cap Core)	8.9 (40)	5.5 (39)	15.1 (37)	12.3 (34)	14.1 (27)	\$123,204,781
<i>S&P 500</i>		<i>8.9 ---</i>	<i>5.6 ---</i>	<i>15.1 ---</i>	<i>12.3 ---</i>	<i>14.1 ---</i>	---
POLEN	(Large Cap Growth)	10.5 (63)	23.5 (35)	36.8 (28)	26.0 (11)	21.9 (10)	\$235,556,318
WILLIAM BLAIR	(Large Cap Growth)	11.1 (48)	---	---	---	---	\$61,037,296
<i>Russell 1000 Growth</i>		<i>13.2 ---</i>	<i>24.3 ---</i>	<i>37.5 ---</i>	<i>21.7 ---</i>	<i>20.1 ---</i>	---
EAGLE	(Large Cap Value)	6.7 (36)	-2.7 (19)	8.3 (18)	10.5 (11)	---	\$151,157,841
LSV LARGE CAP	(Large Cap Value)	4.0 (74)	-14.2 (76)	-6.3 (70)	0.8 (78)	6.7 (75)	\$148,909,726
<i>Russell 1000 Value</i>		<i>5.6 ---</i>	<i>-11.6 ---</i>	<i>-5.0 ---</i>	<i>2.6 ---</i>	<i>7.6 ---</i>	---
TOTAL	(Large Cap)	8.1 (54)	5.8 (37)	16.5 (36)	14.6 (29)	15.4 (28)	\$719,865,962
<i>S&P 500</i>		<i>8.9 ---</i>	<i>5.6 ---</i>	<i>15.1 ---</i>	<i>12.3 ---</i>	<i>14.1 ---</i>	---

LARGE CAP EQUITY RETURN COMPARISONS



Large Cap Universe

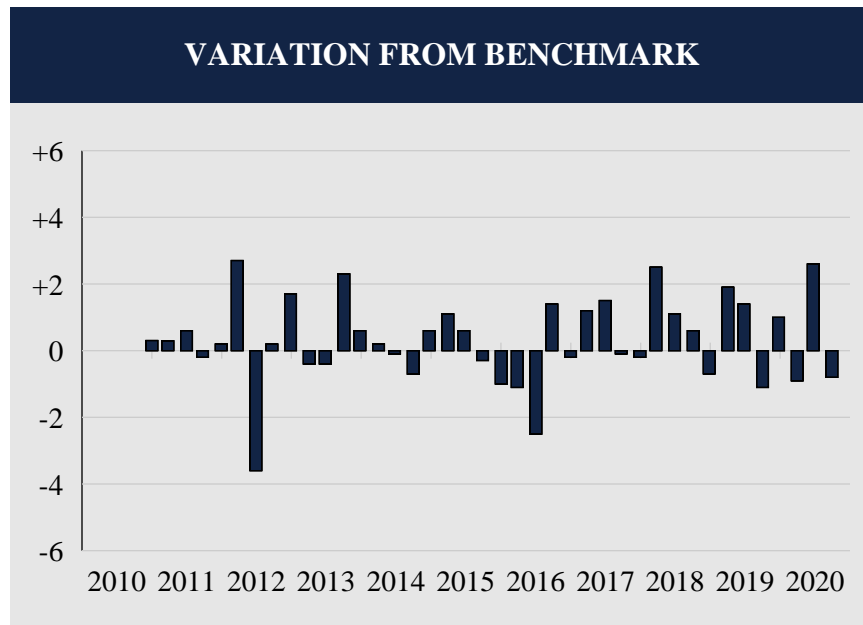


	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	8.1	33.0	5.8	16.5	14.6	15.4
(RANK)	(54)	(36)	(37)	(36)	(29)	(28)
5TH %ILE	13.8	47.0	29.3	42.6	24.3	21.0
25TH %ILE	10.4	37.0	12.1	23.1	16.2	15.7
MEDIAN	8.4	29.4	1.4	12.6	10.5	12.9
75TH %ILE	5.6	23.2	-9.3	-1.3	4.4	8.5
95TH %ILE	2.6	16.1	-17.4	-10.6	-0.9	5.5
S&P 500	8.9	31.3	5.6	15.1	12.3	14.1

Large Cap Universe

LARGE CAP EQUITY QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

COMPARATIVE BENCHMARK: S&P 500



RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	11.1	10.8	0.3
3/11	6.2	5.9	0.3
6/11	0.7	0.1	0.6
9/11	-14.1	-13.9	-0.2
12/11	12.0	11.8	0.2
3/12	15.3	12.6	2.7
6/12	-6.4	-2.8	-3.6
9/12	6.5	6.3	0.2
12/12	1.3	-0.4	1.7
3/13	10.2	10.6	-0.4
6/13	2.5	2.9	-0.4
9/13	7.5	5.2	2.3
12/13	11.1	10.5	0.6
3/14	2.0	1.8	0.2
6/14	5.1	5.2	-0.1
9/14	0.4	1.1	-0.7
12/14	5.5	4.9	0.6
3/15	2.0	0.9	1.1
6/15	0.9	0.3	0.6
9/15	-6.7	-6.4	-0.3
12/15	6.0	7.0	-1.0
3/16	0.2	1.3	-1.1
6/16	0.0	2.5	-2.5
9/16	5.3	3.9	1.4
12/16	3.6	3.8	-0.2
3/17	7.3	6.1	1.2
6/17	4.6	3.1	1.5
9/17	4.4	4.5	-0.1
12/17	6.4	6.6	-0.2
3/18	1.7	-0.8	2.5
6/18	4.5	3.4	1.1
9/18	8.3	7.7	0.6
12/18	-14.2	-13.5	-0.7
3/19	15.5	13.6	1.9
6/19	5.7	4.3	1.4
9/19	0.6	1.7	-1.1
12/19	10.1	9.1	1.0
3/20	-20.5	-19.6	-0.9
6/20	23.1	20.5	2.6
9/20	8.1	8.9	-0.8

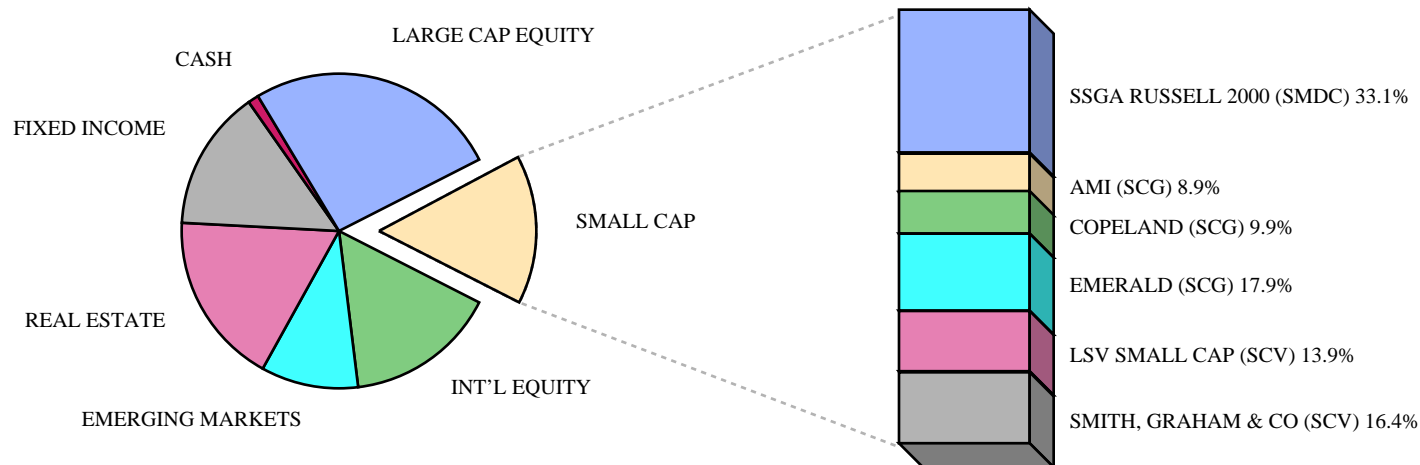
Total Quarters Observed	40
Quarters At or Above the Benchmark	23
Quarters Below the Benchmark	17
Batting Average	.575

SMALL CAP EQUITY MANAGERS

Last quarter, the Russell 2000 Growth Index returned 7.2% versus 2.6% for the Russell 2000 Value Index. The portfolio's small cap component (excluding cash) gained 6.2%, 1.3% above the Russell 2000 index return of 4.9%. AMI and Copeland fell behind their growth index, while Emerald finished ahead. On the value side, LSV beat the index, but Smith, Graham stood out, bucking the current growth bias with a double-digit return.

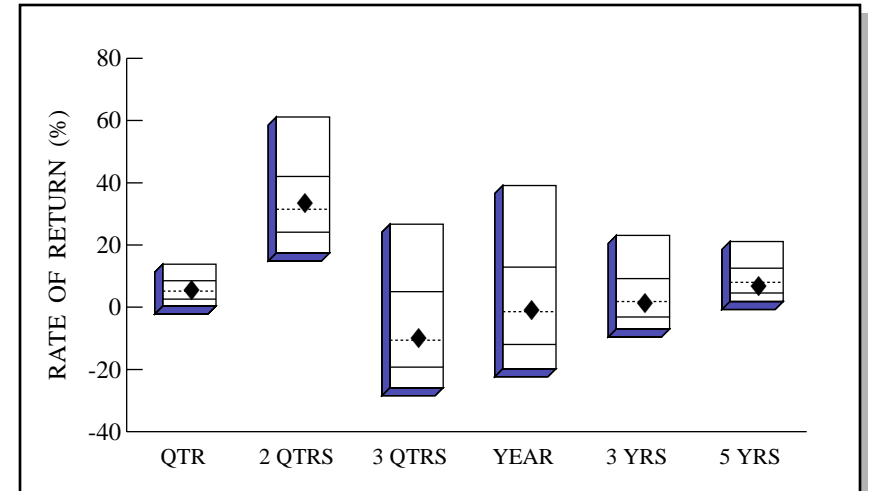
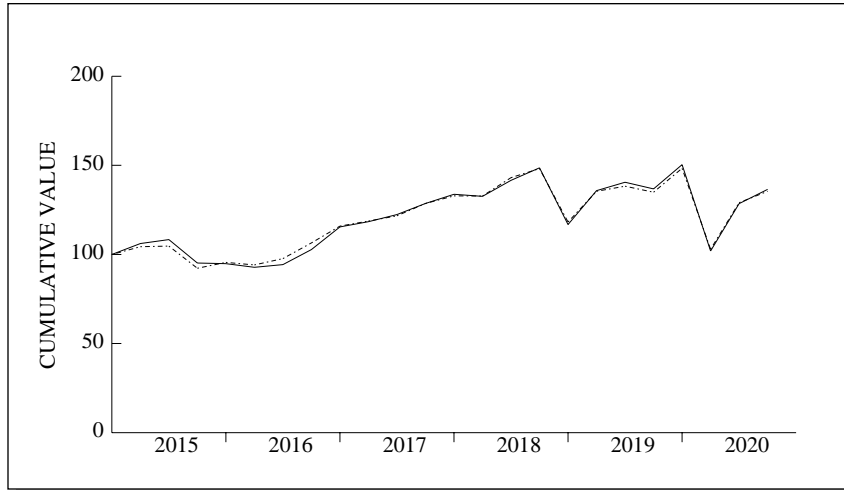
SSgA Russell 2000 (Core)	The SSgA small cap component performed in line with the Russell 2000 index. At quarter end, this investment was valued at \$139,041,532.
AMI (Growth)	The portfolio's emphasized sectors were not among the top sources of return in the small cap growth market last quarter, putting the portfolio at a disadvantage against the index. Selection effects were also negative across all invested sectors.
Copeland (Growth)	Only two of the portfolio's invested sectors produced returns above their index counterparts last quarter – Real Estate and Utilities. Underperformance in the remaining sectors resulted in the portfolio's shortfall against the Russell 2000 Growth.
Emerald (Growth)	Sector returns were mixed, but favorable selection in the Consumer Staples, Financials, and Information Technology sectors overshadowed negative selection effects from the Consumer Discretionary, Health Care, and Industrials sectors. The Energy sector, though only making up a sliver of the portfolio, generated explosive performance through its sole holding New Fortress Energy Inc.
LSV Small Cap (Value)	The portfolio's reduced position in Financials and Real Estate minimized the impact of weak returns in those sectors. Selection effects were mixed, with most sectors falling short of their index counterparts. Communication Services, Industrials, and Materials performed better for the portfolio than the index.
Smith, Graham & Co (Value)	Greater allocations in the Consumer Discretionary and Health Care sectors amplified the strong performance in those sectors. In the case of Health Care, the portfolio improved upon the market return, further adding value.

SMALL CAP EQUITY MANAGER SUMMARY

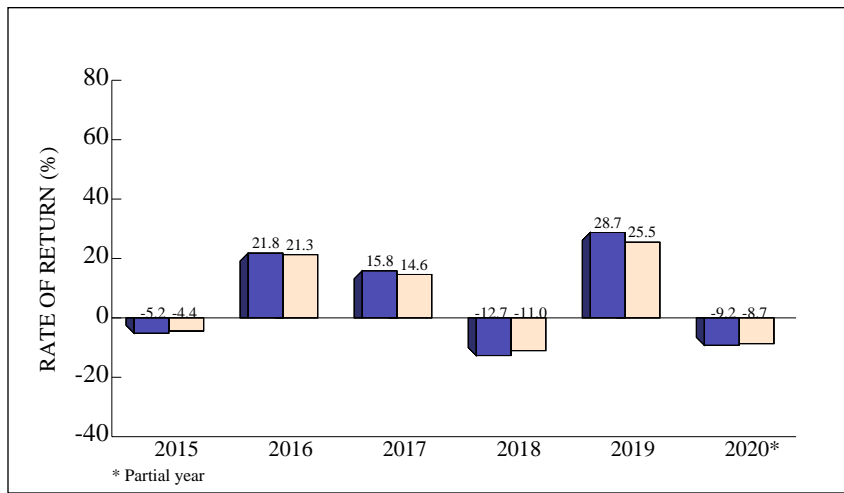


COMPONENT RETURNS AND RANKINGS							
MANAGER	(UNIVERSE)	QTR	YTD	1 YEAR	3 YEARS	5 YEARS	MARKET VALUE
SSGA RUSSELL 2000	(Small Cap)	4.9 (54)	-8.7 (47)	0.4 (47)	1.8 (51)	8.1 (49)	\$139,041,532
<i>Russell 2000</i>		<i>4.9 ---</i>	<i>-8.7 ---</i>	<i>0.4 ---</i>	<i>1.7 ---</i>	<i>8.0 ---</i>	<i>---</i>
AMI	(Small Cap Growth)	1.3 (99)	0.9 (75)	10.6 (72)	1.5 (95)	----	\$37,233,650
COPELAND	(Small Cap Growth)	3.8 (95)	-11.8 (98)	-6.8 (99)	5.0 (82)	----	\$41,436,524
EMERALD	(Small Cap Growth)	9.9 (38)	9.8 (55)	23.2 (46)	12.0 (57)	13.0 (64)	\$75,079,549
<i>Russell 2000 Growth</i>		<i>7.2 ---</i>	<i>3.9 ---</i>	<i>15.7 ---</i>	<i>8.1 ---</i>	<i>11.4 ---</i>	<i>---</i>
LSV SMALL CAP	(Small Cap Value)	4.2 (32)	-24.9 (84)	-18.2 (82)	-6.8 (87)	----	\$58,514,191
SMITH, GRAHAM & CO	(Small Cap Value)	11.1 (1)	-11.7 (14)	-1.1 (11)	-1.7 (29)	----	\$69,032,634
<i>Russell 2000 Value</i>		<i>2.6 ---</i>	<i>-21.6 ---</i>	<i>-14.9 ---</i>	<i>-5.1 ---</i>	<i>4.1 ---</i>	<i>---</i>
TOTAL	(Small Cap)	6.2 (41)	-9.2 (48)	-0.2 (48)	2.0 (49)	7.5 (54)	\$420,338,080
<i>Russell 2000</i>		<i>4.9 ---</i>	<i>-8.7 ---</i>	<i>0.4 ---</i>	<i>1.7 ---</i>	<i>8.0 ---</i>	<i>---</i>

SMALL CAP EQUITY RETURN COMPARISONS



Small Cap Universe



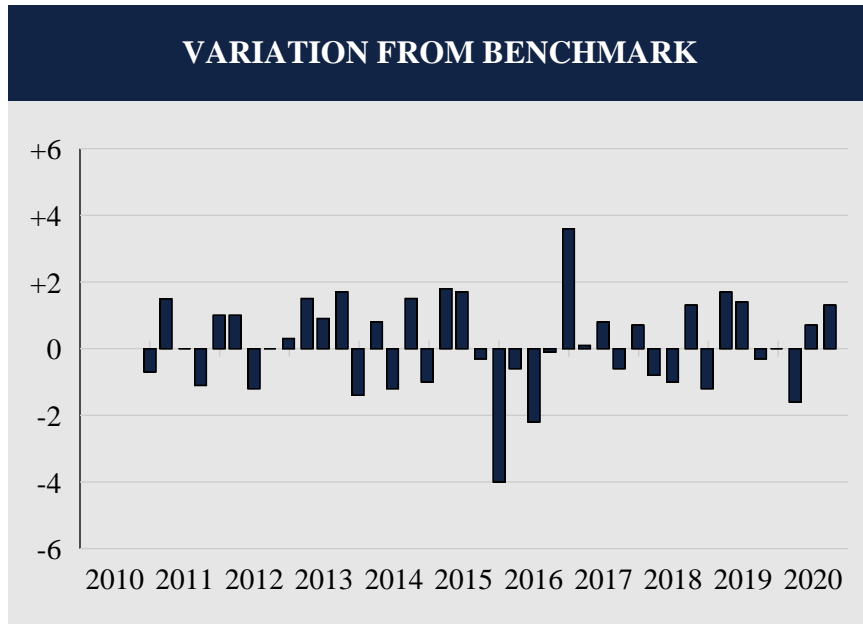
* Partial year

	QTR	2 QTRS	3 QTRS	YEAR	3 YRS	5 YRS
RETURN	6.2	33.9	-9.2	-0.2	2.0	7.5
(RANK)	(41)	(43)	(48)	(48)	(49)	(54)
5TH %ILE	13.8	61.2	26.7	39.1	23.1	21.1
25TH %ILE	8.5	42.0	5.0	12.9	9.2	12.6
MEDIAN	5.2	31.5	-10.6	-1.5	1.8	8.0
75TH %ILE	2.6	24.1	-19.3	-12.0	-3.1	4.6
95TH %ILE	0.4	17.5	-25.9	-19.7	-7.0	1.8
Russ 2000	4.9	31.6	-8.7	0.4	1.7	8.0

Small Cap Universe

SMALL CAP EQUITY QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

COMPARATIVE BENCHMARK: RUSSELL 2000



RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	15.6	16.3	-0.7
3/11	9.4	7.9	1.5
6/11	-1.6	-1.6	0.0
9/11	-23.0	-21.9	-1.1
12/11	16.5	15.5	1.0
3/12	13.4	12.4	1.0
6/12	-4.7	-3.5	-1.2
9/12	5.2	5.2	0.0
12/12	2.1	1.8	0.3
3/13	13.9	12.4	1.5
6/13	4.0	3.1	0.9
9/13	11.9	10.2	1.7
12/13	7.3	8.7	-1.4
3/14	1.9	1.1	0.8
6/14	0.8	2.0	-1.2
9/14	-5.9	-7.4	1.5
12/14	8.7	9.7	-1.0
3/15	6.1	4.3	1.8
6/15	2.1	0.4	1.7
9/15	-12.2	-11.9	-0.3
12/15	-0.4	3.6	-4.0
3/16	-2.1	-1.5	-0.6
6/16	1.6	3.8	-2.2
9/16	8.9	9.0	-0.1
12/16	12.4	8.8	3.6
3/17	2.6	2.5	0.1
6/17	3.3	2.5	0.8
9/17	5.1	5.7	-0.6
12/17	4.0	3.3	0.7
3/18	-0.9	-0.1	-0.8
6/18	6.8	7.8	-1.0
9/18	4.9	3.6	1.3
12/18	-21.4	-20.2	-1.2
3/19	16.3	14.6	1.7
6/19	3.5	2.1	1.4
9/19	-2.7	-2.4	-0.3
12/19	9.9	9.9	0.0
3/20	-32.2	-30.6	-1.6
6/20	26.1	25.4	0.7
9/20	6.2	4.9	1.3

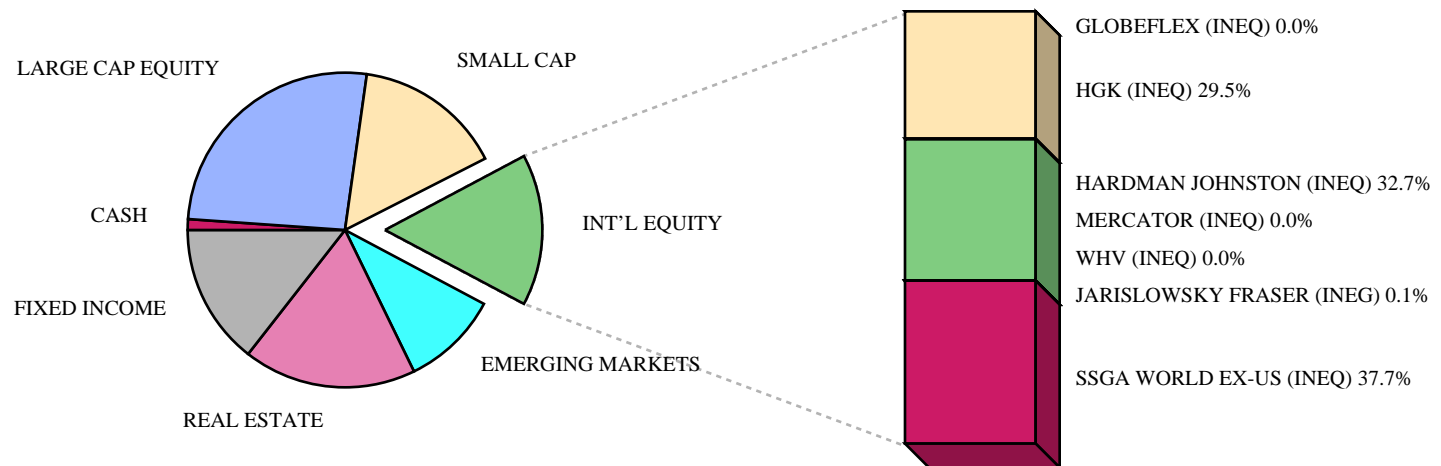
Total Quarters Observed	40
Quarters At or Above the Benchmark	23
Quarters Below the Benchmark	17
Batting Average	.575

INTERNATIONAL & EMERGING MARKETS EQUITY MANAGERS

The developed international portfolio (excluding cash) returned 8.1% over the quarter, 3.2% above the MSCI EAFE Index return of 4.9%. The S&P BMI Developed Markets Ex US returned 6.3% vs 4.7% for the MSCI World Ex US. The Emerging Markets portfolio, driven by its only manager, SSgA, gained 9.7%, in line with the MSCI Emerging Markets Index.

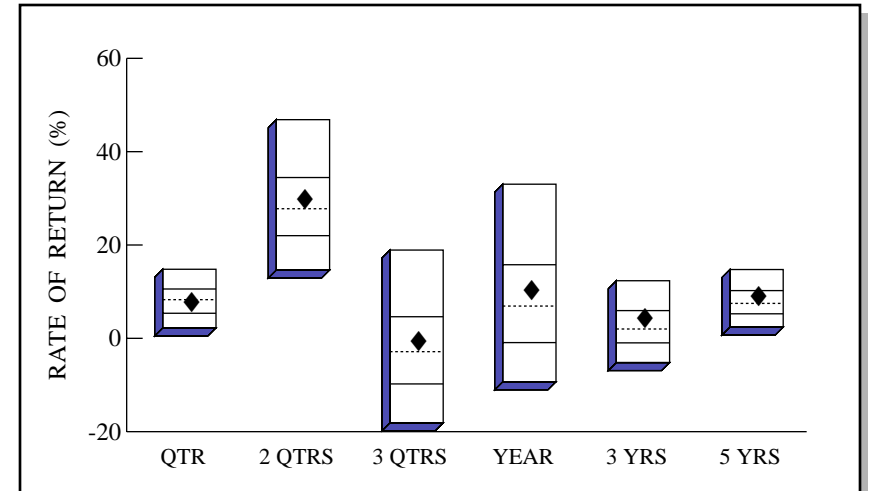
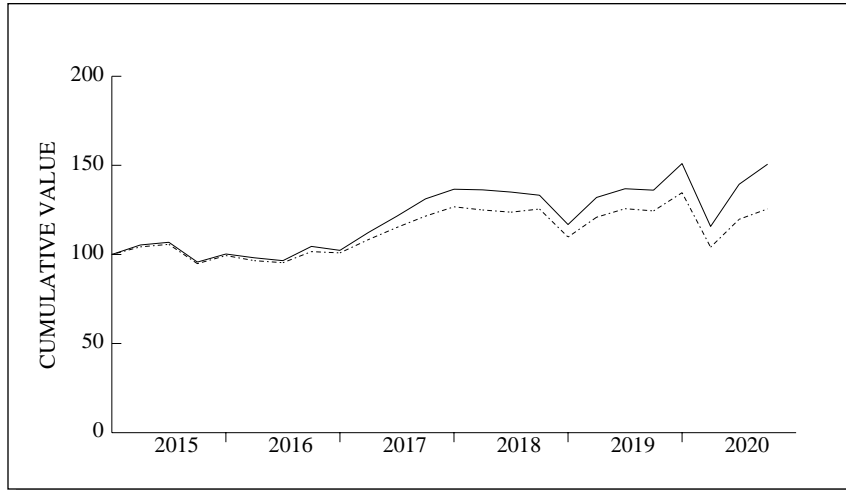
SSgA Developed	The SSgA developed markets component returned 5.0% during the quarter. Over the trailing year, this component was up 0.6%. This investment was valued at \$162,537,922 at quarter end.
Hardman Johnston	The Hardman Johnston international equity component earned 13.2% over the quarter. Over the last four quarters, the component gained 28.8%, while the S&P BMI Developed Ex US returned 6.3% and 3.0% over the quarter and trailing year.
HGK	HGK's equity component returned 6.8% last quarter. Over the trailing year, the HGK international equity component gained 8.0%.
SSgA Emerging	The SSgA emerging markets fund gained 9.7% during the quarter. Over the trailing year, this component returned 11.0%. At quarter end, this fund was valued at \$274,578,761.

INTERNATIONAL EQUITY MANAGER SUMMARY

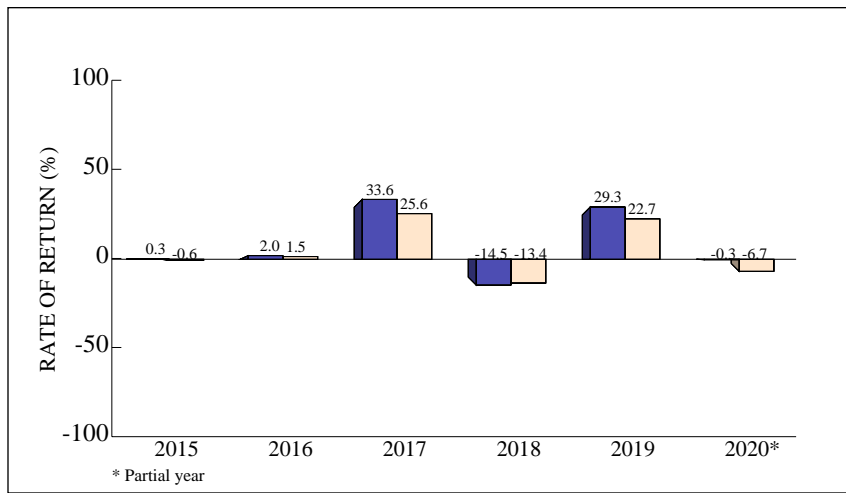
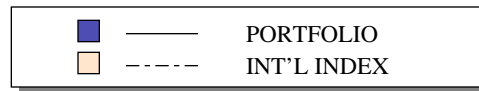


		COMPONENT RETURNS AND RANKINGS					
MANAGER	(UNIVERSE)	QTR	YTD	1 YEAR	3 YEARS	5 YEARS	MARKET VALUE
GLOBEFLEX	(International Equity)	----	----	----	----	----	\$2,850
HGK	(International Equity)	6.8 (64)	-4.0 (54)	8.0 (46)	2.8 (42)	8.6 (39)	\$126,992,160
HARDMAN JOHNSTON	(International Equity)	13.2 (11)	13.0 (11)	28.8 (7)	11.3 (7)	15.0 (5)	\$141,085,246
MERCATOR	(International Equity)	-----	----	----	----	----	\$18,951
WHV	(International Equity)	----	----	----	----	----	\$3,135
<i>S&P BMI Developed Ex US Index</i>		6.3 ---	-5.2 ---	3.0 ---	1.5 ---	6.4 ---	---
JARISLOWSKY FRASER	(International Equity)	----	----	----	----	----	\$314,601
<i>MSCI EAFE</i>		4.9 ---	-6.7 ---	0.9 ---	1.1 ---	5.8 ---	---
SSGA WORLD EX-US	(International Equity)	5.0 (79)	-6.7 (65)	0.6 (72)	1.0 (59)	5.8 (69)	\$162,537,922
<i>MSCI World Ex US</i>		4.7 ---	-8.7 ---	-1.5 ---	0.4 ---	5.5 ---	---
TOTAL	(International Equity)	8.1 (52)	-0.3 (38)	10.7 (37)	4.7 (32)	9.5 (30)	\$430,954,865
<i>Blended International Index</i>		4.9 ---	-6.7 ---	0.9 ---	1.1 ---	5.8 ---	---

INTERNATIONAL EQUITY RETURN COMPARISONS



International Equity Universe

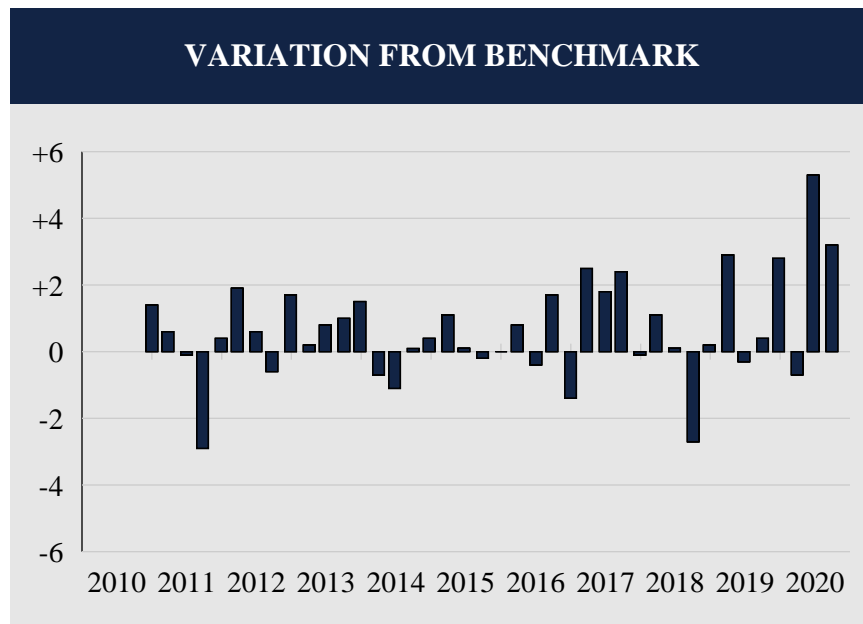


	QTR	2 QTRS	3 QTRS	YEAR	3 YRS	5 YRS
RETURN	8.1	30.1	-0.3	10.7	4.7	9.5
(RANK)	(52)	(41)	(38)	(37)	(32)	(30)
5TH %ILE	14.8	46.9	18.9	33.0	12.3	14.8
25TH %ILE	10.6	34.4	4.6	15.8	5.9	10.2
MEDIAN	8.3	27.8	-2.9	6.9	2.0	7.5
75TH %ILE	5.4	22.0	-9.8	-0.9	-1.0	5.2
95TH %ILE	2.2	14.6	-18.1	-9.3	-5.2	2.4
<i>Intl Index</i>	<i>4.9</i>	<i>20.7</i>	<i>-6.7</i>	<i>0.9</i>	<i>1.1</i>	<i>5.8</i>

International Equity Universe

INTERNATIONAL EQUITY QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

COMPARATIVE BENCHMARK: BLENDED INTERNATIONAL INDEX

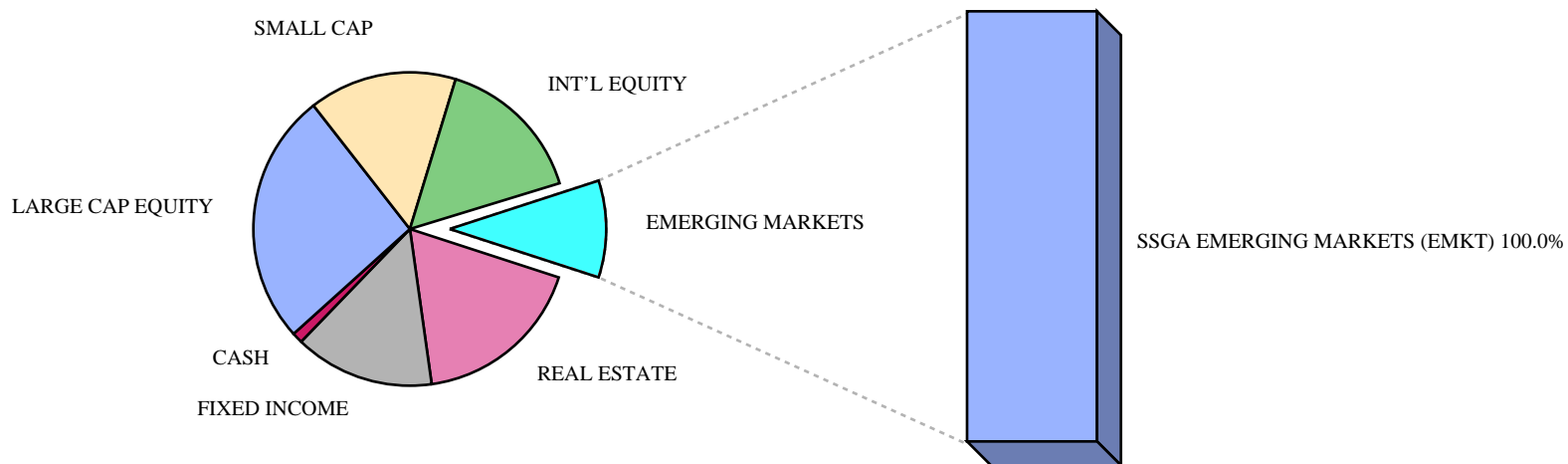


RATES OF RETURN

Date	Portfolio	Benchmark	Difference
12/10	9.5	8.1	1.4
3/11	4.6	4.0	0.6
6/11	0.5	0.6	-0.1
9/11	-22.2	-19.3	-2.9
12/11	3.7	3.3	0.4
3/12	14.2	12.3	1.9
6/12	-6.6	-7.2	0.6
9/12	7.1	7.7	-0.6
12/12	7.5	5.8	1.7
3/13	5.1	4.9	0.2
6/13	-1.0	-1.8	0.8
9/13	12.9	11.9	1.0
12/13	6.9	5.4	1.5
3/14	0.5	1.2	-0.7
6/14	3.7	4.8	-1.1
9/14	-5.8	-5.9	0.1
12/14	-3.3	-3.7	0.4
3/15	5.3	4.2	1.1
6/15	1.4	1.3	0.1
9/15	-10.4	-10.2	-0.2
12/15	4.7	4.7	0.0
3/16	-2.1	-2.9	0.8
6/16	-1.6	-1.2	-0.4
9/16	8.2	6.5	1.7
12/16	-2.1	-0.7	-1.4
3/17	9.9	7.4	2.5
6/17	8.2	6.4	1.8
9/17	7.9	5.5	2.4
12/17	4.2	4.3	-0.1
3/18	-0.3	-1.4	1.1
6/18	-0.9	-1.0	0.1
9/18	-1.3	1.4	-2.7
12/18	-12.3	-12.5	0.2
3/19	13.0	10.1	2.9
6/19	3.7	4.0	-0.3
9/19	-0.6	-1.0	0.4
12/19	11.0	8.2	2.8
3/20	-23.4	-22.7	-0.7
6/20	20.4	15.1	5.3
9/20	8.1	4.9	3.2

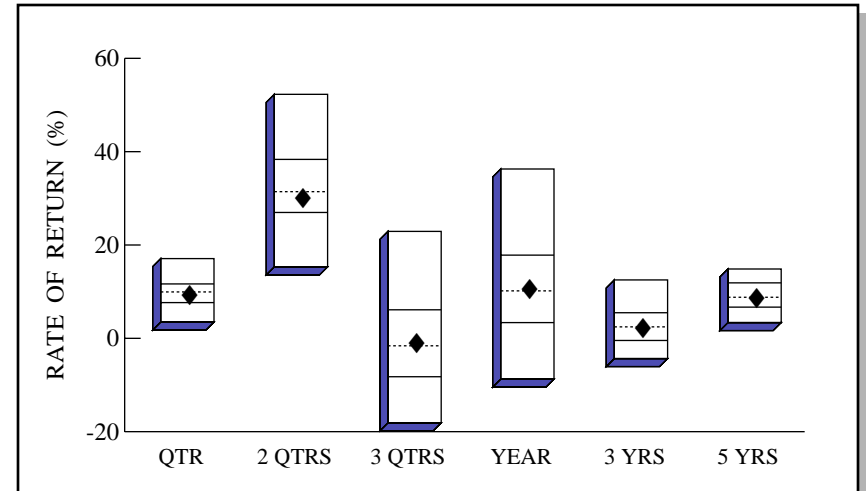
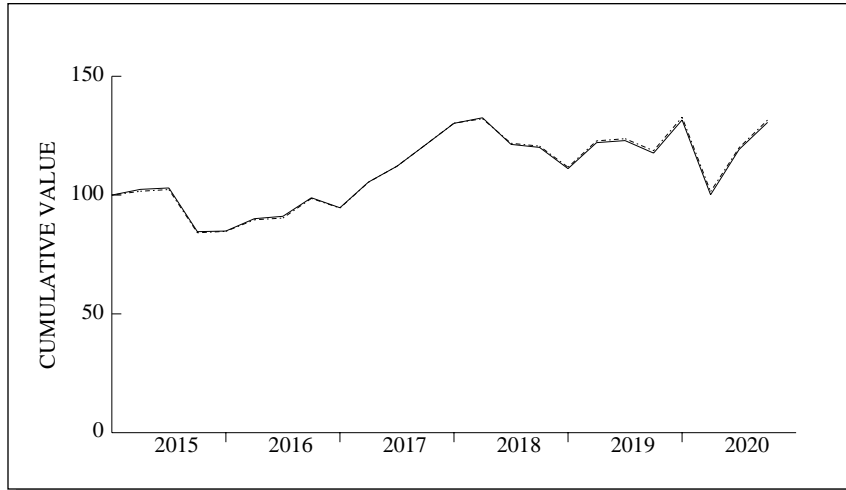
Total Quarters Observed	40
Quarters At or Above the Benchmark	28
Quarters Below the Benchmark	12
Batting Average	.700

EMERGING MARKETS EQUITY MANAGER SUMMARY

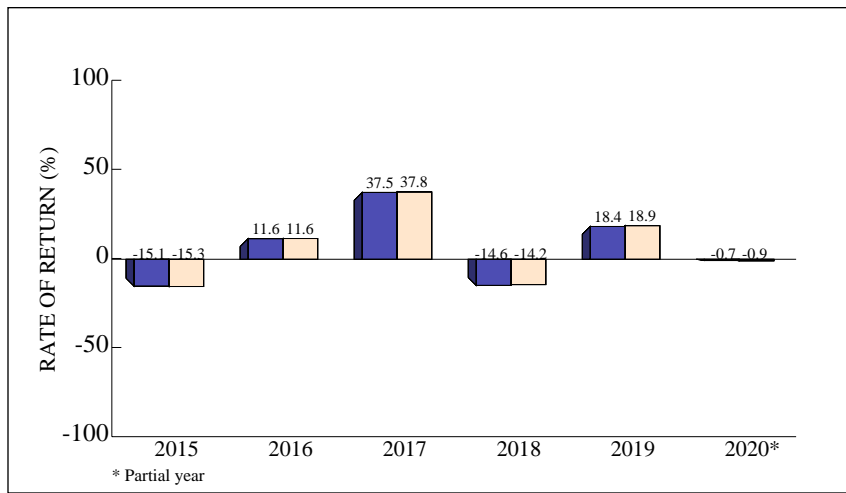


MANAGER	(UNIVERSE)	COMPONENT RETURNS AND RANKINGS					MARKET VALUE
		QTR	YTD	1 YEAR	3 YEARS	5 YEARS	
SSGA EMERGING MARKETS	(Emerging Markets)	9.6 (56)	-0.7 (46)	11.0 (46)	2.5 (49)	9.1 (44)	\$274,578,761
<i>Blended Emerging Markets Index</i>		<i>9.7 ----</i>	<i>-0.9 ----</i>	<i>10.9 ----</i>	<i>2.8 ----</i>	<i>9.4 ----</i>	<i>----</i>
TOTAL	(Emerging Markets)	9.6 (56)	-0.7 (46)	11.0 (46)	2.5 (49)	9.1 (44)	\$274,578,761
<i>Blended Emerging Markets Index</i>		<i>9.7 ----</i>	<i>-0.9 ----</i>	<i>10.9 ----</i>	<i>2.8 ----</i>	<i>9.4 ----</i>	<i>----</i>

EMERGING MARKETS EQUITY RETURN COMPARISONS



Emerging Markets Universe



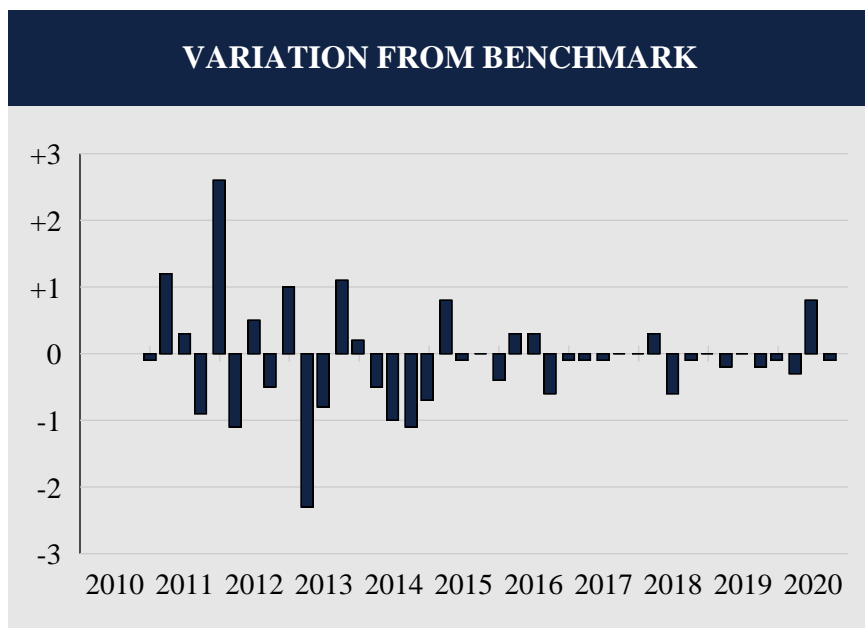
* Partial year

	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	9.6	30.4	-0.7	11.0	2.6	9.1
(RANK)	(56)	(56)	(46)	(46)	(49)	(44)
5TH %ILE	17.1	52.3	22.9	36.3	12.5	14.9
25TH %ILE	11.7	38.4	6.1	17.8	5.5	11.9
MEDIAN	9.9	31.4	-1.6	10.2	2.4	8.8
75TH %ILE	7.7	27.0	-8.2	3.4	-0.4	6.7
95TH %ILE	3.5	15.3	-18.1	-8.7	-4.4	3.4
EM Index	9.7	29.6	-0.9	10.9	2.8	9.4

Emerging Markets Universe

EMERGING MARKETS EQUITY QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

COMPARATIVE BENCHMARK: BLENDED EMERGING MARKETS INDEX

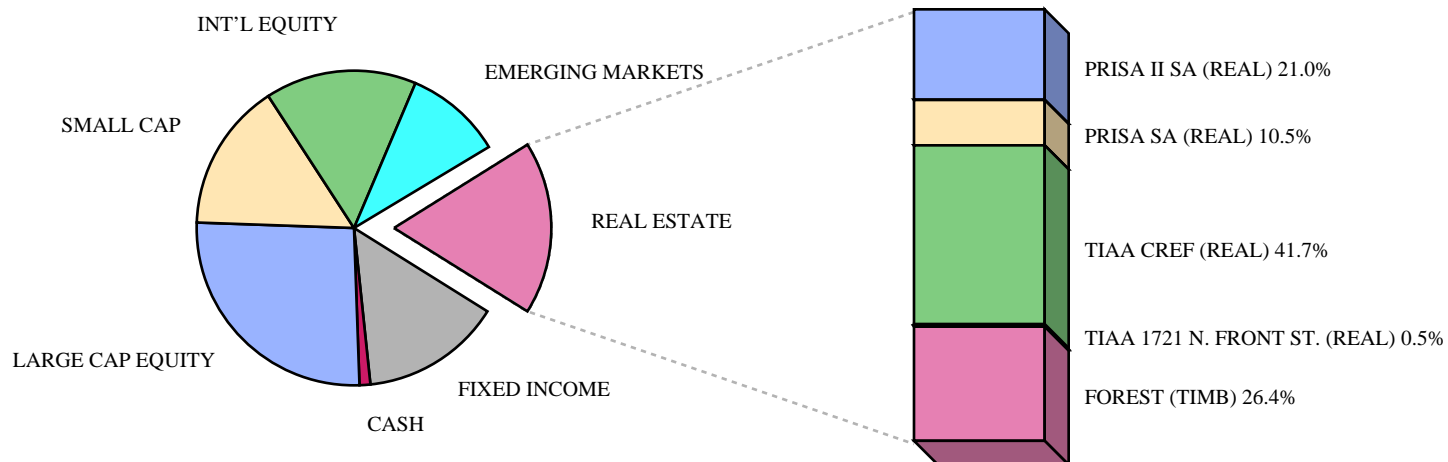


Total Quarters Observed	40
Quarters At or Above the Benchmark	17
Quarters Below the Benchmark	23
Batting Average	.425

RATES OF RETURN

Date	Portfolio	Benchmark	Difference
12/10	7.2	7.3	-0.1
3/11	1.9	0.7	1.2
6/11	-1.2	-1.5	0.3
9/11	-23.4	-22.5	-0.9
12/11	5.7	3.1	2.6
3/12	13.8	14.9	-1.1
6/12	-8.4	-8.9	0.5
9/12	7.0	7.5	-0.5
12/12	6.6	5.6	1.0
3/13	-2.6	-0.3	-2.3
6/13	-8.1	-7.3	-0.8
9/13	5.8	4.7	1.1
12/13	2.2	2.0	0.2
3/14	-0.7	-0.2	-0.5
6/14	6.6	7.6	-1.0
9/14	-3.6	-2.5	-1.1
12/14	-4.7	-4.0	-0.7
3/15	2.4	1.6	0.8
6/15	0.6	0.7	-0.1
9/15	-17.8	-17.8	0.0
12/15	0.3	0.7	-0.4
3/16	6.1	5.8	0.3
6/16	1.1	0.8	0.3
9/16	8.6	9.2	-0.6
12/16	-4.2	-4.1	-0.1
3/17	11.4	11.5	-0.1
6/17	6.3	6.4	-0.1
9/17	8.0	8.0	0.0
12/17	7.5	7.5	0.0
3/18	1.8	1.5	0.3
6/18	-8.5	-7.9	-0.6
9/18	-1.0	-0.9	-0.1
12/18	-7.4	-7.4	0.0
3/19	9.8	10.0	-0.2
6/19	0.7	0.7	0.0
9/19	-4.3	-4.1	-0.2
12/19	11.8	11.9	-0.1
3/20	-23.9	-23.6	-0.3
6/20	19.0	18.2	0.8
9/20	9.6	9.7	-0.1

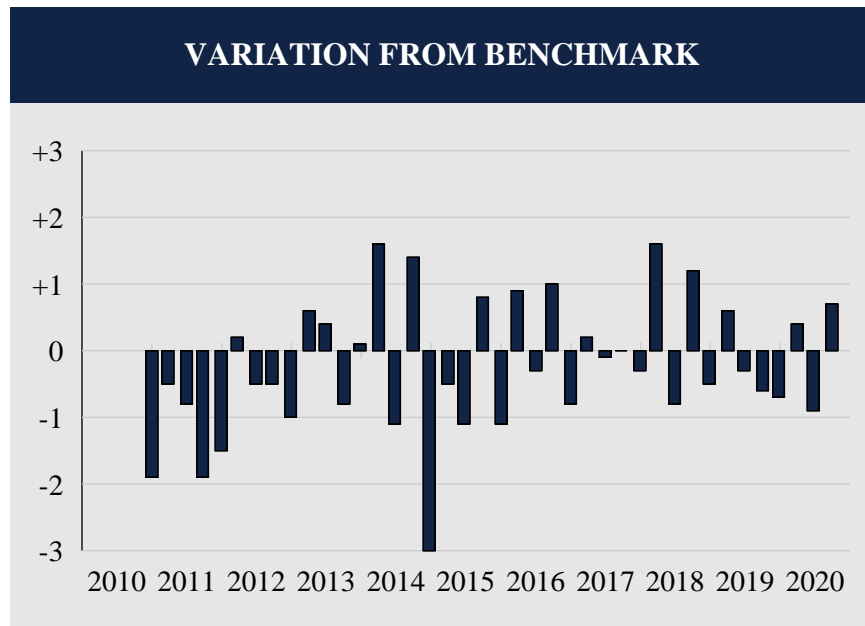
REAL ESTATE MANAGER SUMMARY



MANAGER	(UNIVERSE)	COMPONENT RETURNS AND RANKINGS					MARKET VALUE
		QTR	YTD	1 YEAR	3 YEARS	5 YEARS	
PRISA II SA		0.4 ---	-0.7 ---	1.4 ---	6.2 ---	7.9 ---	\$103,711,028
PRISA SA		0.5 ---	1.1 ---	2.4 ---	6.0 ---	7.1 ---	\$51,854,386
TIAA CREF		2.9 ---	1.9 ---	3.5 ---	7.0 ---	7.6 ---	\$206,119,761
<i>NCREIF NFI-ODCE Index</i>		<i>0.5 ---</i>	<i>-0.1 ---</i>	<i>1.4 ---</i>	<i>5.2 ---</i>	<i>6.6 ---</i>	---
TIAA 1721 N. FRONT ST.		1.3 ---	3.7 ---	5.9 ---	2.2 ---	---	\$2,329,743
<i>NCREIF Property Index</i>		<i>0.7 ---</i>	<i>0.5 ---</i>	<i>2.0 ---</i>	<i>5.1 ---</i>	<i>6.3 ---</i>	---
FOREST		0.3 ---	-0.6 ---	-2.0 ---	1.7 ---	3.3 ---	\$130,868,837
<i>NCREIF Timber Index</i>		<i>0.0 ---</i>	<i>0.2 ---</i>	<i>0.2 ---</i>	<i>2.1 ---</i>	<i>2.6 ---</i>	---
TOTAL		1.4 ---	0.6 ---	1.4 ---	5.2 ---	6.3 ---	\$494,883,755
<i>NCREIF Property Index</i>		<i>0.7 ---</i>	<i>0.5 ---</i>	<i>2.0 ---</i>	<i>5.1 ---</i>	<i>6.3 ---</i>	---

REAL ESTATE QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

COMPARATIVE BENCHMARK: NCREIF PROPERTY INDEX



RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	2.7	4.6	-1.9
3/11	2.9	3.4	-0.5
6/11	3.1	3.9	-0.8
9/11	1.4	3.3	-1.9
12/11	1.5	3.0	-1.5
3/12	2.8	2.6	0.2
6/12	2.2	2.7	-0.5
9/12	1.8	2.3	-0.5
12/12	1.5	2.5	-1.0
3/13	3.2	2.6	0.6
6/13	3.3	2.9	0.4
9/13	1.8	2.6	-0.8
12/13	2.6	2.5	0.1
3/14	4.3	2.7	1.6
6/14	1.8	2.9	-1.1
9/14	4.0	2.6	1.4
12/14	0.0	3.0	-3.0
3/15	3.1	3.6	-0.5
6/15	2.0	3.1	-1.1
9/15	3.9	3.1	0.8
12/15	1.8	2.9	-1.1
3/16	3.1	2.2	0.9
6/16	1.7	2.0	-0.3
9/16	2.8	1.8	1.0
12/16	0.9	1.7	-0.8
3/17	1.7	1.5	0.2
6/17	1.7	1.8	-0.1
9/17	1.7	1.7	0.0
12/17	1.5	1.8	-0.3
3/18	3.3	1.7	1.6
6/18	1.0	1.8	-0.8
9/18	2.9	1.7	1.2
12/18	0.9	1.4	-0.5
3/19	2.4	1.8	0.6
6/19	1.2	1.5	-0.3
9/19	0.8	1.4	-0.6
12/19	0.8	1.5	-0.7
3/20	1.1	0.7	0.4
6/20	-1.9	-1.0	-0.9
9/20	1.4	0.7	0.7

Total Quarters Observed	40
Quarters At or Above the Benchmark	16
Quarters Below the Benchmark	24
Batting Average	.400

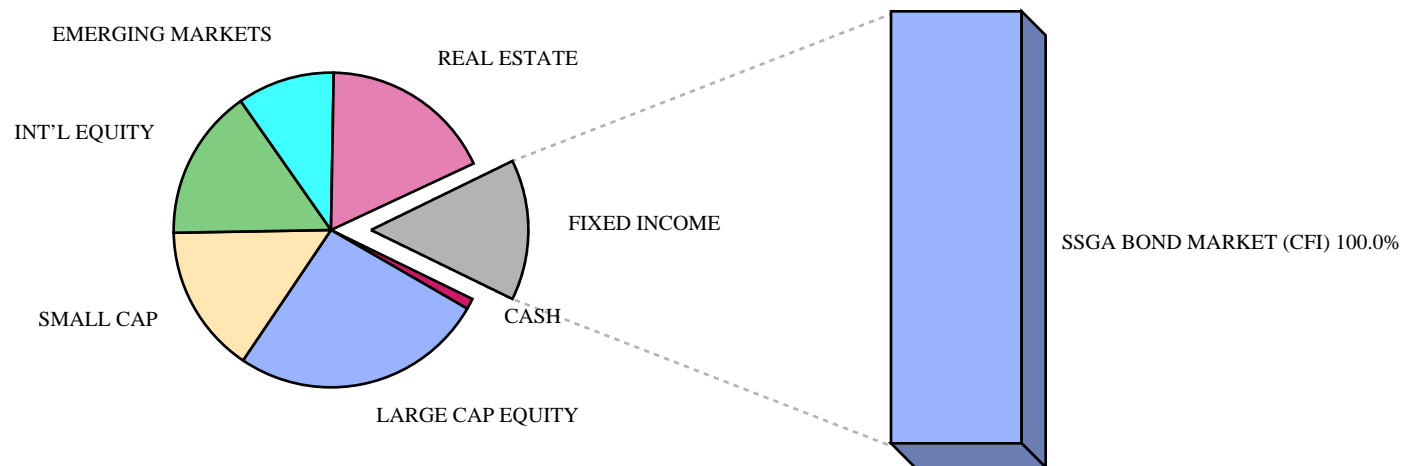
FIXED INCOME MANAGER

The Bloomberg Barclays US Aggregate Index returned 0.6% last quarter, while the Bloomberg Barclays Gov/Credit index was up 0.8%. For the trailing year they returned 6.8% and 8.0%, respectively.

**SSgA
(Broad Market)**

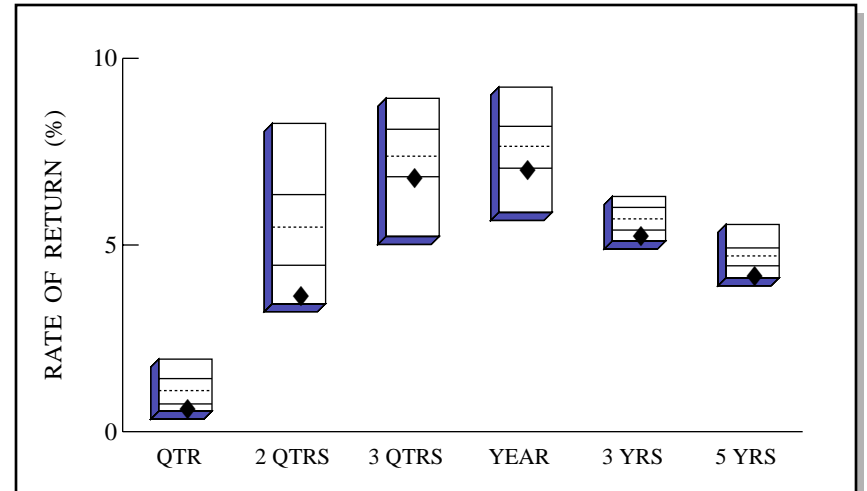
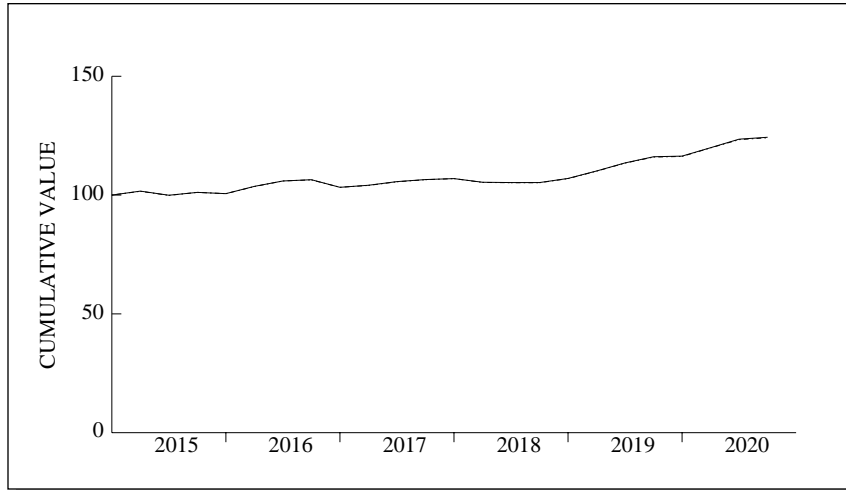
The SSgA fixed income component returned 0.7% last quarter. Over the trailing year, the fund rose 7.1%. At year end, this investment was valued at \$397,218,043.

FIXED INCOME MANAGER SUMMARY

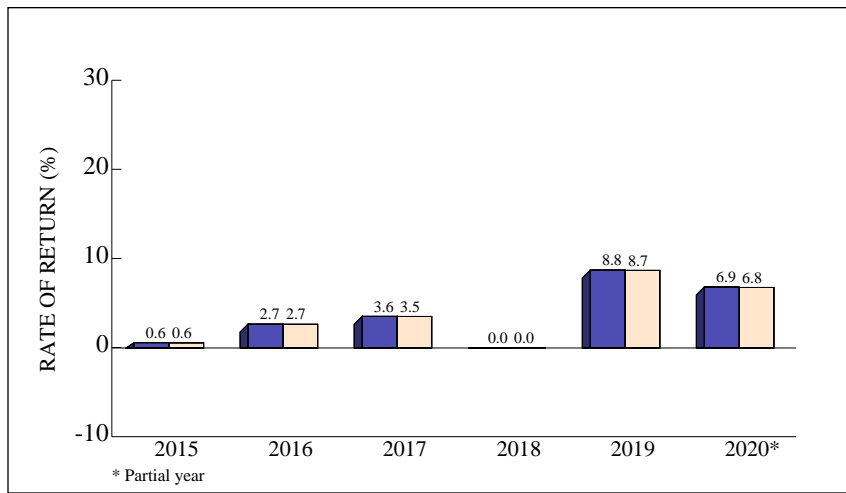


MANAGER	(UNIVERSE)	COMPONENT RETURNS AND RANKINGS					MARKET VALUE
		QTR	YTD	1 YEAR	3 YEARS	5 YEARS	
SSGA BOND MARKET	(Core Fixed Income)	0.7 (82)	6.9 (73)	7.0 (77)	5.3 (88)	4.2 (88)	\$397,218,043
<i>Bloomberg Barclays Aggregate Index</i>		0.6 ---	6.8 ---	7.0 ---	5.2 ---	4.2 ---	---
TOTAL	(Core Fixed Income)	0.7 (82)	6.9 (73)	7.0 (77)	5.3 (88)	4.2 (88)	\$397,218,043
<i>Bloomberg Barclays Aggregate Index</i>		0.6 ---	6.8 ---	7.0 ---	5.2 ---	4.2 ---	---

FIXED INCOME RETURN COMPARISONS



Core Fixed Income Universe



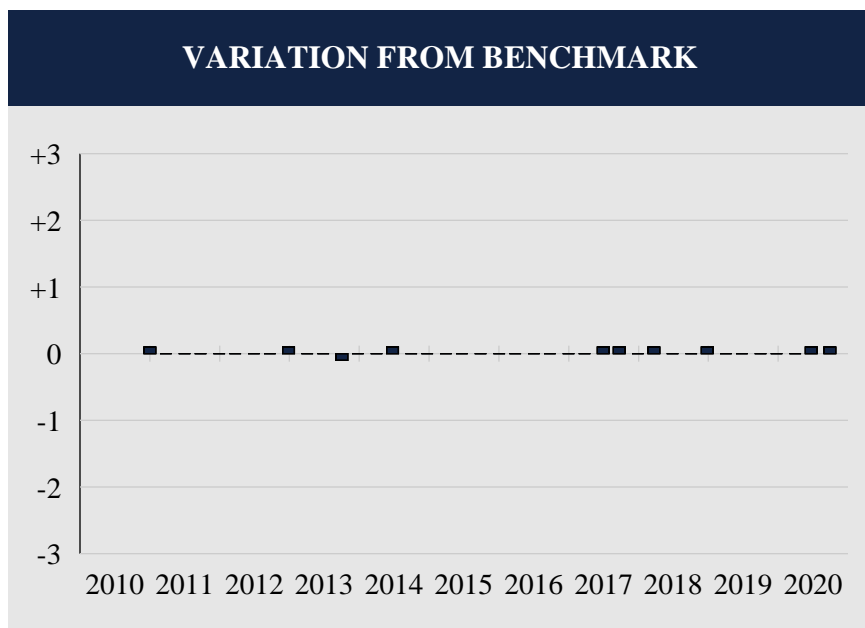
* Partial year

	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	0.7	3.7	6.9	7.0	5.3	4.2
(RANK)	(82)	(85)	(73)	(77)	(88)	(88)
5TH %ILE	1.9	8.3	8.9	9.2	6.3	5.6
25TH %ILE	1.4	6.4	8.1	8.2	6.0	4.9
MEDIAN	1.1	5.5	7.4	7.6	5.7	4.7
75TH %ILE	0.7	4.5	6.8	7.1	5.4	4.4
95TH %ILE	0.6	3.4	5.2	5.9	5.1	4.1
Agg	0.6	3.5	6.8	7.0	5.2	4.2

Core Fixed Income Universe

FIXED INCOME QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

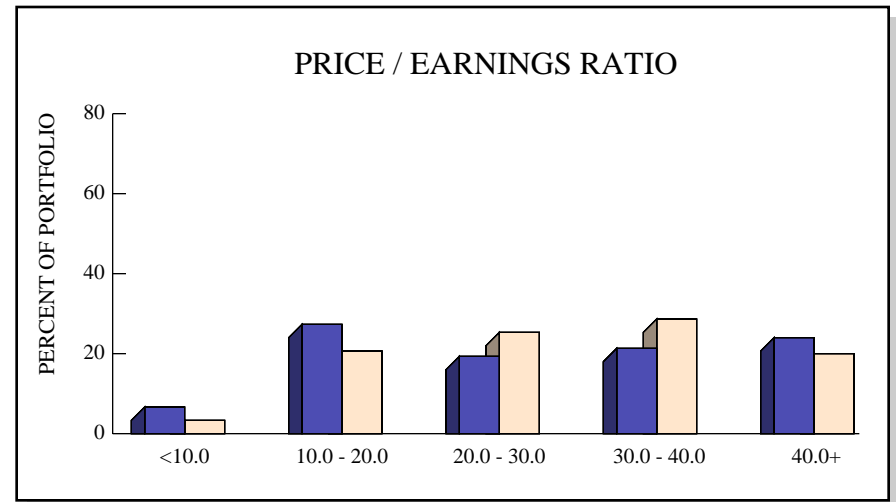
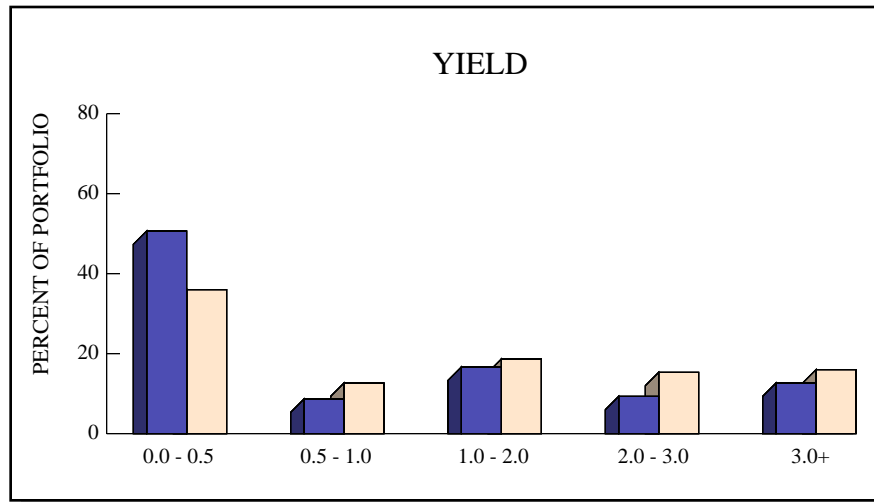
COMPARATIVE BENCHMARK: BLOOMBERG BARCLAYS AGGREGATE INDEX



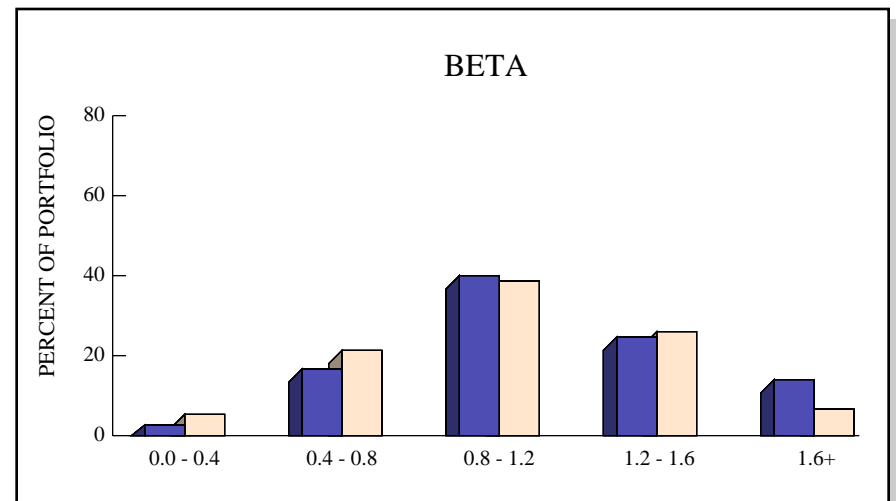
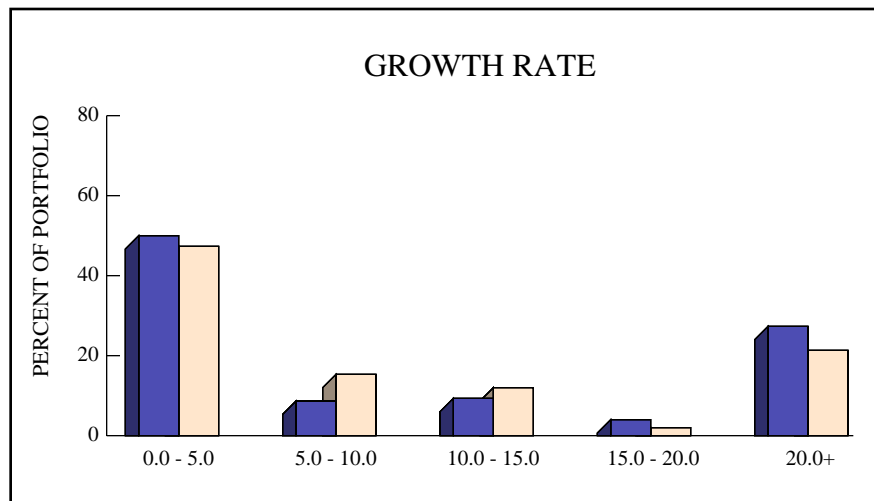
RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	-1.2	-1.3	0.1
3/11	0.4	0.4	0.0
6/11	2.3	2.3	0.0
9/11	3.8	3.8	0.0
12/11	1.1	1.1	0.0
3/12	0.3	0.3	0.0
6/12	2.1	2.1	0.0
9/12	1.6	1.6	0.0
12/12	0.3	0.2	0.1
3/13	-0.1	-0.1	0.0
6/13	-2.3	-2.3	0.0
9/13	0.5	0.6	-0.1
12/13	-0.1	-0.1	0.0
3/14	1.8	1.8	0.0
6/14	2.1	2.0	0.1
9/14	0.2	0.2	0.0
12/14	1.8	1.8	0.0
3/15	1.6	1.6	0.0
6/15	-1.7	-1.7	0.0
9/15	1.2	1.2	0.0
12/15	-0.6	-0.6	0.0
3/16	3.0	3.0	0.0
6/16	2.2	2.2	0.0
9/16	0.5	0.5	0.0
12/16	-3.0	-3.0	0.0
3/17	0.8	0.8	0.0
6/17	1.5	1.4	0.1
9/17	0.9	0.8	0.1
12/17	0.4	0.4	0.0
3/18	-1.4	-1.5	0.1
6/18	-0.2	-0.2	0.0
9/18	0.0	0.0	0.0
12/18	1.7	1.6	0.1
3/19	2.9	2.9	0.0
6/19	3.1	3.1	0.0
9/19	2.3	2.3	0.0
12/19	0.2	0.2	0.0
3/20	3.1	3.1	0.0
6/20	3.0	2.9	0.1
9/20	0.7	0.6	0.1

Total Quarters Observed	40
Quarters At or Above the Benchmark	39
Quarters Below the Benchmark	1
Batting Average	.975

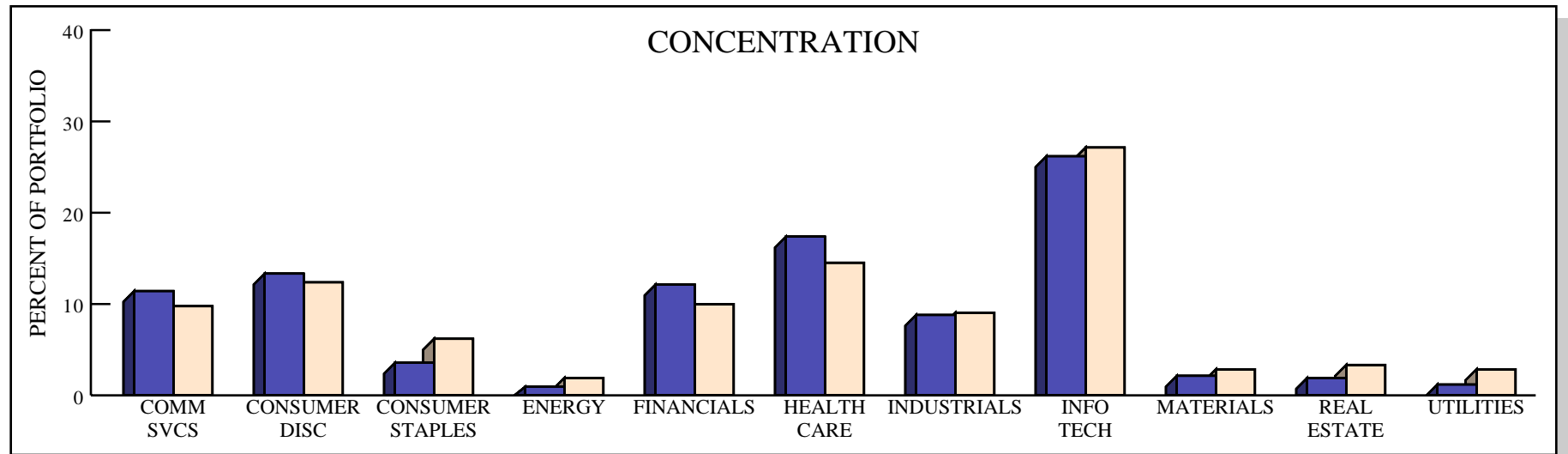
STOCK CHARACTERISTICS



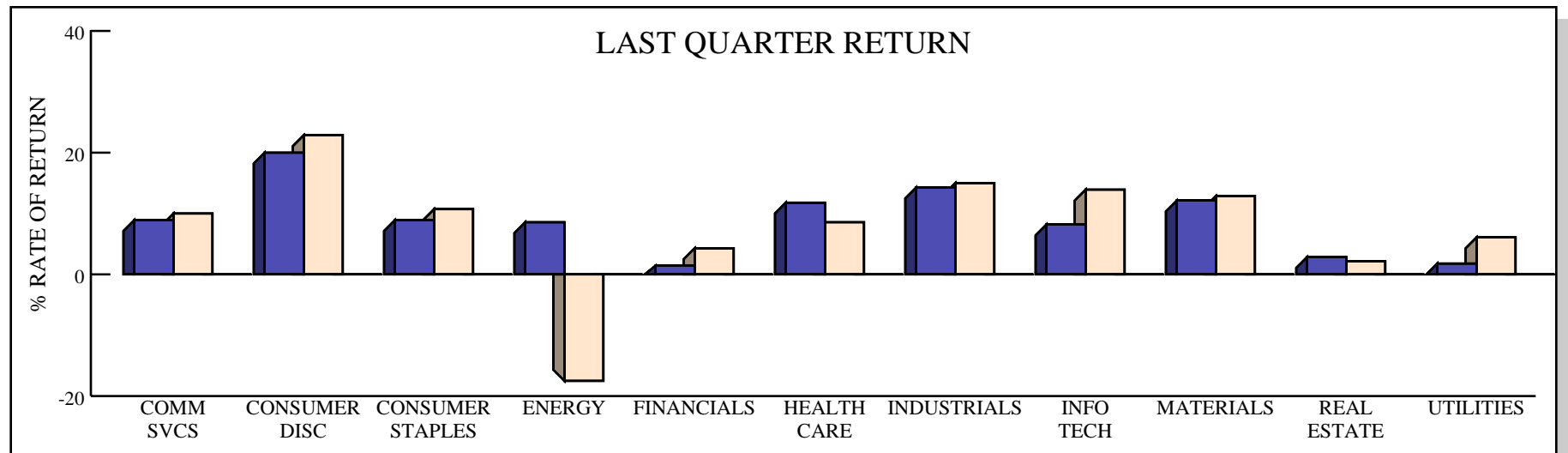
	# HOLDINGS	YIELD	GROWTH	P/E	BETA
PORTFOLIO	2,644	1.2%	6.6%	32.3	1.13
RUSSELL 3000	3,036	1.5%	6.0%	33.3	1.03



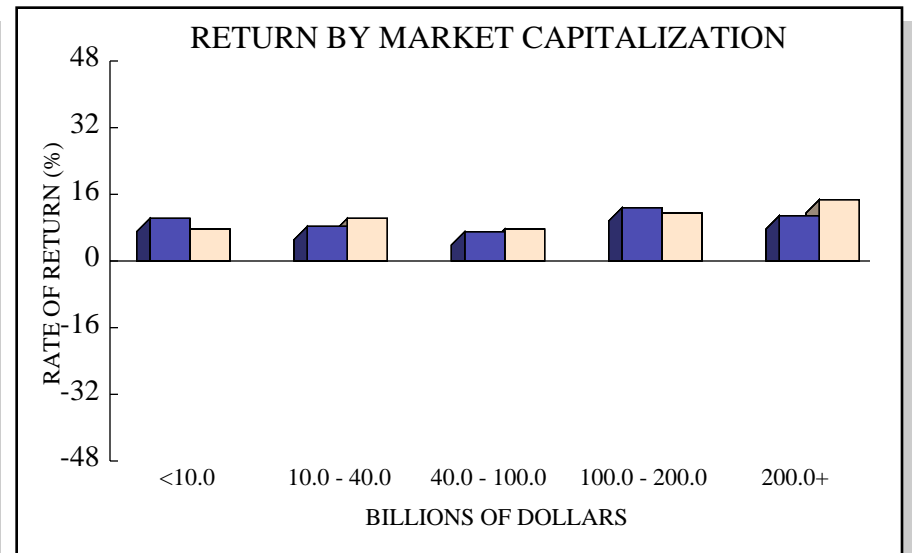
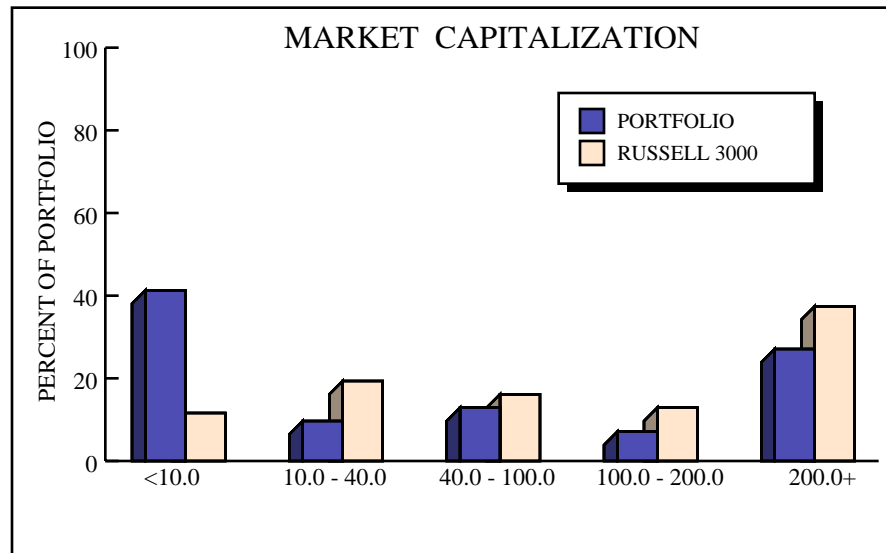
STOCK INDUSTRY ANALYSIS



■ PORTFOLIO ■ RUSSELL 3000



TOP TEN HOLDINGS



TOP TEN EQUITY HOLDINGS

RANK	NAME	VALUE	% EQUITY	RETURN	INDUSTRY SECTOR	MKT CAP
1	MICROSOFT CORP	\$ 47,768,888	4.19%	3.6%	Information Technology	\$ 1591.7 B
2	FACEBOOK INC	32,204,009	2.82%	15.3%	Communication Services	746.1 B
3	ALPHABET INC	31,816,839	2.79%	4.0%	Communication Services	490.3 B
4	AMAZON.COM INC	22,390,619	1.96%	14.1%	Consumer Discretionary	1577.2 B
5	ADOBE INC	21,519,087	1.89%	12.7%	Information Technology	235.3 B
6	ABBOTT LABORATORIES	16,428,433	1.44%	19.5%	Health Care	192.7 B
7	MASTERCARD INC	16,317,718	1.43%	14.5%	Information Technology	338.5 B
8	UNITEDHEALTH GROUP INC	16,085,149	1.41%	6.1%	Health Care	296.3 B
9	COMCAST CORP	14,946,097	1.31%	18.7%	Communication Services	211.3 B
10	SALESFORCE.COM INC	13,981,686	1.23%	34.2%	Information Technology	228.7 B

Domestic Industry Sector Allocations
(Percent of Invested Equity)
As of September 30, 2020

	Comm Services	Consumer Discretionary	Consumer Staples	Energy	Financials	Health Care	Industrials	Information Technology	Materials	Real Estate	Utilities
Eagle	33.9	16.0	0.0	0.0	28.2	6.1	5.1	9.5	1.3	0.0	0.0
LSV Large Cap	7.7	12.0	6.3	2.1	14.1	19.6	9.1	22.4	4.7	0.7	1.4
Russell 1000 Value	9.6	7.6	8.4	4.0	18.1	14.3	13.1	9.7	4.8	4.6	6.0
Polen	17.3	8.8	0.0	0.0	1.9	21.5	0.0	50.5	0.0	0.0	0.0
William Blair	10.5	17.3	4.8	0.0	1.8	13.7	6.6	43.7	1.6	0.0	0.0
Russell 1000 Growth	10.9	16.5	4.8	0.1	2.0	14.0	4.6	44.5	0.8	1.8	0.0
AMI	0.0	9.9	14.5	0.0	9.6	24.3	13.7	26.0	2.0	0.0	0.0
Copeland	3.3	11.0	7.8	0.0	14.4	12.5	17.1	16.0	2.2	9.8	5.8
Emerald	2.7	22.8	6.2	1.3	7.2	23.7	14.7	19.1	0.7	1.6	0.0
Russell 2000 Growth	2.3	13.7	3.2	0.1	4.2	34.4	13.8	20.1	2.6	3.8	1.7
LSV Small Cap	1.8	13.6	1.6	1.4	18.3	14.7	20.9	14.6	7.5	4.1	1.5
Smith, Graham & Co	0.0	18.3	2.8	1.3	19.2	19.1	13.6	21.0	2.6	1.0	1.1
Russell 2000 Value	2.4	13.3	3.7	3.9	26.6	6.9	16.8	6.0	5.6	9.9	5.0
S&P 500	10.8	11.6	7.0	2.1	9.7	14.2	8.3	28.2	2.6	2.6	3.0

Allocations may not total to 100% due to rounding.

International Industry Sector Allocations
(Percent of Invested Equity)
As of September 30, 2020

	Comm Services	Consumer Discretionary	Consumer Staples	Energy	Financials	Health Care	Industrials	Information Technology	Materials	Real Estate	Utilities
HGK	5.0	19.6	11.5	1.8	7.3	0.0	31.9	12.8	3.5	3.8	2.8
Hardman Johnston	4.9	19.7	2.0	0.0	6.2	19.0	20.6	27.6	0.0	0.0	0.0
S&P Developed Ex US BMI	5.6	11.3	9.9	3.2	14.9	12.2	15.8	11.0	8.4	4.1	3.6

Allocations may not total to 100% due to rounding. Sector weights for international equity portfolios are provided by each respective manager and may differ slightly from custodian accounting.

APPENDIX - MAJOR MARKET INDEX RETURNS

Economic Data	Style	QTR	YTD	1 Year	3 years	5 Years
Consumer Price Index	Economic Data	1.0	1.3	1.4	1.8	1.8
Domestic Equity	Style	QTR	YTD	1 Year	3 years	5 Years
Russell 3000	Broad Equity	9.2	5.4	15.0	11.6	13.7
S&P 500	Large Cap Core	8.9	5.6	15.1	12.3	14.1
Russell 1000	Large Cap	9.5	6.4	16.0	12.4	14.1
Russell 1000 Growth	Large Cap Growth	13.2	24.3	37.5	21.7	20.1
Russell 1000 Value	Large Cap Value	5.6	-11.6	-5.0	2.6	7.6
Russell Mid Cap	Midcap	7.5	-2.3	4.5	7.1	10.1
Russell Mid Cap Growth	Midcap Growth	9.4	13.9	23.2	16.2	15.5
Russell Mid Cap Value	Midcap Value	6.4	-12.8	-7.3	0.8	6.4
Russell 2000	Small Cap	4.9	-8.7	0.4	1.7	8.0
Russell 2000 Growth	Small Cap Growth	7.2	3.9	15.7	8.1	11.4
Russell 2000 Value	Small Cap Value	2.6	-21.6	-14.9	-5.1	4.1
International Equity	Style	QTR	YTD	1 Year	3 years	5 Years
MSCI All Country World Ex US	Foreign Equity	6.4	-5.1	3.4	1.6	6.7
MSCI EAFE	Developed Markets Equity	4.9	-6.7	0.9	1.1	5.8
MSCI EAFE Growth	Developed Markets Growth	8.5	4.9	13.8	7.5	9.6
MSCI EAFE Value	Developed Markets Value	1.3	-17.9	-11.4	-5.3	1.7
MSCI Emerging Markets	Emerging Markets Equity	9.7	-0.9	10.9	2.8	9.4
Domestic Fixed Income	Style	QTR	YTD	1 Year	3 years	5 Years
Bloomberg Barclays Aggregate Index	Core Fixed Income	0.6	6.8	7.0	5.2	4.2
Bloomberg Barclays Capital Gov't Bond	Treasuries	0.2	8.8	8.0	5.5	3.7
Bloomberg Barclays Capital Credit Bond	Corporate Bonds	1.5	6.4	7.5	6.2	5.7
Intermediate Aggregate	Core Intermediate	0.5	5.2	5.7	4.2	3.3
ML/BoA 1-3 Year Treasury	Short Term Treasuries	0.1	3.1	3.6	2.6	1.8
Bloomberg Barclays Capital High Yield	High Yield Bonds	4.6	0.6	3.3	4.2	6.8
Alternative Assets	Style	QTR	YTD	1 Year	3 years	5 Years
Bloomberg Barclays Global Treasury Ex US	International Treasuries	3.8	4.7	4.5	3.5	3.8
NCREIF NFI-ODCE Index	Real Estate	0.5	-0.1	1.4	5.2	6.6
HFRI FOF Composite	Hedge Funds	4.1	2.5	5.6	2.8	3.1

APPENDIX - DISCLOSURES

- * The shadow index is a customized index that matches your portfolio's asset allocation on a monthly basis. This index was calculated using the following asset classes and corresponding benchmarks:

Large Cap Equity	S&P 500
Small Cap Equity	Russell 2000
International Equity	Blended International Index
Emerging Markets Equity	Blended Emerging Markets Index
Real Estate	NCREIF Property Index
Fixed Income	Bloomberg Barclays Aggregate Index
Cash & Equivalent	90 Day T Bill
- * The Blended International Index utilizes the returns of the S&P Developed BMI through April 30, 2015 and the MSCI EAFE Index thereafter.
- * The Blended Emerging Markets Index utilizes the returns of the S&P Emerging BMI through April 30, 2015 and the MSCI Emerging Markets Index thereafter.
- * Dahab Associates utilizes data provided by a custodian and other vendors it believes are reliable. However, it cannot assume responsibility for errors and omissions therefrom.
- * All returns were calculated on a time-weighted basis, and are gross of fees unless otherwise noted.
- * All returns for periods greater than one year are annualized.
- * Dahab Associates uses the modified duration measure to present average duration.
- * All values are in US dollars.

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
AMI ASSET MANAGEMENT - SMALL CAP GROWTH EQUITY
PERFORMANCE REVIEW
SEPTEMBER 2020

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System's AMI Asset Management Small Cap Growth Equity portfolio was valued at \$37,856,794, representing an increase of \$414,109 from the June quarter's ending value of \$37,442,685. Last quarter, the Fund posted withdrawals totaling \$70,862, which partially offset the portfolio's net investment return of \$484,971. Income receipts totaling \$41,694 plus net realized and unrealized capital gains of \$443,277 combined to produce the portfolio's net investment return.

RELATIVE PERFORMANCE

Total Fund

For the third quarter, the AMI Asset Management Small Cap Growth Equity portfolio returned 1.3%, which was 5.9% below the Russell 2000 Growth Index's return of 7.2% and ranked in the 99th percentile of the Small Cap Growth universe. Over the trailing year, the portfolio returned 10.9%, which was 4.8% below the benchmark's 15.7% return, ranking in the 72nd percentile. Since September 2017, the portfolio returned 1.8% annualized and ranked in the 94th percentile. The Russell 2000 Growth returned an annualized 8.1% over the same period.

ASSET ALLOCATION

At the end of the third quarter, small cap equities comprised 98.4% of the total portfolio (\$37.2 million), while cash & equivalents totaled 1.6% (\$623,144).

EQUITY ANALYSIS

Last quarter, the AMI portfolio was focused into seven of the eleven industry sectors. Relative to the Russell 2000 Growth index, the portfolio was overweight in the Consumer Staples, Financials, and Information Technology sectors, while the Consumer Discretionary and Health Care sectors were underweight.

The portfolio's emphasized sectors were not among the top sources of return in the small cap growth market last quarter, putting the portfolio at a disadvantage against the index. Selection effects were also negative across all invested sectors.

EXECUTIVE SUMMARY**PERFORMANCE SUMMARY**

	Quarter	YTD	1 Year	3 Year	5 Year
Total Portfolio - Gross	1.3	1.5	10.9	1.8	----
<i>SMALL CAP GROWTH RANK</i>	(99)	(73)	(72)	(94)	----
Total Portfolio - Net	1.1	0.9	10.1	1.0	----
Russell 2000G	7.2	3.9	15.7	8.1	11.4
Small Cap Equity - Gross	1.3	0.9	10.6	1.5	----
<i>SMALL CAP GROWTH RANK</i>	(99)	(75)	(72)	(95)	----
Russell 2000G	7.2	3.9	15.7	8.1	11.4

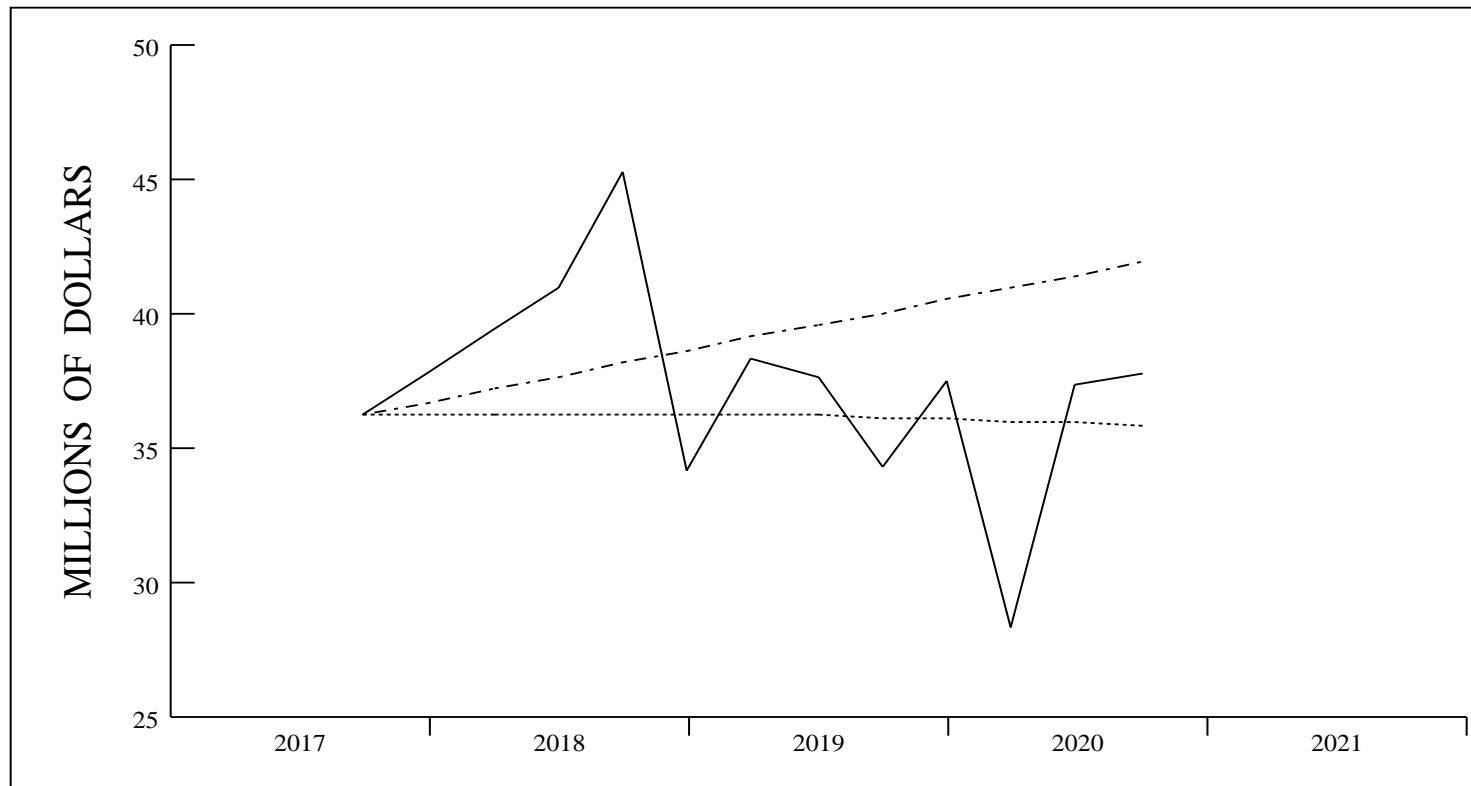
ASSET ALLOCATION

Small Cap	98.4%	\$ 37,233,650
Cash	1.6%	623,144
Total Portfolio	100.0%	\$ 37,856,794

INVESTMENT RETURN

Market Value 6/2020	\$ 37,442,685
Contribs / Withdrawals	- 70,862
Income	41,694
Capital Gains / Losses	443,277
Market Value 9/2020	\$ 37,856,794

INVESTMENT GROWTH

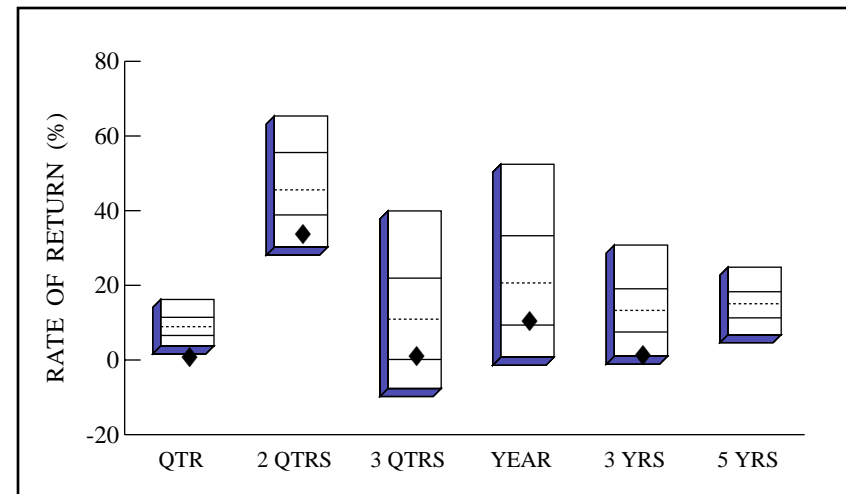
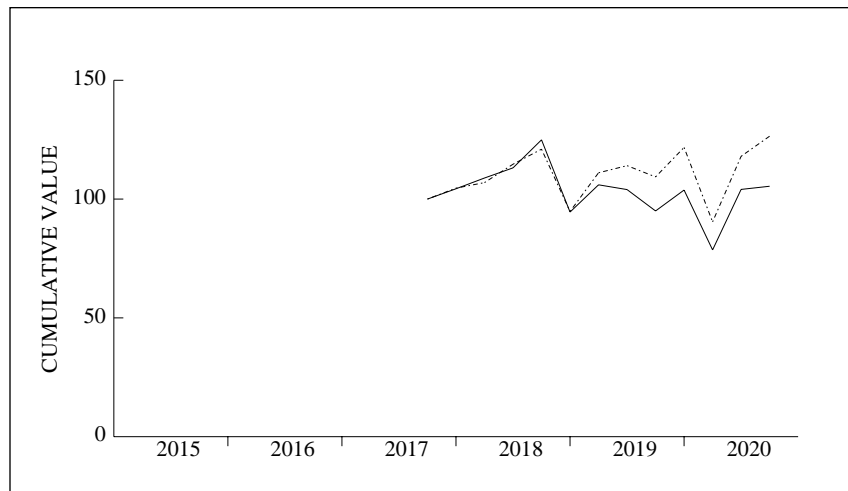


— ACTUAL RETURN
 - - - 5.25%
 0.0%

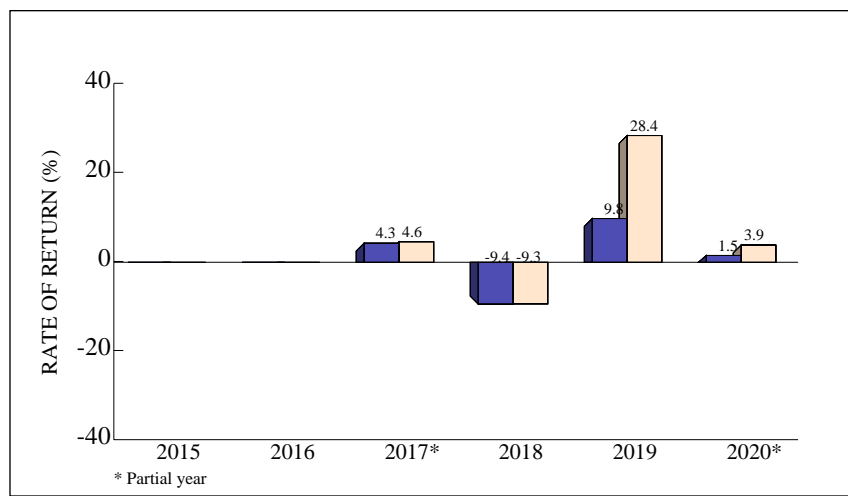
VALUE ASSUMING
 5.25% RETURN \$ 41,946,959

	LAST QUARTER	THREE YEARS
BEGINNING VALUE	\$ 37,442,685	\$ 36,293,387
NET CONTRIBUTIONS	- 70,862	-355,035
<u>INVESTMENT RETURN</u>	<u>484,971</u>	<u>1,918,442</u>
ENDING VALUE	\$ 37,856,794	\$ 37,856,794
INCOME	41,694	488,697
<u>CAPITAL GAINS (LOSSES)</u>	<u>443,277</u>	<u>1,429,745</u>
INVESTMENT RETURN	484,971	1,918,442

TOTAL RETURN COMPARISONS



Small Cap Growth Universe

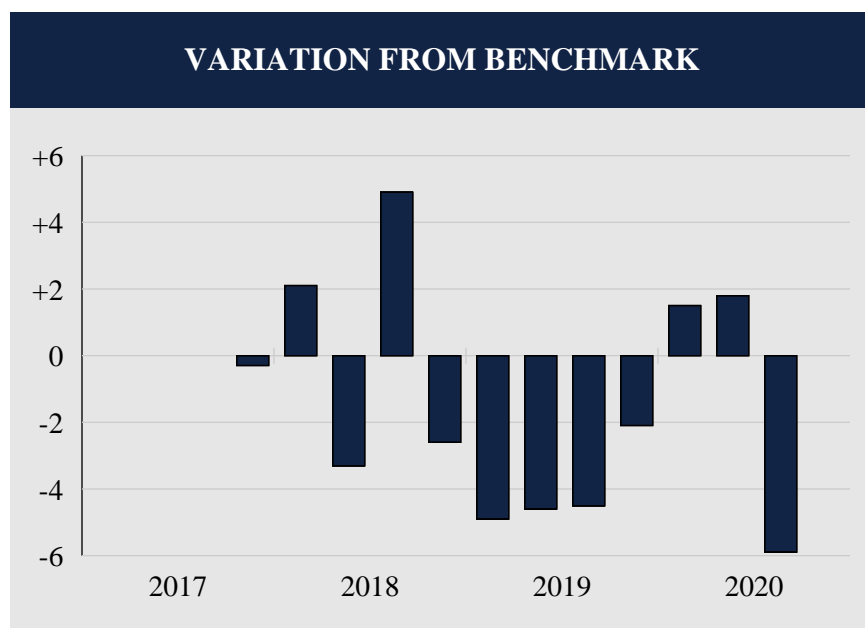


	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	1.3	34.1	1.5	10.9	1.8	---
(RANK)	(99)	(85)	(73)	(72)	(94)	---
5TH %ILE	16.2	65.3	39.9	52.4	30.8	24.9
25TH %ILE	11.4	55.6	22.0	33.3	19.1	18.3
MEDIAN	8.9	45.5	10.9	20.7	13.3	15.1
75TH %ILE	6.5	38.8	0.1	9.4	7.5	11.3
95TH %ILE	3.8	30.2	-7.7	0.7	1.0	6.8
Russ 2000G	7.2	39.9	3.9	15.7	8.1	11.4

Small Cap Growth Universe

TOTAL PORTFOLIO QUARTERLY PERFORMANCE SUMMARY

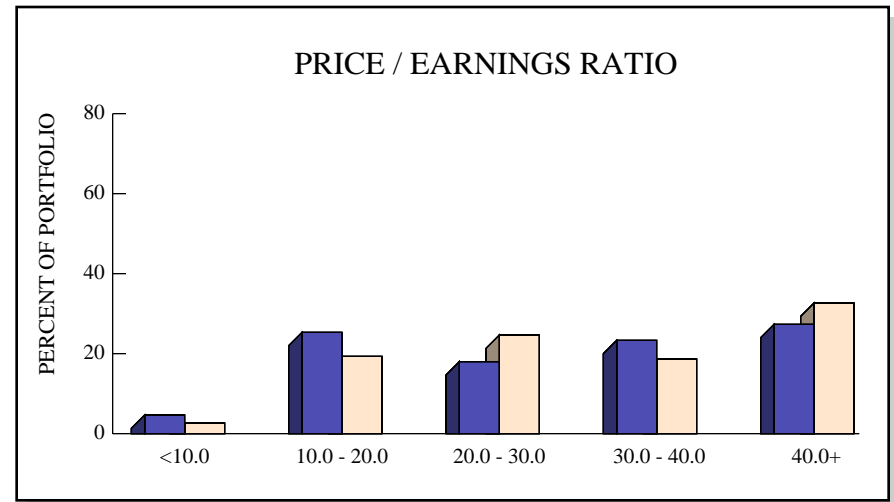
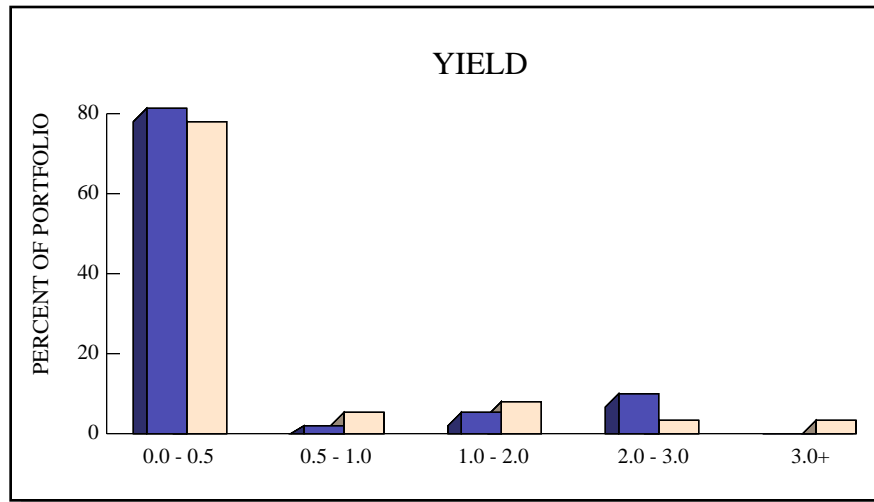
COMPARATIVE BENCHMARK: RUSSELL 2000 GROWTH



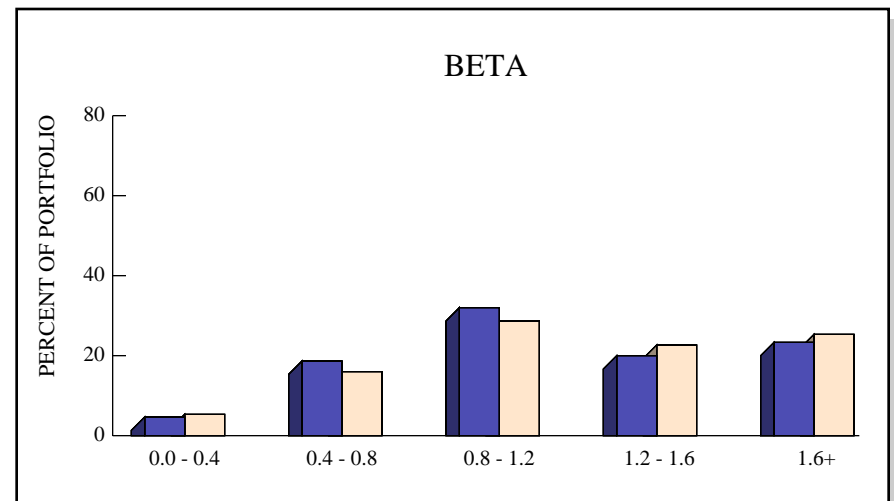
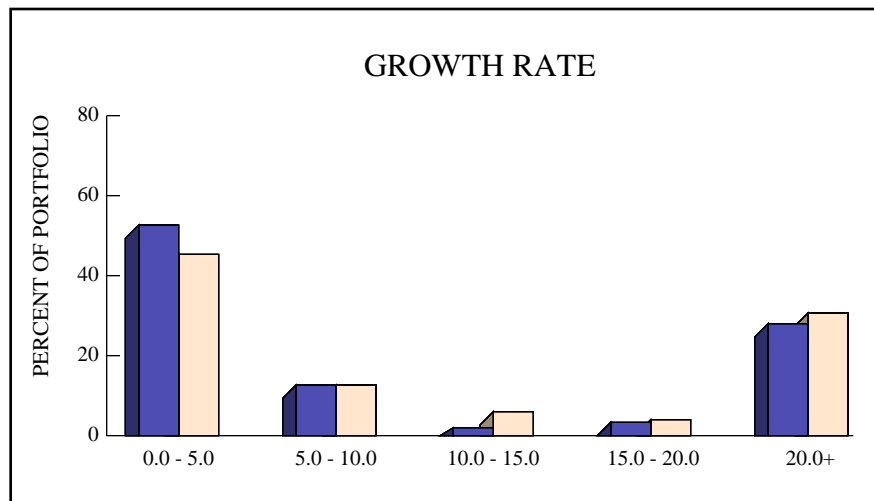
RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/17	4.3	4.6	-0.3
3/18	4.4	2.3	2.1
6/18	3.9	7.2	-3.3
9/18	10.4	5.5	4.9
12/18	-24.3	-21.7	-2.6
3/19	12.2	17.1	-4.9
6/19	-1.9	2.7	-4.6
9/19	-8.7	-4.2	-4.5
12/19	9.3	11.4	-2.1
3/20	-24.3	-25.8	1.5
6/20	32.4	30.6	1.8
9/20	1.3	7.2	-5.9

Total Quarters Observed	12
Quarters At or Above the Benchmark	4
Quarters Below the Benchmark	8
Batting Average	.333

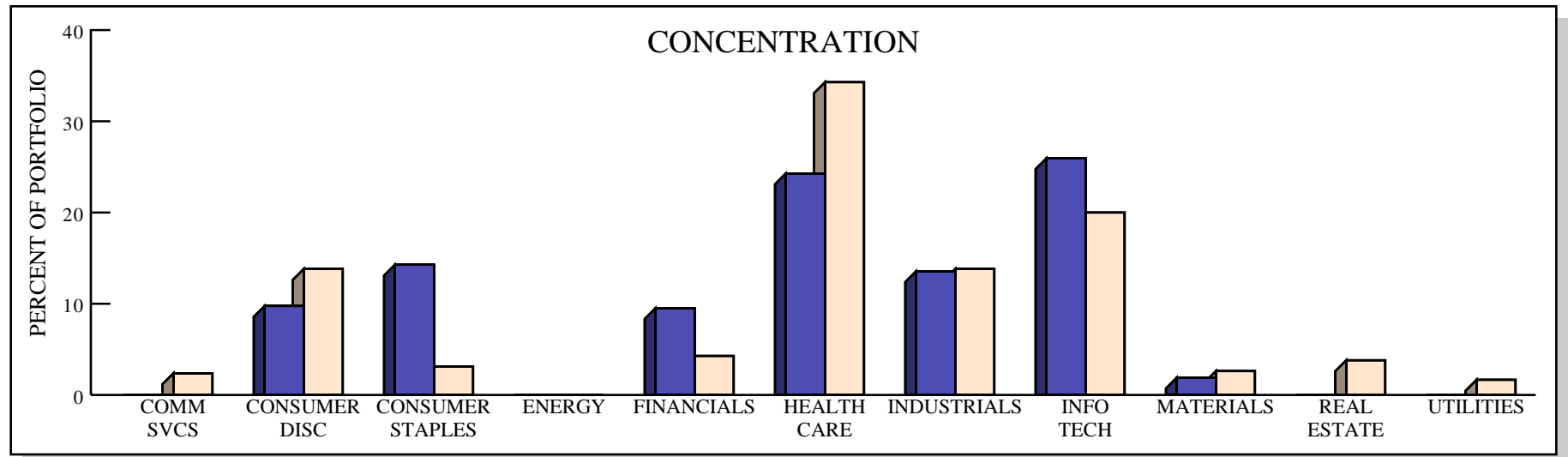
STOCK CHARACTERISTICS



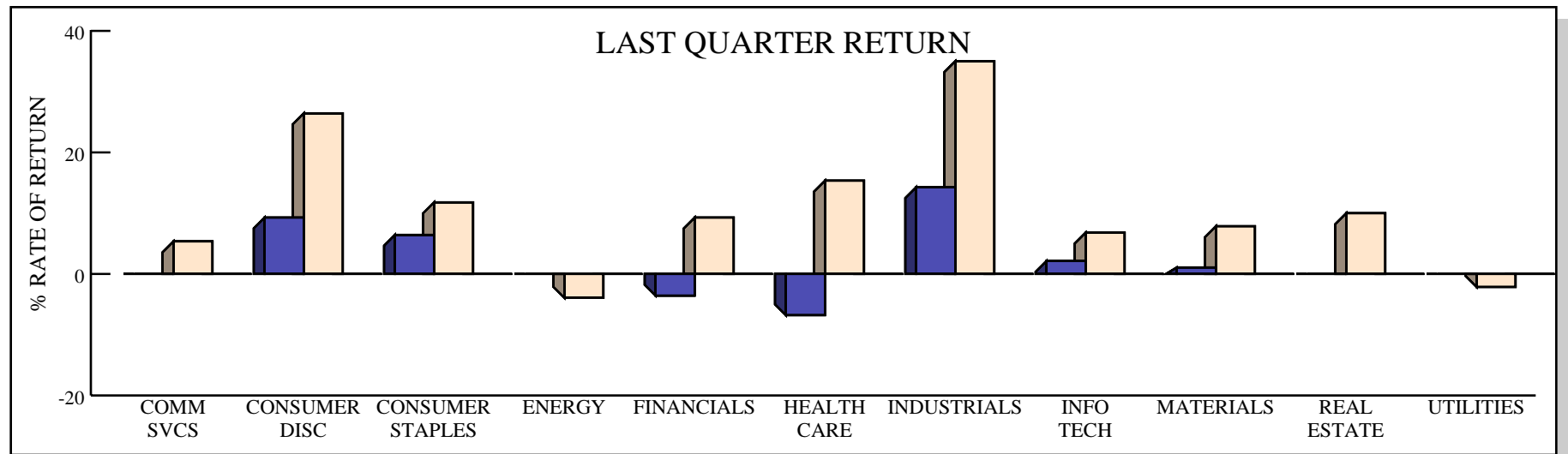
	# HOLDINGS	YIELD	GROWTH	P/E	BETA
PORTFOLIO	34	0.4%	7.0%	33.2	1.19
RUSSELL 2000G	1,099	0.4%	9.4%	35.8	1.24



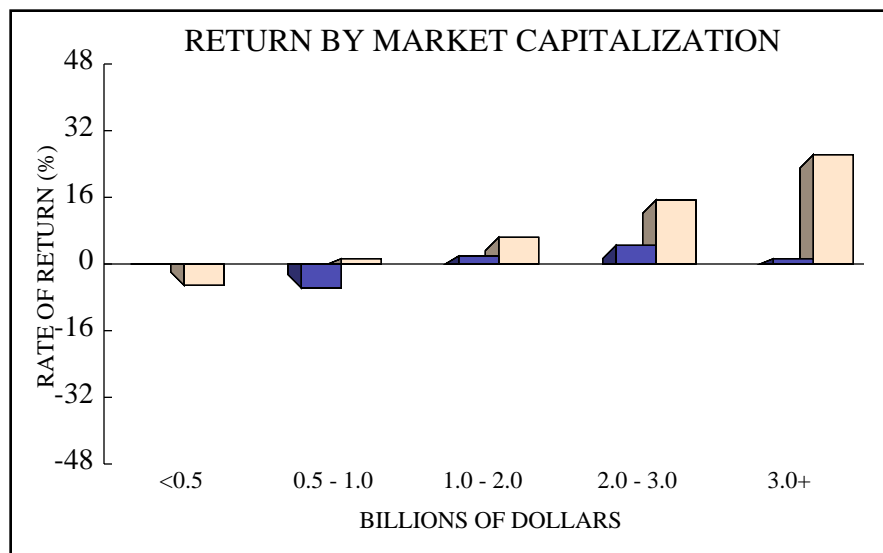
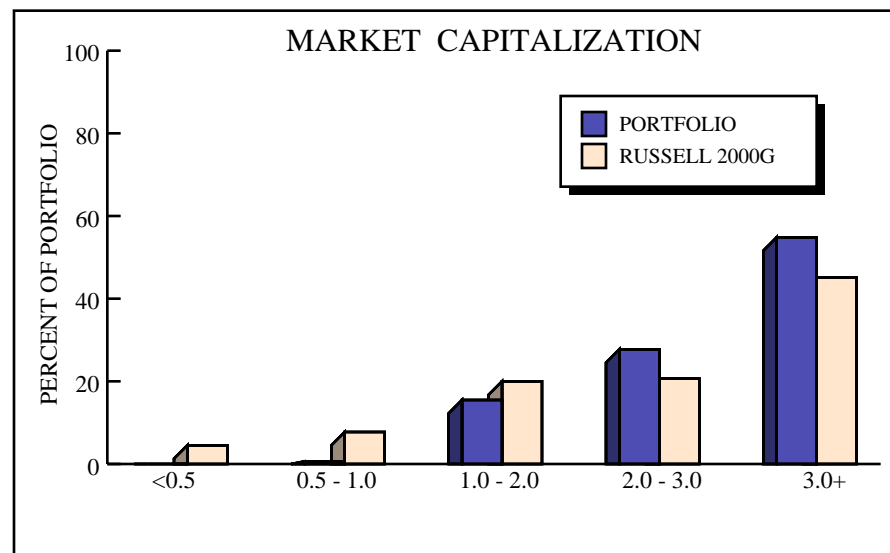
STOCK INDUSTRY ANALYSIS



■ PORTFOLIO ■ RUSSELL 2000G



TOP TEN HOLDINGS



TOP TEN EQUITY HOLDINGS

RANK	NAME	VALUE	% EQUITY	RETURN	INDUSTRY SECTOR	MKT CAP
1	HALOZYME THERAPEUTICS INC	\$ 1,664,076	4.47%	-2.0%	Health Care	\$ 3.6 B
2	PERFICIENT INC	1,594,672	4.28%	19.5%	Information Technology	1.4 B
3	GREEN DOT CORP	1,487,833	4.00%	3.1%	Financials	2.7 B
4	MERIT MEDICAL SYSTEMS INC	1,428,888	3.84%	-4.7%	Health Care	2.4 B
5	SIMPLY GOOD FOODS CO	1,366,593	3.67%	18.7%	Consumer Staples	2.1 B
6	WILLSCOT MOBILE MINI HOLDING	1,354,683	3.64%	35.7%	Industrials	3.8 B
7	SYNEOS HEALTH INC	1,314,540	3.53%	-8.7%	Health Care	5.6 B
8	NATIONAL VISION HOLDINGS INC	1,314,232	3.53%	25.3%	Consumer Discretionary	3.1 B
9	TERMINIX GLOBAL HOLDINGS INC	1,290,198	3.47%	11.7%	Consumer Discretionary	5.3 B
10	BJ'S WHOLESALE CLUB HOLDINGS	1,228,052	3.30%	11.5%	Consumer Staples	5.7 B

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
COPELAND CAPITAL MANAGEMENT - SMALL CAP DIVIDEND GROWTH
PERFORMANCE REVIEW
SEPTEMBER 2020

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System's Copeland Capital Management Small Cap Dividend Growth portfolio was valued at \$42,217,494, representing an increase of \$1,478,199 from the June quarter's ending value of \$40,739,295. Last quarter, the Fund posted withdrawals totaling \$49,836, which partially offset the portfolio's net investment return of \$1,528,035. Income receipts totaling \$178,075 plus net realized and unrealized capital gains of \$1,349,960 combined to produce the portfolio's net investment return.

RELATIVE PERFORMANCE

Total Fund

For the third quarter, the Copeland Capital Management Small Cap Dividend Growth portfolio returned 3.8%, which was 3.4% below the Russell 2000 Growth Index's return of 7.2% and ranked in the 96th percentile of the Small Cap Growth universe. Over the trailing year, the portfolio returned -6.6%, which was 22.3% below the benchmark's 15.7% return, ranking in the 99th percentile. Since September 2017, the portfolio returned 4.8% annualized and ranked in the 83rd percentile. The Russell 2000 Growth returned an annualized 8.1% over the same period.

ASSET ALLOCATION

At the end of the third quarter, small cap equities comprised 98.2% of the total portfolio (\$41.4 million), while cash & equivalents totaled 1.8% (\$780,970).

EQUITY ANALYSIS

Last quarter, the Copeland portfolio held significantly less weight in the Health Care sector than its benchmark. The Consumer Discretionary and Information Technology sectors were also underweight. Conversely, the Consumer Staples, Financials, Industrials, Real Estate, and Utilities sectors had heavier allocations.

Only two of the portfolio's invested sectors produced returns above their index counterparts last quarter – Real Estate and Utilities. Underperformance in the remaining sectors resulted in the portfolio's shortfall against the Russell 2000 Growth.

EXECUTIVE SUMMARY**PERFORMANCE SUMMARY**

	Quarter	YTD	1 Year	3 Year	5 Year
Total Portfolio - Gross	3.8	-11.5	-6.6	4.8	----
<i>SMALL CAP GROWTH RANK</i>	(96)	(98)	(99)	(83)	----
Total Portfolio - Net	3.5	-12.1	-7.4	4.0	----
Russell 2000G	7.2	3.9	15.7	8.1	11.4
Small Cap Equity - Gross	3.8	-11.8	-6.8	5.0	----
<i>SMALL CAP GROWTH RANK</i>	(95)	(98)	(99)	(82)	----
Russell 2000G	7.2	3.9	15.7	8.1	11.4

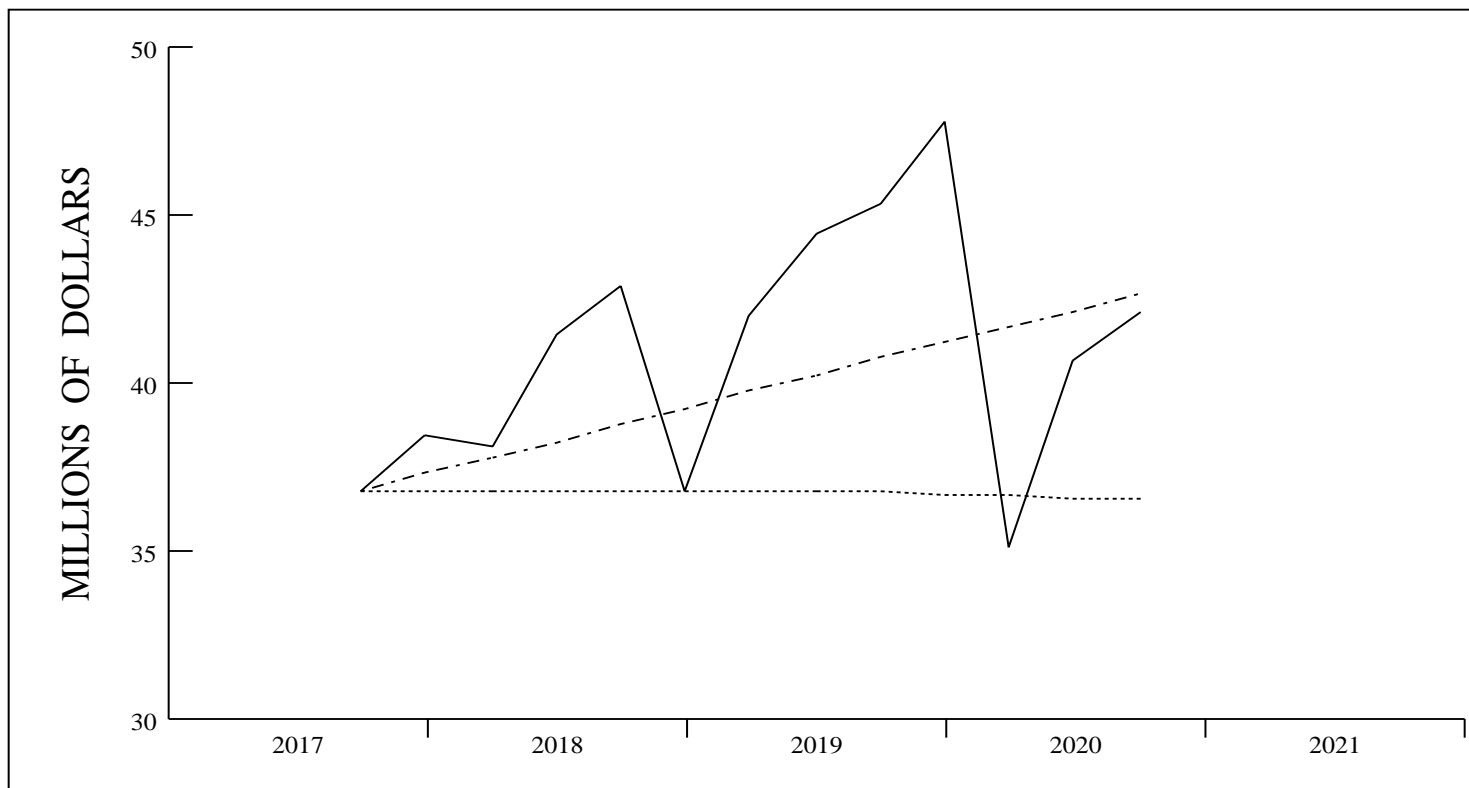
ASSET ALLOCATION

Small Cap	98.2%	\$ 41,436,524
Cash	1.8%	780,970
Total Portfolio	100.0%	\$ 42,217,494

INVESTMENT RETURN

Market Value 6/2020	\$ 40,739,295
Contribs / Withdrawals	- 49,836
Income	178,075
Capital Gains / Losses	1,349,960
Market Value 9/2020	\$ 42,217,494

INVESTMENT GROWTH

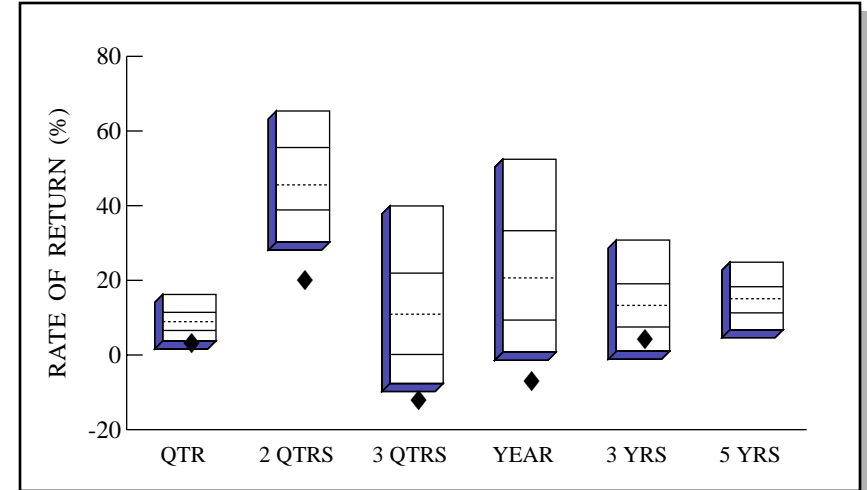
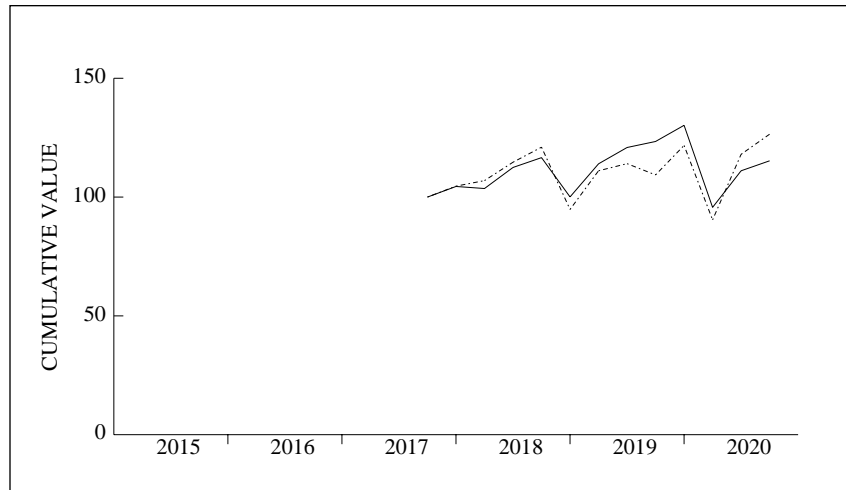


— ACTUAL RETURN
 - - - 5.25%
 . . . 0.0%

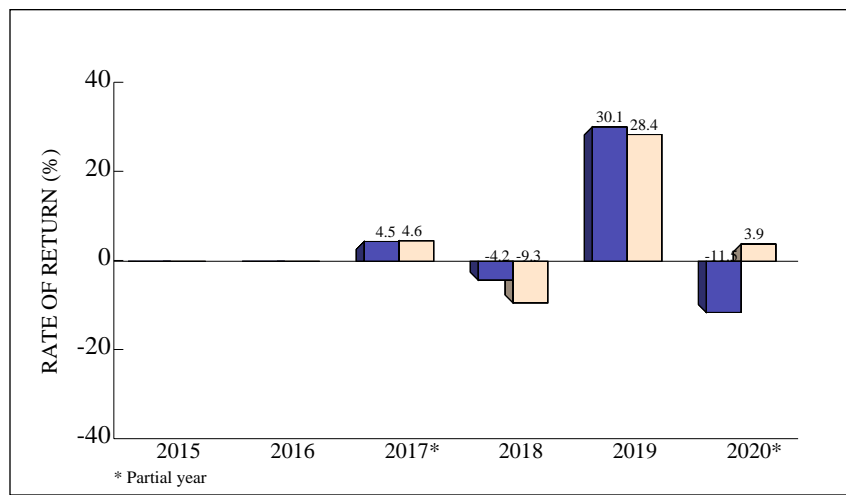
VALUE ASSUMING
 5.25% RETURN \$ 42,696,415

	LAST QUARTER	THREE YEARS
BEGINNING VALUE	\$ 40,739,295	\$ 36,860,615
NET CONTRIBUTIONS	- 49,836	-271,286
<u>INVESTMENT RETURN</u>	<u>1,528,035</u>	<u>5,628,165</u>
ENDING VALUE	\$ 42,217,494	\$ 42,217,494
INCOME	178,075	2,536,711
<u>CAPITAL GAINS (LOSSES)</u>	<u>1,349,960</u>	<u>3,091,454</u>
INVESTMENT RETURN	1,528,035	5,628,165

TOTAL RETURN COMPARISONS



Small Cap Growth Universe

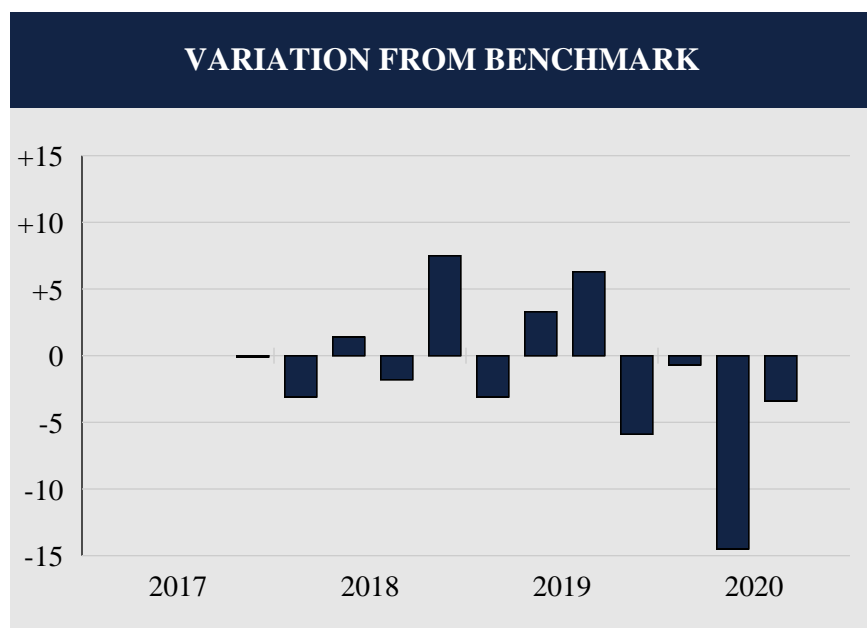


	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	3.8	20.5	-11.5	-6.6	4.8	---
(RANK)	(96)	(99)	(98)	(99)	(83)	---
5TH %ILE	16.2	65.3	39.9	52.4	30.8	24.9
25TH %ILE	11.4	55.6	22.0	33.3	19.1	18.3
MEDIAN	8.9	45.5	10.9	20.7	13.3	15.1
75TH %ILE	6.5	38.8	0.1	9.4	7.5	11.3
95TH %ILE	3.8	30.2	-7.7	0.7	1.0	6.8
Russ 2000G	7.2	39.9	3.9	15.7	8.1	11.4

Small Cap Growth Universe

TOTAL PORTFOLIO QUARTERLY PERFORMANCE SUMMARY

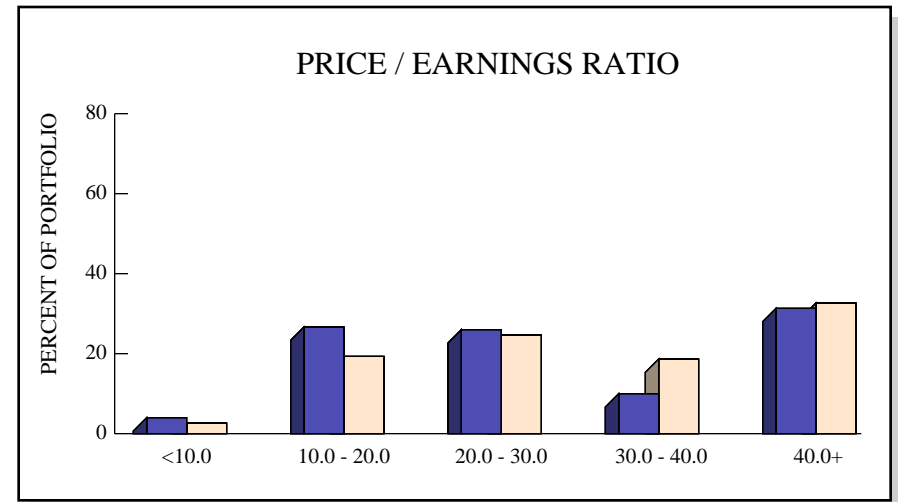
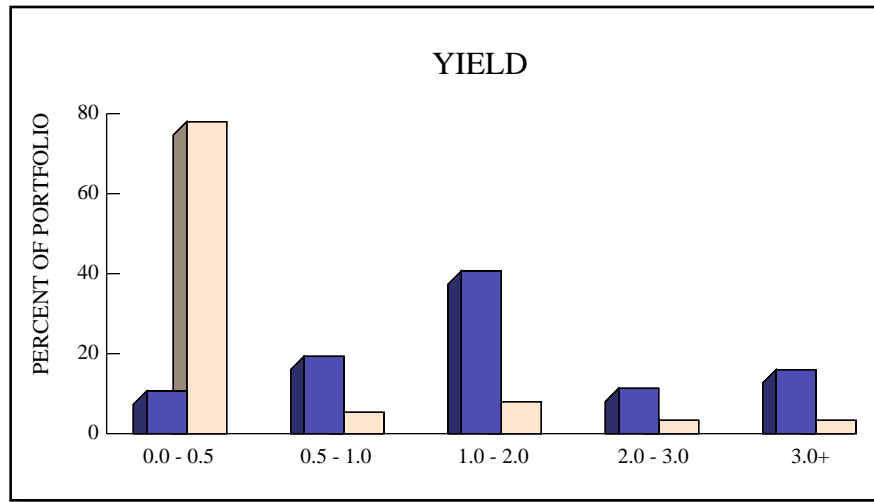
COMPARATIVE BENCHMARK: RUSSELL 2000 GROWTH



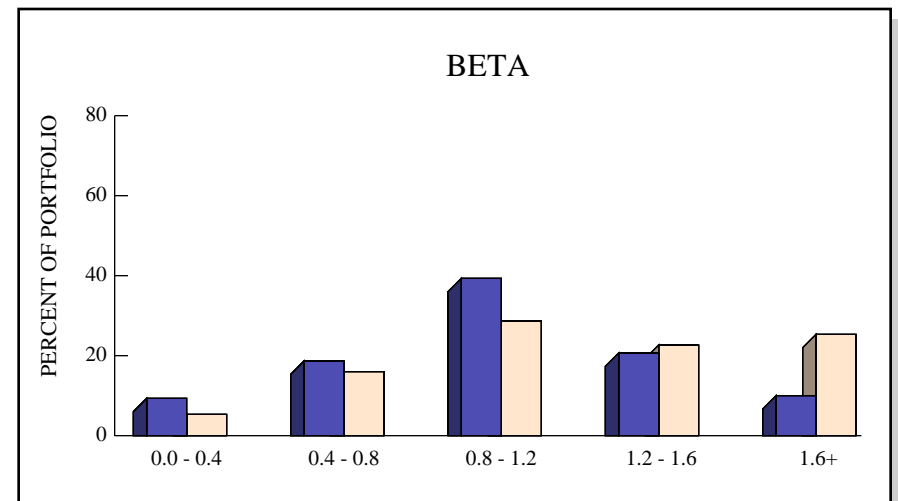
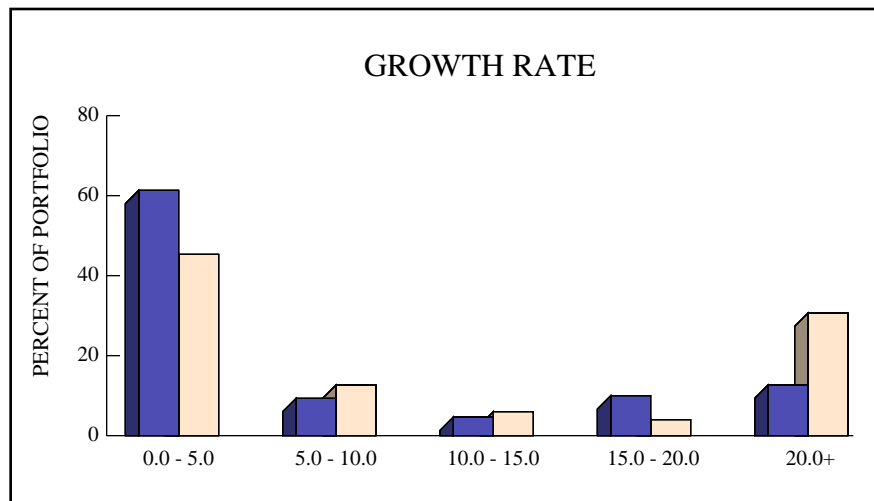
RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/17	4.5	4.6	-0.1
3/18	-0.8	2.3	-3.1
6/18	8.6	7.2	1.4
9/18	3.7	5.5	-1.8
12/18	-14.2	-21.7	7.5
3/19	14.0	17.1	-3.1
6/19	6.0	2.7	3.3
9/19	2.1	-4.2	6.3
12/19	5.5	11.4	-5.9
3/20	-26.5	-25.8	-0.7
6/20	16.1	30.6	-14.5
9/20	3.8	7.2	-3.4

Total Quarters Observed	12
Quarters At or Above the Benchmark	4
Quarters Below the Benchmark	8
Batting Average	.333

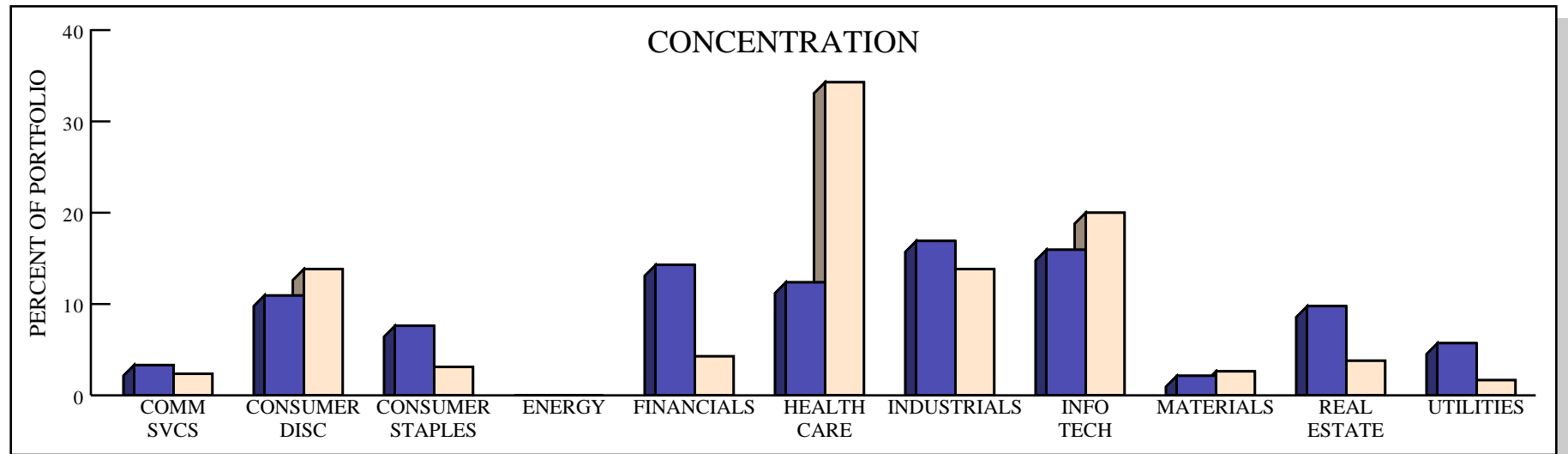
STOCK CHARACTERISTICS



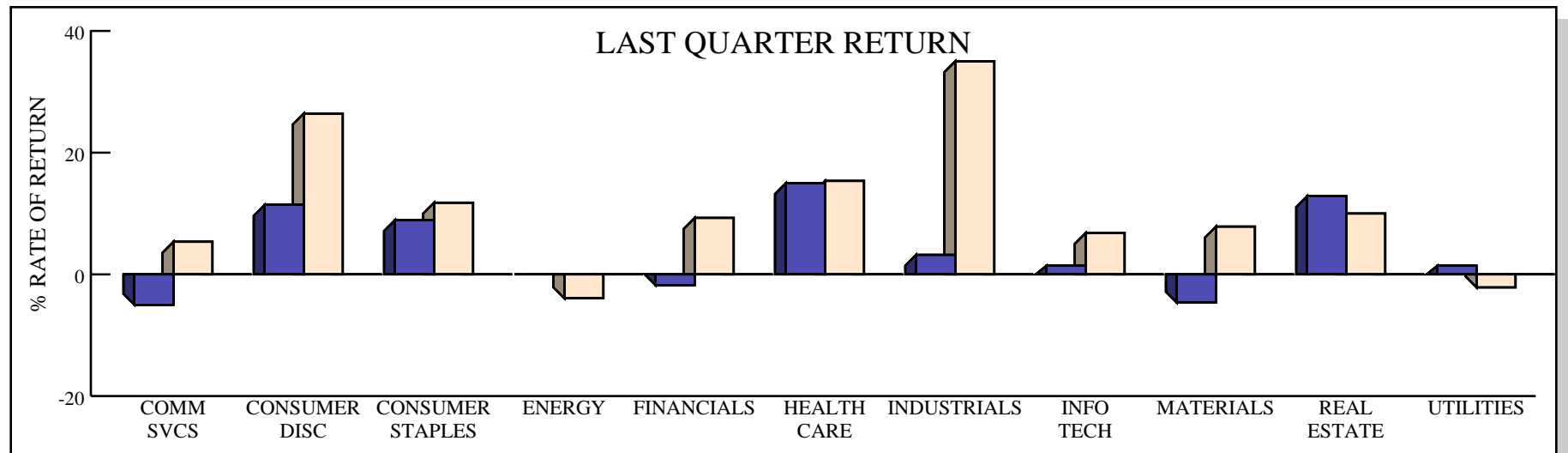
	# HOLDINGS	YIELD	GROWTH	P/E	BETA
PORTFOLIO	52	1.8%	-1.1%	31.5	0.99
RUSSELL 2000G	1,099	0.4%	9.4%	35.8	1.24



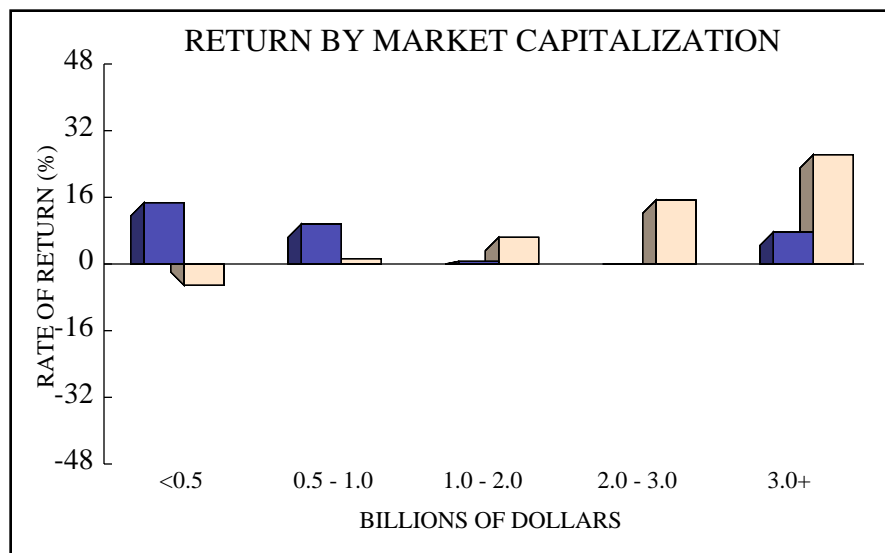
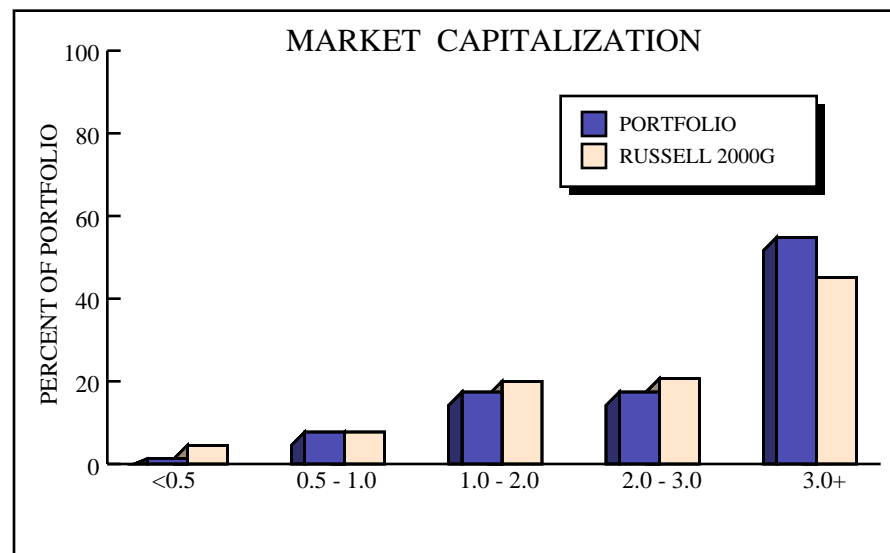
STOCK INDUSTRY ANALYSIS



■ PORTFOLIO ■ RUSSELL 2000G



TOP TEN HOLDINGS



TOP TEN EQUITY HOLDINGS

RANK	NAME	VALUE	% EQUITY	RETURN	INDUSTRY SECTOR	MKT CAP
1	ENSIGN GROUP INC	\$ 1,492,119	3.60%	36.5%	Health Care	\$ 3.1 B
2	TETRA TECH INC	1,251,241	3.02%	20.9%	Industrials	5.1 B
3	AARON'S INC	1,188,517	2.87%	24.9%	Consumer Discretionary	3.8 B
4	CHEMED CORP	1,098,560	2.65%	6.6%	Health Care	7.6 B
5	ENCOMPASS HEALTH CORP	1,050,077	2.53%	5.4%	Health Care	6.5 B
6	BWX TECHNOLOGIES INC	1,011,778	2.44%	-0.3%	Industrials	5.4 B
7	LEMAITRE VASCULAR INC	950,917	2.29%	23.6%	Health Care	0.7 B
8	ALGONQUIN POWER & UTILITIES	946,452	2.28%	6.6%	Utilities	9.4 B
9	EXPONENT INC	944,817	2.28%	-10.8%	Industrials	3.7 B
10	MORNINGSTAR INC	930,093	2.24%	14.2%	Financials	6.9 B

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
EAGLE CAPITAL MANAGEMENT - EQUITY
PERFORMANCE REVIEW
SEPTEMBER 2020

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System's Eagle Capital Management Equity portfolio was valued at \$157,474,802, representing an increase of \$9,305,202 from the June quarter's ending value of \$148,169,600. Last quarter, the Fund posted withdrawals totaling \$272,424, which partially offset the portfolio's net investment return of \$9,577,626. Income receipts totaling \$353,909 plus net realized and unrealized capital gains of \$9,223,717 combined to produce the portfolio's net investment return.

RELATIVE PERFORMANCE

Total Fund

For the third quarter, the Eagle Capital Management Equity portfolio returned 6.5%, which was 0.9% above the Russell 1000 Value Index's return of 5.6% and ranked in the 37th percentile of the Large Cap Value universe. Over the trailing year, the portfolio returned 7.6%, which was 12.6% above the benchmark's -5.0% return, ranking in the 18th percentile. Since March 2016, the portfolio returned 13.6% annualized and ranked in the 4th percentile. The Russell 1000 Value returned an annualized 6.8% over the same period.

ASSET ALLOCATION

At the end of the third quarter, large cap equities comprised 96.0% of the total portfolio (\$151.2 million), while cash & equivalents totaled 4.0% (\$6.3 million).

EQUITY ANALYSIS

The Eagle portfolio was concentrated last quarter into seven sectors, leaving vacant Consumer Staples, Energy, Reals Estate, and Utilities. The Communication Services and Financials sectors received the greatest allocations. The Consumer Discretionary sector was also notably overweight, while the Health Care, Industrials, and Materials sectors were underweight.

Increased weight in the well performing Consumer Discretionary sector and avoidance of the poorly performing Energy sector helped put the portfolio over the index last quarter.

EXECUTIVE SUMMARY**PERFORMANCE SUMMARY**

	Quarter	YTD	1 Year	3 Year	5 Year	Since 03/16
Total Portfolio - Gross	6.5	-3.1	7.6	10.2	----	13.6
<i>LARGE CAP VALUE RANK</i>	(37)	(20)	(18)	(13)	----	(4)
<i>LARGE CAP CORE RANK</i>	(76)	(83)	(73)	(57)	----	(23)
Total Portfolio - Net	6.3	-3.7	6.7	9.3	----	12.7
Russell 1000V	5.6	-11.6	-5.0	2.6	7.6	6.8
Russell 1000	9.5	6.4	16.0	12.4	14.1	13.9
Large Cap Equity - Gross	6.7	-2.7	8.3	10.5	----	14.1
<i>LARGE CAP VALUE RANK</i>	(36)	(19)	(18)	(11)	----	(4)
<i>LARGE CAP CORE RANK</i>	(75)	(82)	(71)	(52)	----	(16)
Russell 1000V	5.6	-11.6	-5.0	2.6	7.6	6.8
Russell 1000	9.5	6.4	16.0	12.4	14.1	13.9

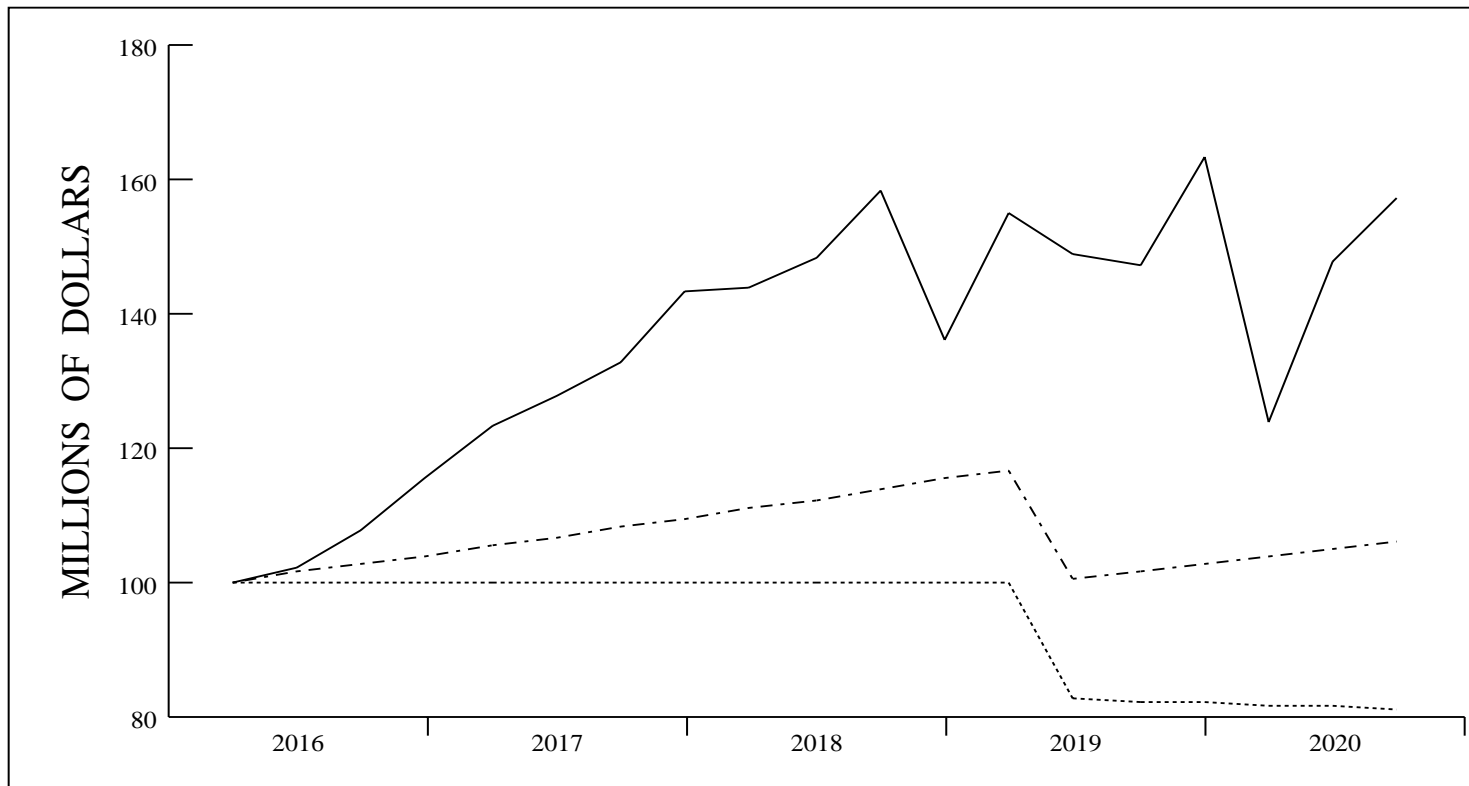
ASSET ALLOCATION

Large Cap Equity	96.0%	\$ 151,157,841
Cash	4.0%	6,316,961
Total Portfolio	100.0%	\$ 157,474,802

INVESTMENT RETURN

Market Value 6/2020	\$ 148,169,600
Contribs / Withdrawals	-272,424
Income	353,909
Capital Gains / Losses	9,223,717
Market Value 9/2020	\$ 157,474,802

INVESTMENT GROWTH

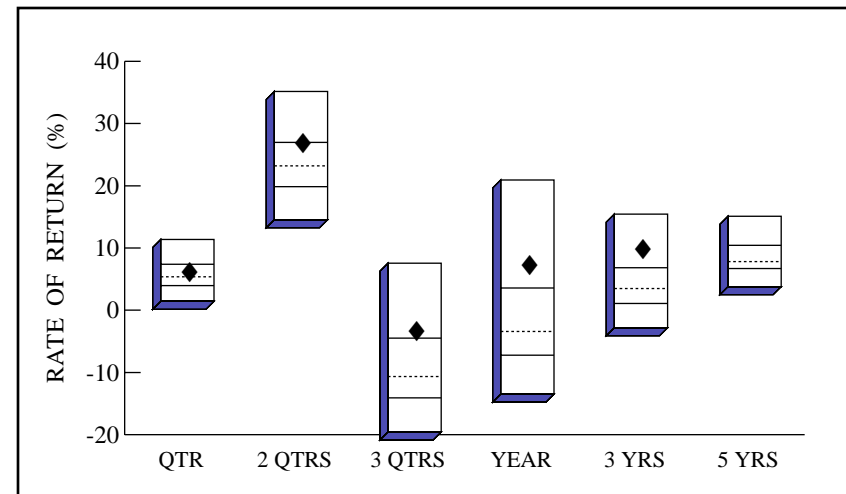
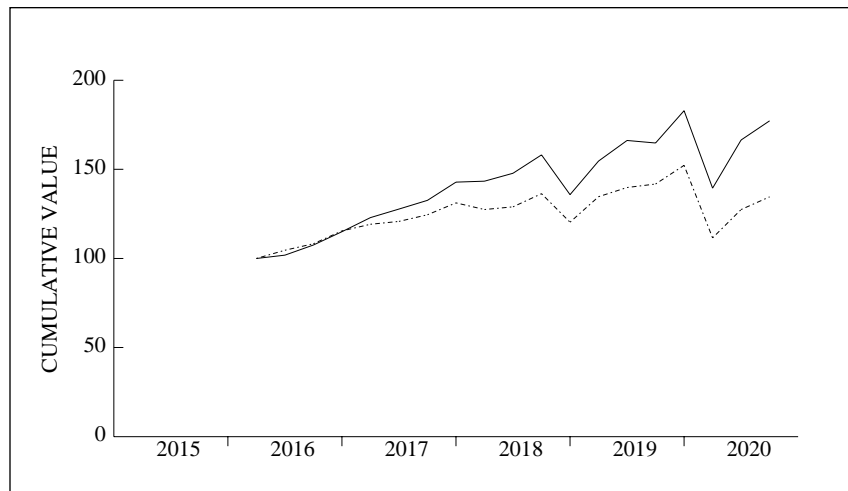


— ACTUAL RETURN
 - - - 5.25%
 . . . 0.0%

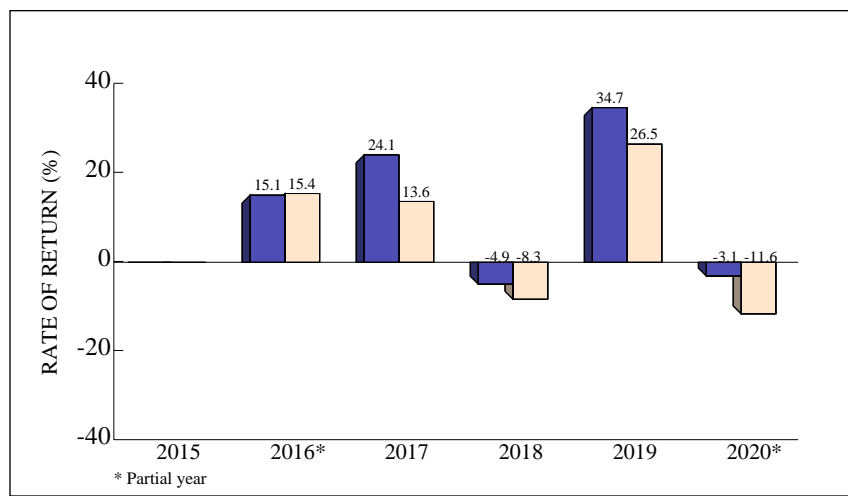
VALUE ASSUMING
 5.25% RETURN \$ 106,164,679

	LAST QUARTER	PERIOD 3/16 - 9/20
BEGINNING VALUE	\$ 148,169,600	\$ 100,475,791
NET CONTRIBUTIONS	-272,424	- 18,919,998
<u>INVESTMENT RETURN</u>	<u>9,577,626</u>	<u>75,919,009</u>
ENDING VALUE	\$ 157,474,802	\$ 157,474,802
INCOME	353,909	7,106,736
<u>CAPITAL GAINS (LOSSES)</u>	<u>9,223,717</u>	<u>68,812,273</u>
INVESTMENT RETURN	9,577,626	75,919,009

TOTAL RETURN COMPARISONS



Large Cap Value Universe

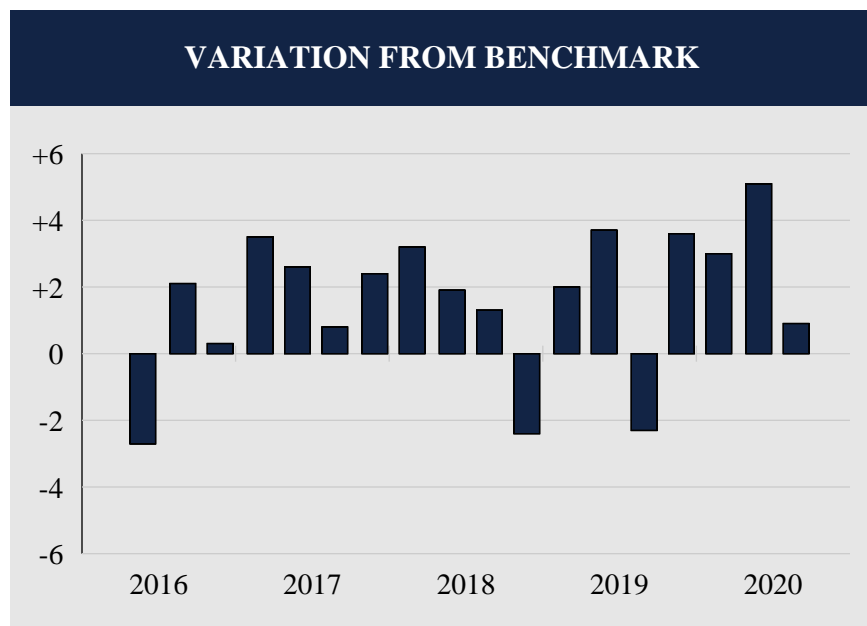


	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	6.5	27.1	-3.1	7.6	10.2	---
(RANK)	(37)	(25)	(20)	(18)	(13)	---
5TH %ILE	11.4	35.2	7.5	20.9	15.5	15.1
25TH %ILE	7.4	27.0	-4.5	3.6	6.8	10.4
MEDIAN	5.4	23.2	-10.7	-3.4	3.5	7.8
75TH %ILE	4.0	19.8	-14.1	-7.2	1.1	6.7
95TH %ILE	1.4	14.6	-19.6	-13.5	-2.8	3.8
Russ 1000V	5.6	20.7	-11.6	-5.0	2.6	7.6

Large Cap Value Universe

TOTAL PORTFOLIO QUARTERLY PERFORMANCE SUMMARY

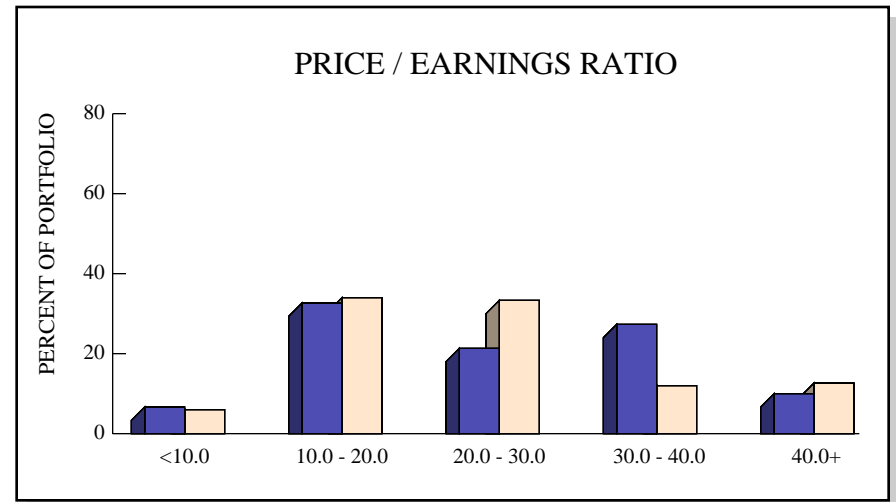
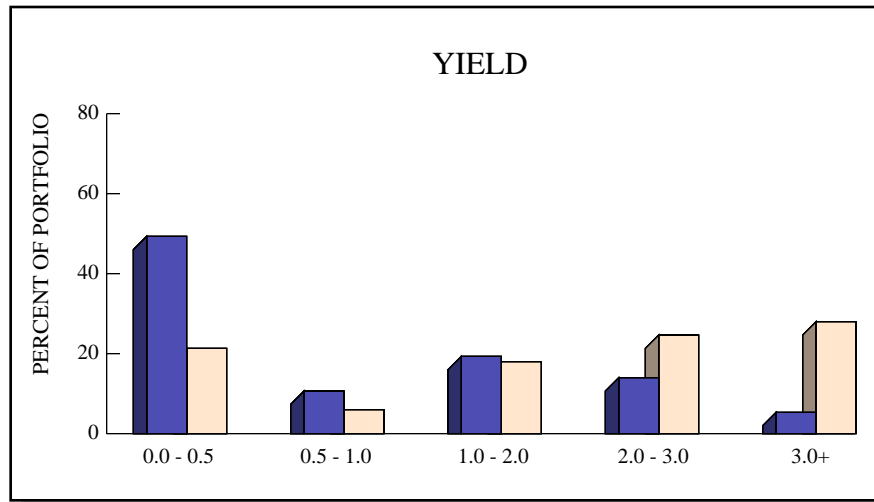
COMPARATIVE BENCHMARK: RUSSELL 1000 VALUE



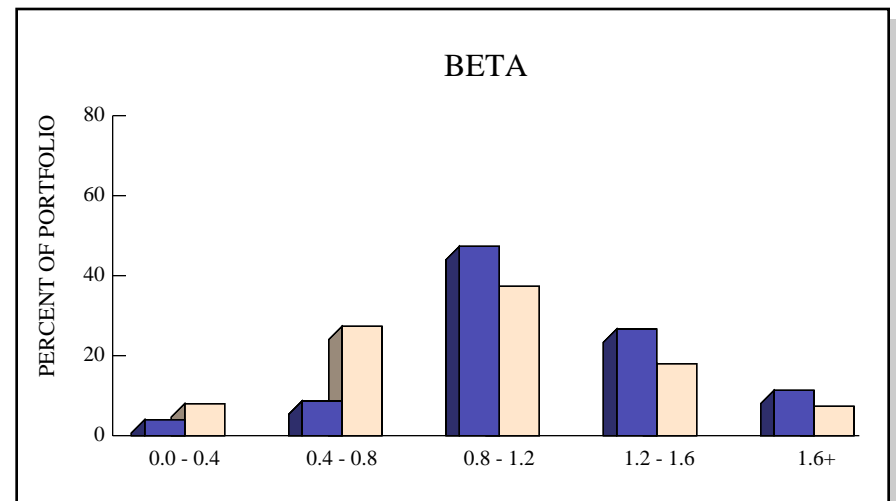
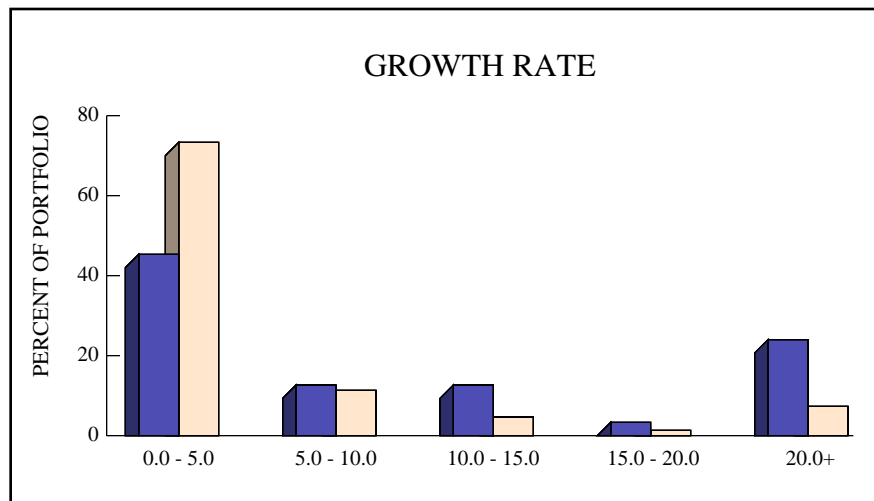
RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
6/16	1.9	4.6	-2.7
9/16	5.6	3.5	2.1
12/16	7.0	6.7	0.3
3/17	6.8	3.3	3.5
6/17	3.9	1.3	2.6
9/17	3.9	3.1	0.8
12/17	7.7	5.3	2.4
3/18	0.4	-2.8	3.2
6/18	3.1	1.2	1.9
9/18	7.0	5.7	1.3
12/18	-14.1	-11.7	-2.4
3/19	13.9	11.9	2.0
6/19	7.5	3.8	3.7
9/19	-0.9	1.4	-2.3
12/19	11.0	7.4	3.6
3/20	-23.7	-26.7	3.0
6/20	19.4	14.3	5.1
9/20	6.5	5.6	0.9

Total Quarters Observed	18
Quarters At or Above the Benchmark	15
Quarters Below the Benchmark	3
Batting Average	.833

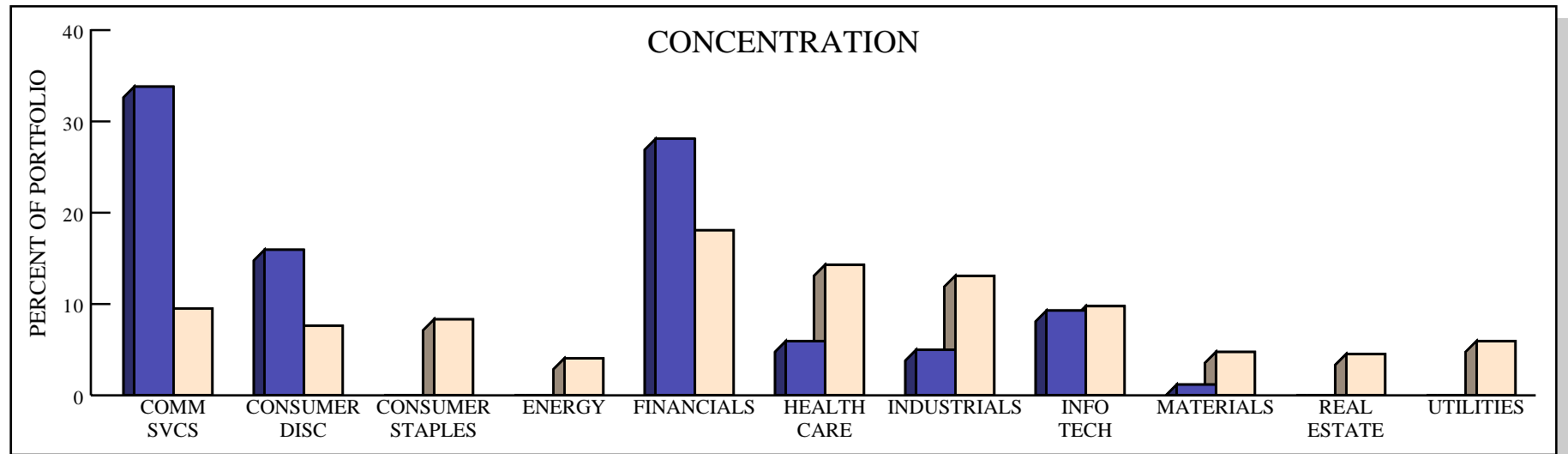
STOCK CHARACTERISTICS



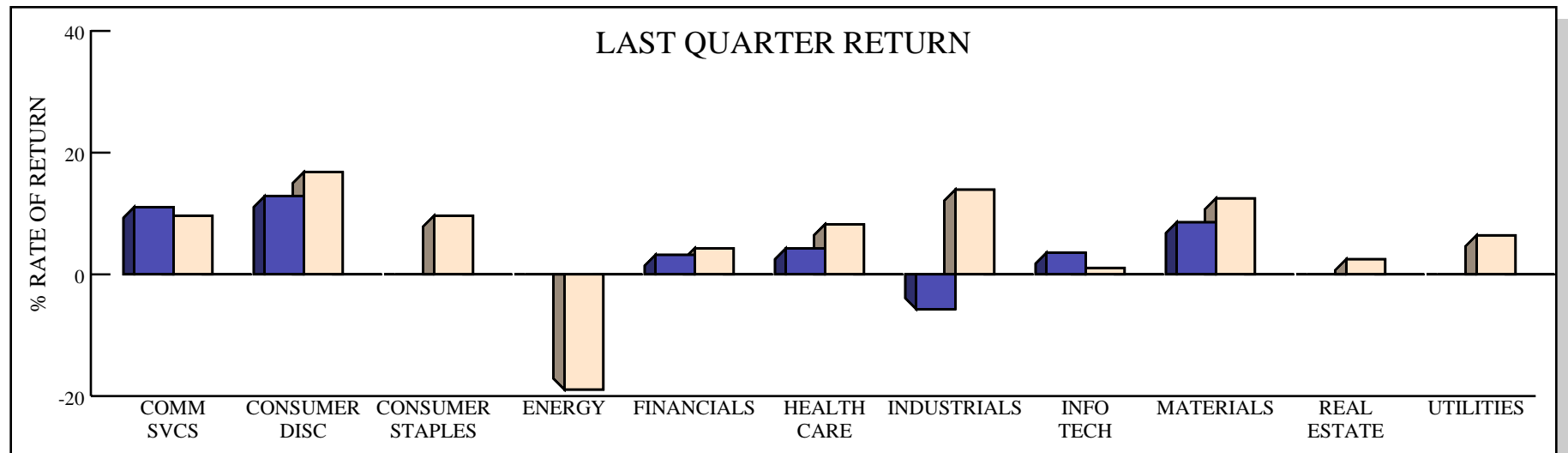
	# HOLDINGS	YIELD	GROWTH	P/E	BETA
PORTFOLIO	29	0.9%	5.8%	28.5	1.10
RUSSELL 1000V	850	2.3%	-4.7%	25.8	0.97



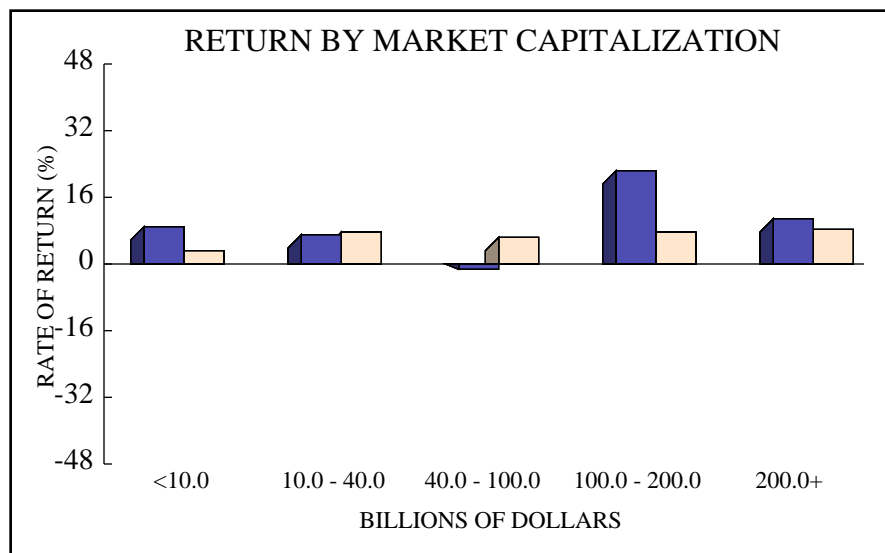
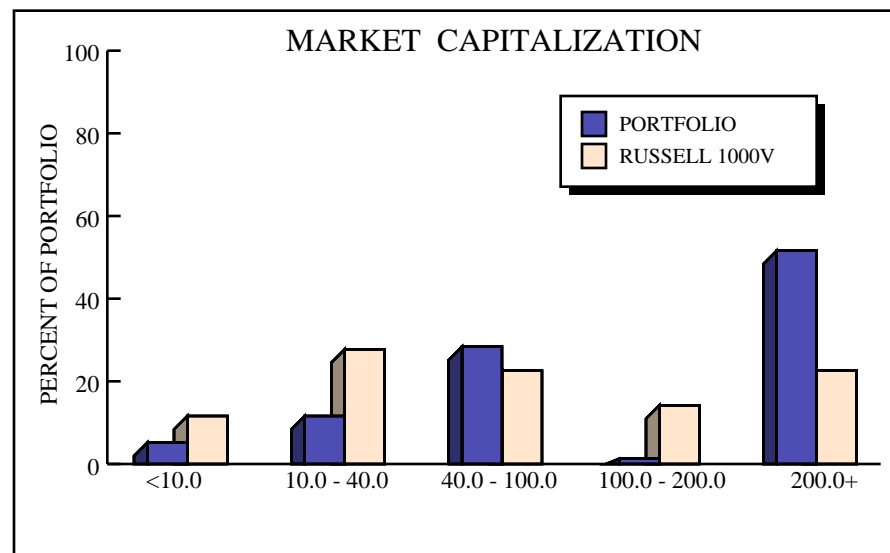
STOCK INDUSTRY ANALYSIS



■ PORTFOLIO ■ RUSSELL 1000V



TOP TEN HOLDINGS



TOP TEN EQUITY HOLDINGS

RANK	NAME	VALUE	% EQUITY	RETURN	INDUSTRY SECTOR	MKT CAP
1	MICROSOFT CORP	\$ 14,284,352	9.45%	3.6%	Information Technology	\$ 1591.7 B
2	ALPHABET INC	13,727,533	9.08%	4.0%	Communication Services	490.3 B
3	COMCAST CORP	11,330,693	7.50%	18.7%	Communication Services	211.3 B
4	AMAZON.COM INC	10,356,173	6.85%	14.1%	Consumer Discretionary	1577.2 B
5	BERKSHIRE HATHAWAY INC	9,031,424	5.97%	19.3%	Financials	298.4 B
6	FACEBOOK INC	8,687,485	5.75%	15.3%	Communication Services	746.1 B
7	AON PLC	8,474,804	5.61%	7.3%	Financials	47.7 B
8	MARRIOTT INTERNATIONAL INC	6,603,454	4.37%	8.0%	Consumer Discretionary	30.0 B
9	GOLDMAN SACHS GROUP INC	6,520,070	4.31%	2.3%	Financials	69.1 B
10	GCI LIBERTY INC	6,460,661	4.27%	15.2%	Communication Services	8.3 B

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
EMERALD ADVISORS - DIVERSIFIED SMALL CAP GROWTH
PERFORMANCE REVIEW
SEPTEMBER 2020

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System's Emerald Advisors Diversified Small Cap Growth portfolio was valued at \$76,456,863, representing an increase of \$6,587,248 from the June quarter's ending value of \$69,869,615. Last quarter, the Fund posted withdrawals totaling \$85,960, which partially offset the portfolio's net investment return of \$6,673,208. Income receipts totaling \$65,662 plus net realized and unrealized capital gains of \$6,607,546 combined to produce the portfolio's net investment return.

RELATIVE PERFORMANCE

Total Fund

For the third quarter, the Emerald Advisors Diversified Small Cap Growth portfolio returned 9.6%, which was 2.4% above the Russell 2000 Growth Index's return of 7.2% and ranked in the 42nd percentile of the Small Cap Growth universe. Over the trailing year, the portfolio returned 22.5%, which was 6.8% above the benchmark's 15.7% return, ranking in the 46th percentile. Since September 1998, the portfolio returned 11.4% annualized. The Russell 2000 Growth returned an annualized 8.0% over the same period.

ASSET ALLOCATION

At the end of the third quarter, small cap equities comprised 98.2% of the total portfolio (\$75.1 million), while cash & equivalents totaled 1.8% (\$1.4 million).

EQUITY ANALYSIS

The Emerald portfolio, relative to its benchmark, placed more weight in the Consumer Discretionary, Consumer Staples, and Financials sectors. The Health Care sector received less weight, while the Utilities sector was vacant.

Sector returns were mixed, but favorable selection in the Consumer Staples, Financials, and Information Technology sectors overshadowed negative selection effects from the Consumer Discretionary, Health Care, and Industrials sectors. The Energy sector, though only making up a sliver of the portfolio, generated explosive performance through its sole holding New Fortress Energy Inc.

EXECUTIVE SUMMARY**PERFORMANCE SUMMARY**

	Quarter	YTD	1 Year	3 Year	5 Year	10 Year	Since 09/98
Total Portfolio - Gross	9.6	9.4	22.5	11.7	12.6	15.7	11.4
<i>SMALL CAP GROWTH RANK</i>	(42)	(56)	(46)	(59)	(66)	(36)	----
Total Portfolio - Net	9.4	9.0	21.9	11.1	12.1	15.2	10.9
Russell 2000G	7.2	3.9	15.7	8.1	11.4	12.3	8.0
Small Cap Equity - Gross	9.9	9.8	23.2	12.0	13.0	16.0	11.7
<i>SMALL CAP GROWTH RANK</i>	(38)	(55)	(46)	(57)	(64)	(30)	----
Russell 2000G	7.2	3.9	15.7	8.1	11.4	12.3	8.0
Russell 2000	4.9	-8.7	0.4	1.7	8.0	9.8	8.1

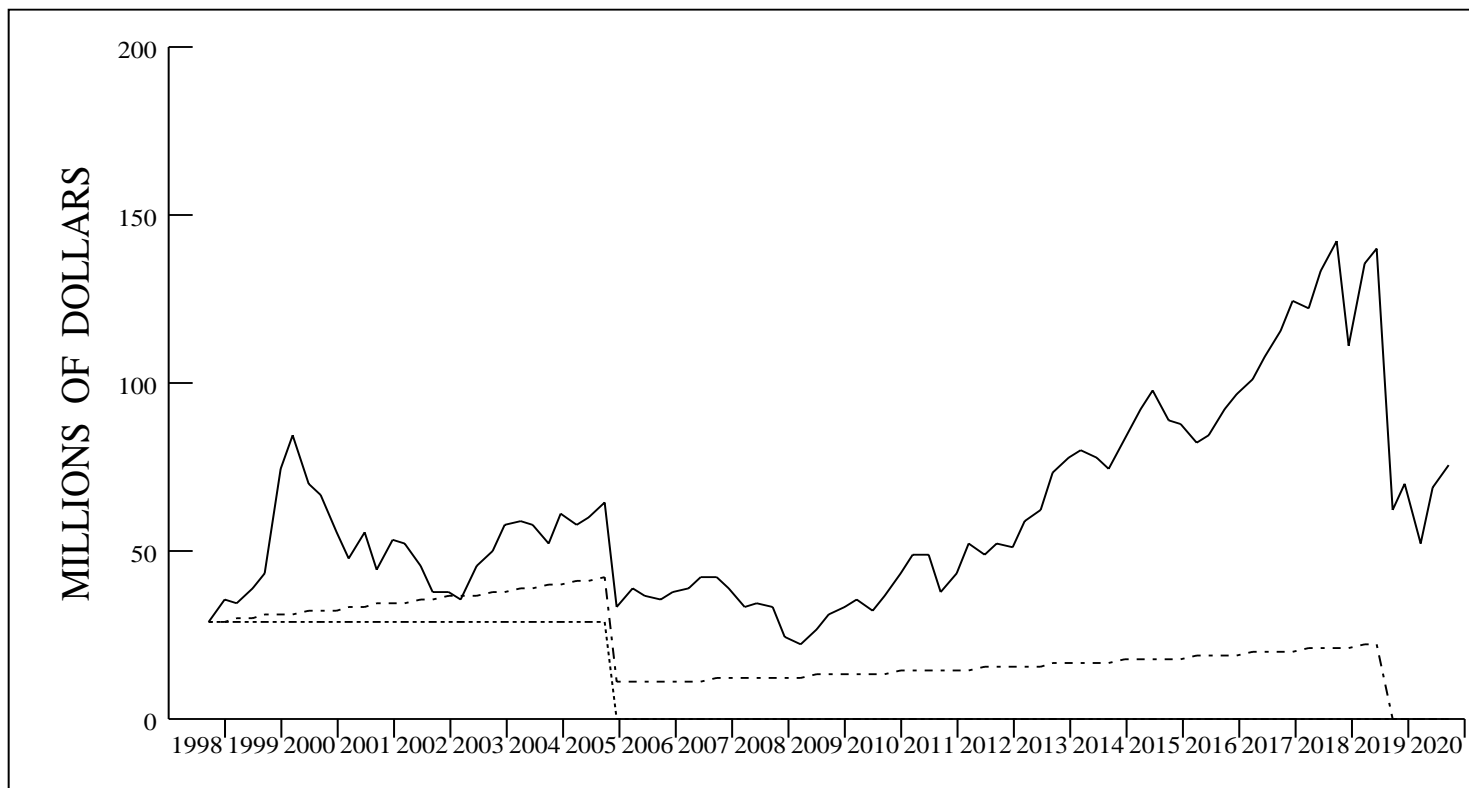
ASSET ALLOCATION

Small Cap	98.2%	\$ 75,079,549
Cash	1.8%	1,377,314
Total Portfolio	100.0%	\$ 76,456,863

INVESTMENT RETURN

Market Value 6/2020	\$ 69,869,615
Contribs / Withdrawals	- 85,960
Income	65,662
Capital Gains / Losses	6,607,546
Market Value 9/2020	\$ 76,456,863

INVESTMENT GROWTH

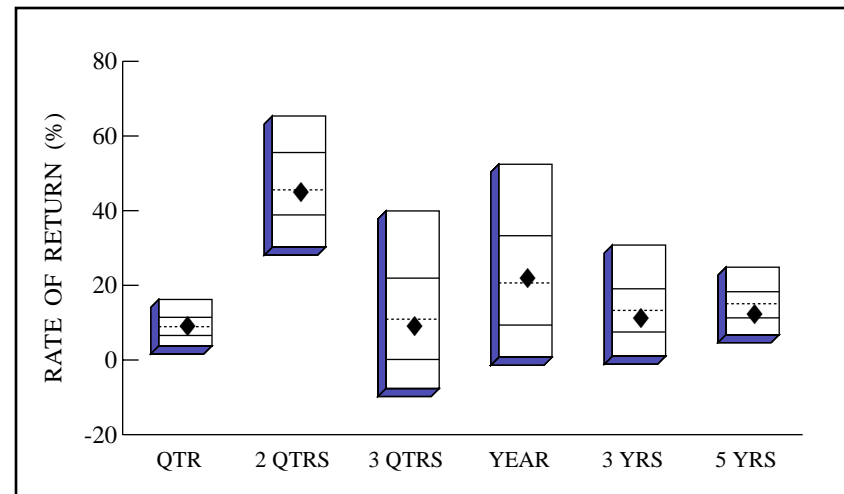
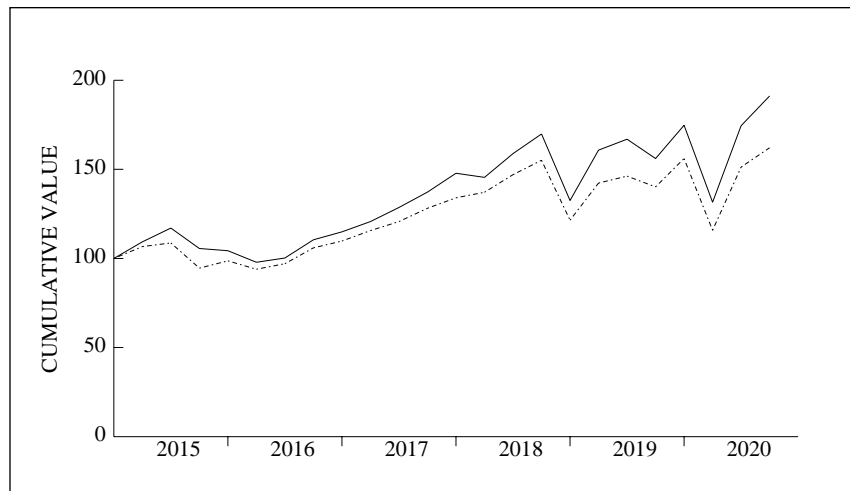


— ACTUAL RETURN
 - - - 5.25%
 . . . 0.0%

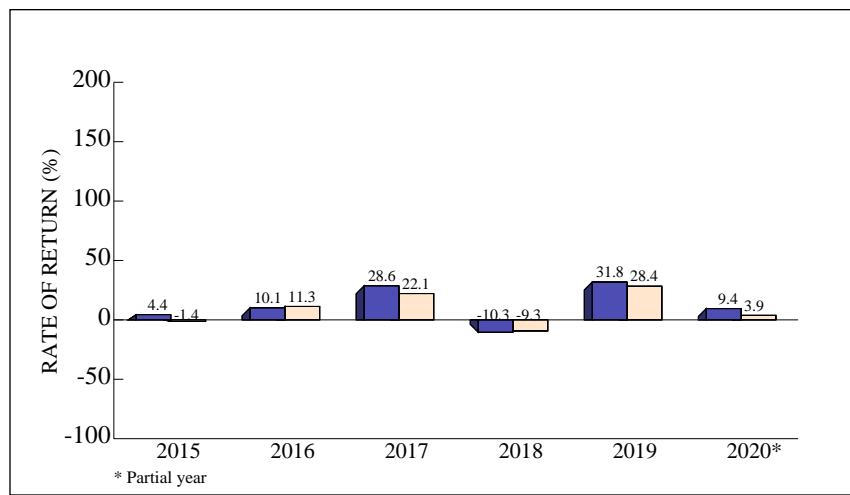
VALUE ASSUMING
 5.25% RETURN \$ -50,719,656

	LAST QUARTER	PERIOD 9/98 - 9/20
BEGINNING VALUE	\$ 69,869,615	\$ 29,601,782
NET CONTRIBUTIONS	- 85,960	-101,951,581
<u>INVESTMENT RETURN</u>	<u>6,673,208</u>	<u>148,806,662</u>
ENDING VALUE	\$ 76,456,863	\$ 76,456,863
INCOME	65,662	6,530,226
<u>CAPITAL GAINS (LOSSES)</u>	<u>6,607,546</u>	<u>142,276,436</u>
INVESTMENT RETURN	6,673,208	148,806,662

TOTAL RETURN COMPARISONS



Small Cap Growth Universe



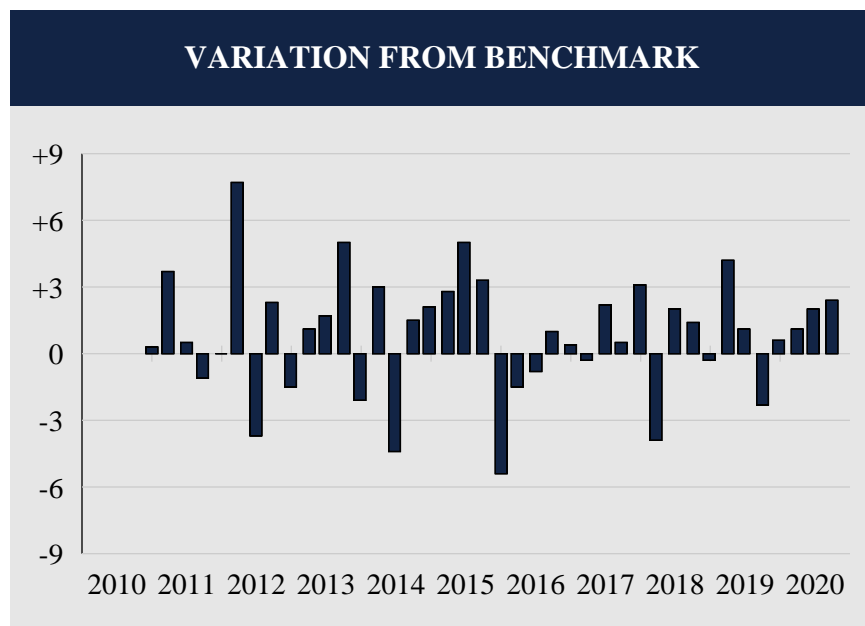
* Partial year

	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	9.6	45.3	9.4	22.5	11.7	12.6
(RANK)	(42)	(51)	(56)	(46)	(59)	(66)
5TH %ILE	16.2	65.3	39.9	52.4	30.8	24.9
25TH %ILE	11.4	55.6	22.0	33.3	19.1	18.3
MEDIAN	8.9	45.5	10.9	20.7	13.3	15.1
75TH %ILE	6.5	38.8	0.1	9.4	7.5	11.3
95TH %ILE	3.8	30.2	-7.7	0.7	1.0	6.8
Russ 2000G	7.2	39.9	3.9	15.7	8.1	11.4

Small Cap Growth Universe

TOTAL PORTFOLIO QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

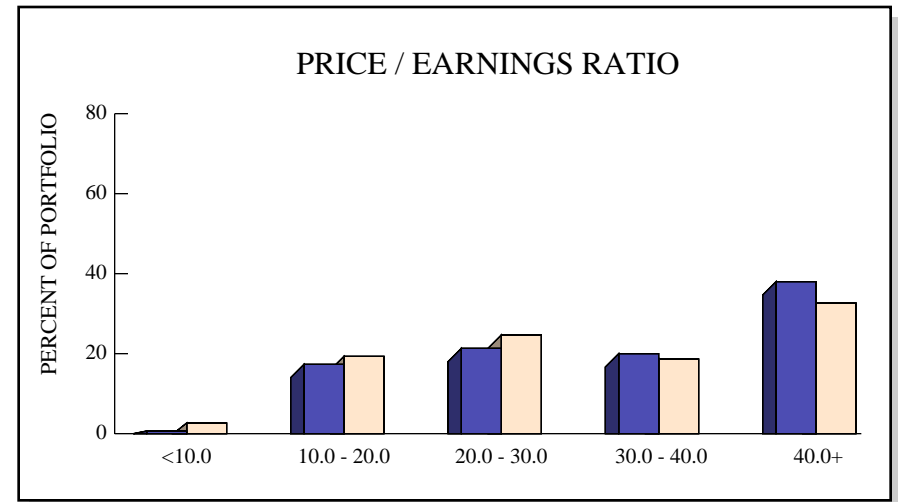
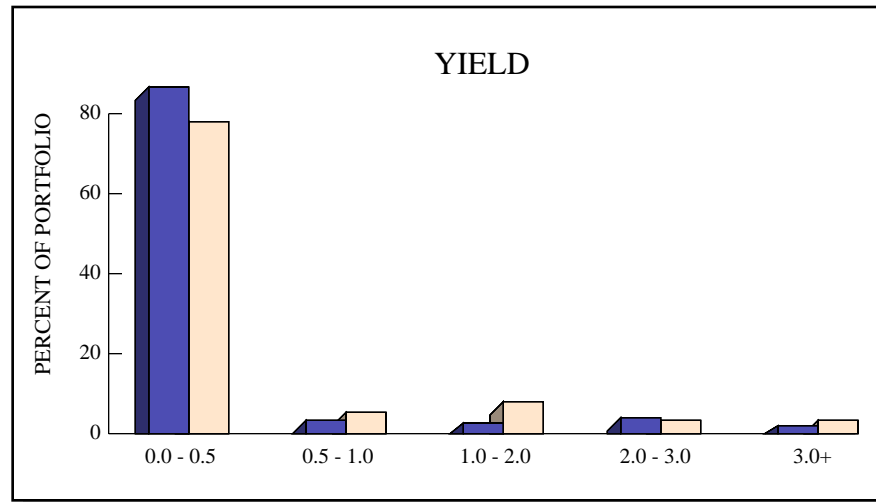
COMPARATIVE BENCHMARK: RUSSELL 2000 GROWTH



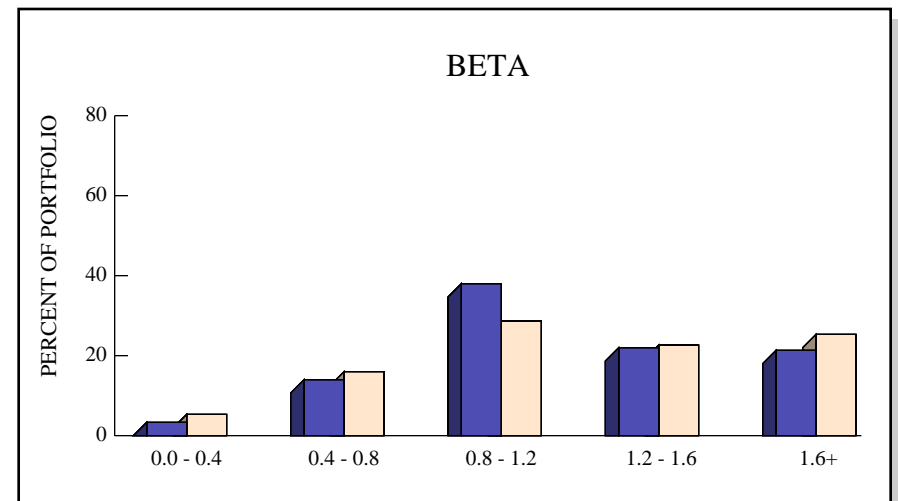
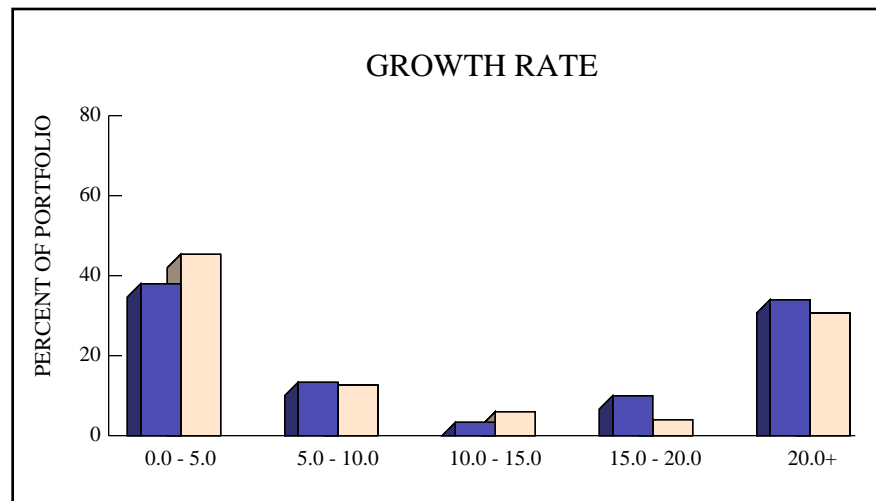
Total Quarters Observed	40
Quarters At or Above the Benchmark	28
Quarters Below the Benchmark	12
Batting Average	.700

RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	17.4	17.1	0.3
3/11	12.9	9.2	3.7
6/11	-0.1	-0.6	0.5
9/11	-23.4	-22.3	-1.1
12/11	15.0	15.0	0.0
3/12	21.0	13.3	7.7
6/12	-7.6	-3.9	-3.7
9/12	7.1	4.8	2.3
12/12	-1.1	0.4	-1.5
3/13	14.3	13.2	1.1
6/13	5.4	3.7	1.7
9/13	17.8	12.8	5.0
12/13	6.1	8.2	-2.1
3/14	3.5	0.5	3.0
6/14	-2.7	1.7	-4.4
9/14	-4.6	-6.1	1.5
12/14	12.2	10.1	2.1
3/15	9.4	6.6	2.8
6/15	7.0	2.0	5.0
9/15	-9.8	-13.1	3.3
12/15	-1.1	4.3	-5.4
3/16	-6.2	-4.7	-1.5
6/16	2.4	3.2	-0.8
9/16	10.2	9.2	1.0
12/16	4.0	3.6	0.4
3/17	5.0	5.3	-0.3
6/17	6.6	4.4	2.2
9/17	6.7	6.2	0.5
12/17	7.7	4.6	3.1
3/18	-1.6	2.3	-3.9
6/18	9.2	7.2	2.0
9/18	6.9	5.5	1.4
12/18	-22.0	-21.7	-0.3
3/19	21.3	17.1	4.2
6/19	3.8	2.7	1.1
9/19	-6.5	-4.2	-2.3
12/19	12.0	11.4	0.6
3/20	-24.7	-25.8	1.1
6/20	32.6	30.6	2.0
9/20	9.6	7.2	2.4

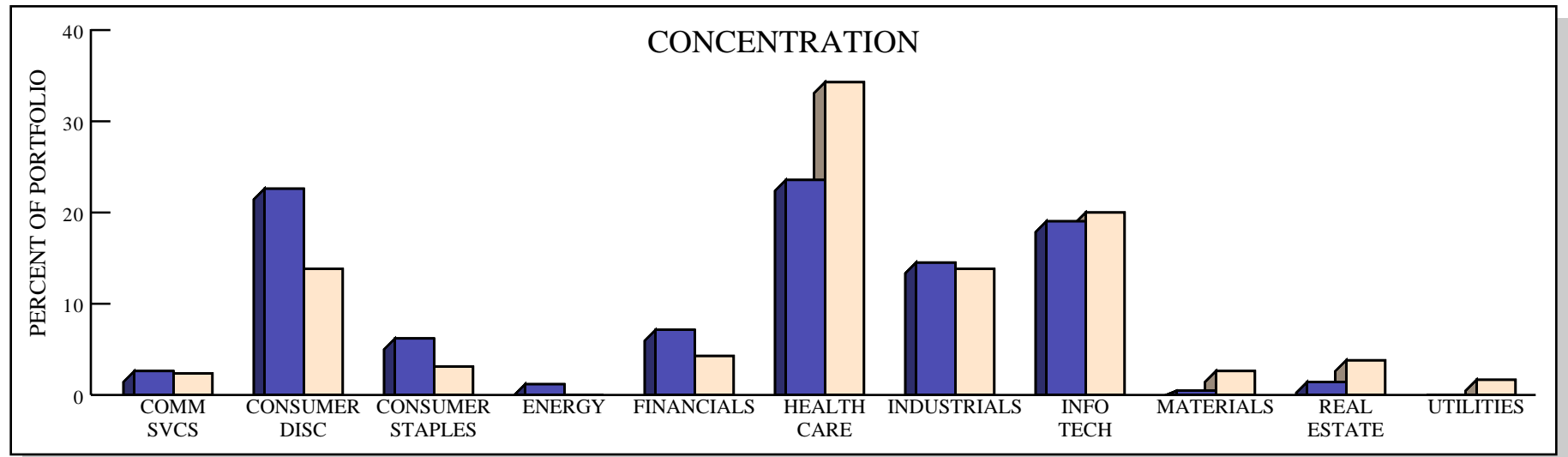
STOCK CHARACTERISTICS



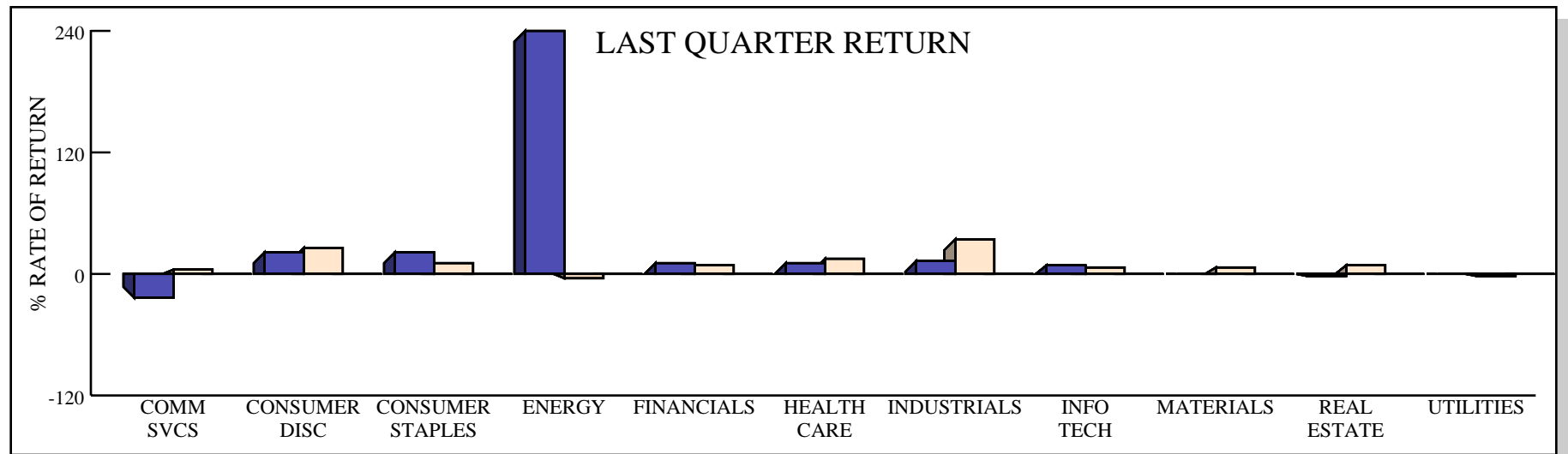
	# HOLDINGS	YIELD	GROWTH	P/E	BETA
PORTFOLIO	119	0.3%	12.9%	39.1	1.20
RUSSELL 2000G	1,099	0.4%	9.4%	35.8	1.24



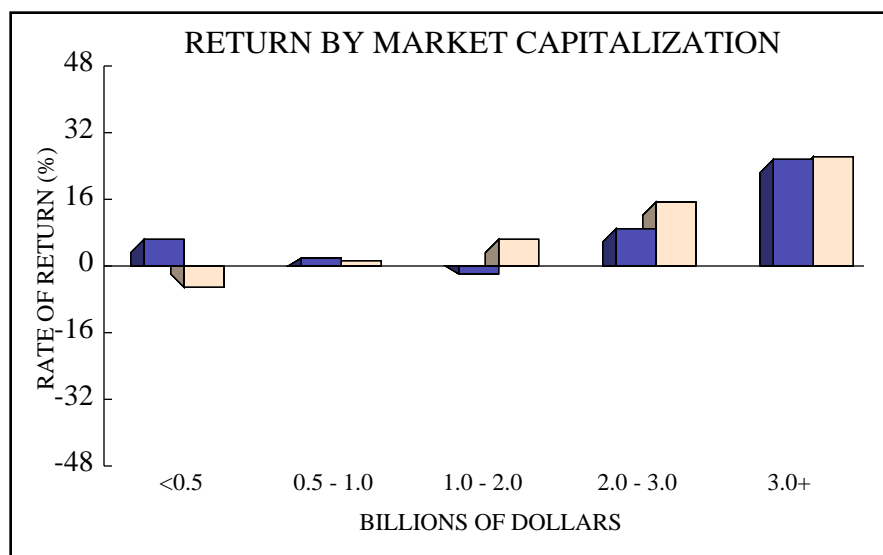
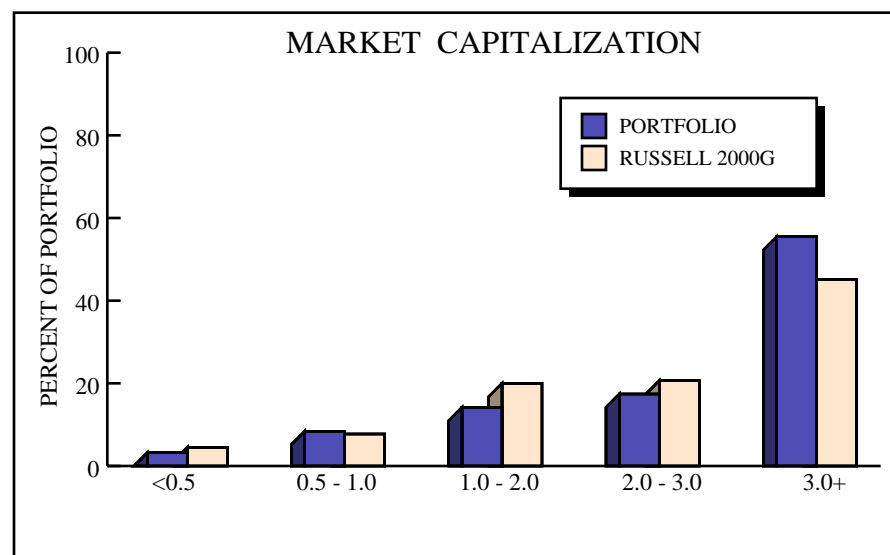
STOCK INDUSTRY ANALYSIS



■ PORTFOLIO ■ RUSSELL 2000G



TOP TEN HOLDINGS



TOP TEN EQUITY HOLDINGS

RANK	NAME	VALUE	% EQUITY	RETURN	INDUSTRY SECTOR	MKT CAP
1	FRESHPET INC	\$ 2,430,844	3.24%	33.5%	Consumer Staples	\$ 4.5 B
2	CHEGG INC	2,006,821	2.67%	6.2%	Consumer Discretionary	8.9 B
3	CHURCHILL DOWNS INC	1,734,035	2.31%	23.0%	Consumer Discretionary	6.5 B
4	NEOGENOMICS INC	1,638,764	2.18%	19.1%	Health Care	4.1 B
5	VARONIS SYSTEMS INC	1,532,085	2.04%	30.5%	Information Technology	3.6 B
6	HORIZON THERAPEUTICS PLC	1,505,438	2.01%	39.8%	Health Care	16.4 B
7	PALOMAR HOLDINGS INC	1,484,169	1.98%	21.6%	Financials	2.7 B
8	MERITAGE HOMES CORP	1,448,648	1.93%	45.0%	Consumer Discretionary	4.2 B
9	RAPID7 INC	1,317,885	1.76%	20.0%	Information Technology	3.1 B
10	KRATOS DEFENSE AND SECURITY	1,287,133	1.71%	23.4%	Industrials	2.4 B

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
HARDMAN JOHNSTON GLOBAL ADVISORS - INTERNATIONAL EQUITY FULLY DISCRETIONARY
PERFORMANCE REVIEW
SEPTEMBER 2020

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System's Hardman Johnston Global Advisors International Equity Fully Discretionary portfolio was valued at \$141,377,906, representing an increase of \$16,015,449 from the June quarter's ending value of \$125,362,457. Last quarter, the Fund posted withdrawals totaling \$179,673, which partially offset the portfolio's net investment return of \$16,195,122. Income receipts totaling \$83,801 plus net realized and unrealized capital gains of \$16,111,321 combined to produce the portfolio's net investment return.

RELATIVE PERFORMANCE

Total Fund

For the third quarter, the Hardman Johnston Global Advisors International Equity Fully Discretionary portfolio returned 12.9%, which was 6.6% above the S&P BMI Developed Ex US Index's return of 6.3% and ranked in the 12th percentile of the International Equity universe. Over the trailing year, the portfolio returned 27.1%, which was 24.1% above the benchmark's 3.0% return, ranking in the 8th percentile. Since March 2012, the portfolio returned 10.7% annualized and ranked in the 5th percentile. The S&P BMI Developed Ex US Index returned an annualized 5.6% over the same period.

ASSET ALLOCATION

At the end of the third quarter, international equities comprised 99.8% of the total portfolio (\$141.1 million), while cash & equivalents totaled 0.2% (\$292,660).

EXECUTIVE SUMMARY**PERFORMANCE SUMMARY**

	Quarter	YTD	1 Year	3 Year	5 Year	Since 03/12
Total Portfolio - Gross	12.9	11.7	27.1	11.1	14.5	10.7
<i>INTERNATIONAL EQUITY RANK</i>	(12)	(12)	(8)	(7)	(7)	(5)
Total Portfolio - Net	12.8	11.1	26.3	10.4	13.8	10.0
S&P BMI Ex US	6.3	-5.2	3.0	1.5	6.4	5.6
International Equity - Gross	13.2	13.0	28.8	11.3	15.0	11.0
<i>INTERNATIONAL EQUITY RANK</i>	(11)	(11)	(7)	(7)	(5)	(5)
S&P BMI Ex US	6.3	-5.2	3.0	1.5	6.4	5.6

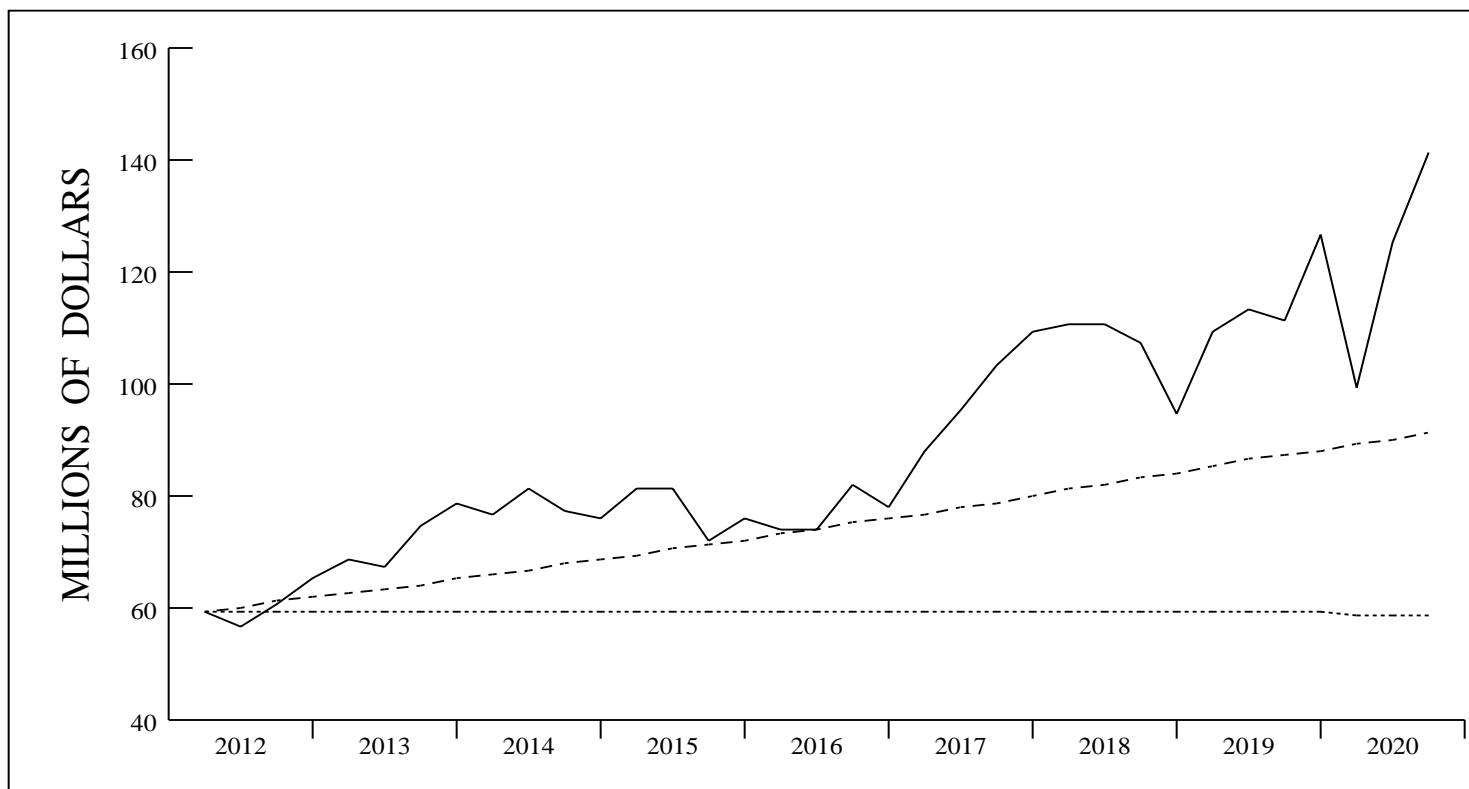
ASSET ALLOCATION

Int'l Equity	99.8%	\$ 141,085,246
Cash	0.2%	292,660
Total Portfolio	100.0%	\$ 141,377,906

INVESTMENT RETURN

Market Value 6/2020	\$ 125,362,457
Contribs / Withdrawals	-179,673
Income	83,801
Capital Gains / Losses	16,111,321
Market Value 9/2020	\$ 141,377,906

INVESTMENT GROWTH

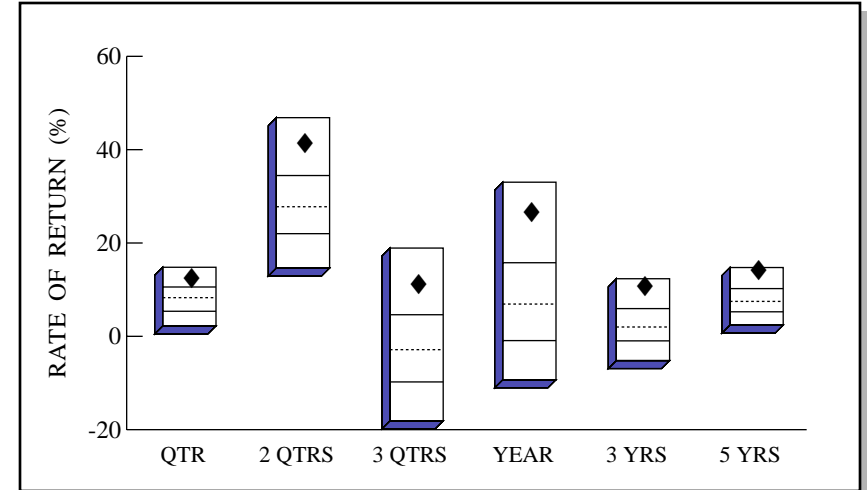
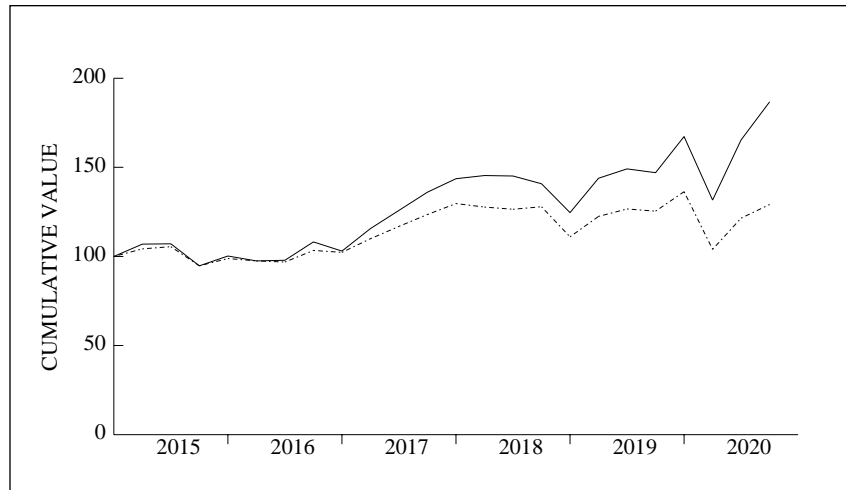


— ACTUAL RETURN
 - - - 5.25%
 0.0%

VALUE ASSUMING
 5.25% RETURN \$ 91,522,911

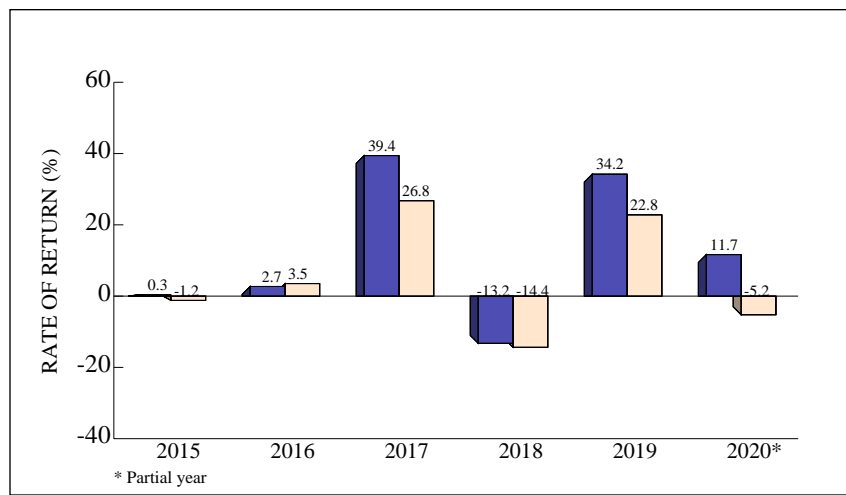
	LAST QUARTER	PERIOD 3/12 - 9/20
BEGINNING VALUE	\$ 125,362,457	\$ 59,853,568
NET CONTRIBUTIONS	-179,673	-909,618
<u>INVESTMENT RETURN</u>	<u>16,195,122</u>	<u>82,433,956</u>
ENDING VALUE	\$ 141,377,906	\$ 141,377,906
INCOME	83,801	11,014,713
<u>CAPITAL GAINS (LOSSES)</u>	<u>16,111,321</u>	<u>71,419,243</u>
INVESTMENT RETURN	16,195,122	82,433,956

TOTAL RETURN COMPARISONS



■ ——— PORTFOLIO
■ - - - - S&P BMI EX US

International Equity Universe



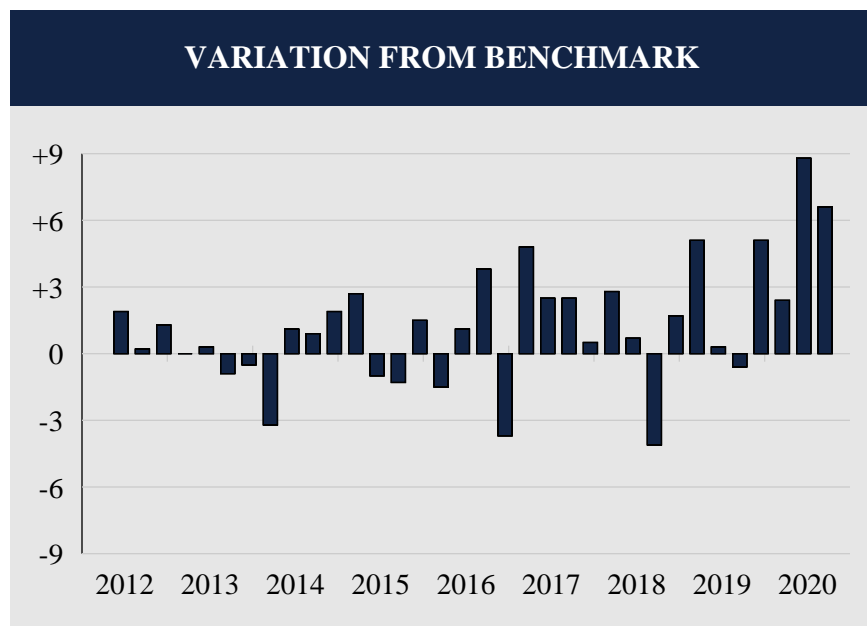
* Partial year

	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	12.9	41.9	11.7	27.1	11.1	14.5
(RANK)	(12)	(11)	(12)	(8)	(7)	(7)
5TH %ILE	14.8	46.9	18.9	33.0	12.3	14.8
25TH %ILE	10.6	34.4	4.6	15.8	5.9	10.2
MEDIAN	8.3	27.8	-2.9	6.9	2.0	7.5
75TH %ILE	5.4	22.0	-9.8	-0.9	-1.0	5.2
95TH %ILE	2.2	14.6	-18.1	-9.3	-5.2	2.4
BMI Ex US	6.3	24.2	-5.2	3.0	1.5	6.4

International Equity Universe

TOTAL PORTFOLIO QUARTERLY PERFORMANCE SUMMARY

COMPARATIVE BENCHMARK: S&P BMI DEVELOPED EX US INDEX



RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
6/12	-5.3	-7.2	1.9
9/12	7.9	7.7	0.2
12/12	7.1	5.8	1.3
3/13	4.9	4.9	0.0
6/13	-1.5	-1.8	0.3
9/13	11.0	11.9	-0.9
12/13	4.9	5.4	-0.5
3/14	-2.0	1.2	-3.2
6/14	5.9	4.8	1.1
9/14	-5.0	-5.9	0.9
12/14	-1.8	-3.7	1.9
3/15	6.9	4.2	2.7
6/15	0.2	1.2	-1.0
9/15	-11.5	-10.2	-1.3
12/15	5.8	4.3	1.5
3/16	-2.8	-1.3	-1.5
6/16	0.4	-0.7	1.1
9/16	10.5	6.7	3.8
12/16	-4.8	-1.1	-3.7
3/17	12.3	7.5	4.8
6/17	8.8	6.3	2.5
9/17	8.2	5.7	2.5
12/17	5.5	5.0	0.5
3/18	1.3	-1.5	2.8
6/18	-0.2	-0.9	0.7
9/18	-3.0	1.1	-4.1
12/18	-11.5	-13.2	1.7
3/19	15.4	10.3	5.1
6/19	3.7	3.4	0.3
9/19	-1.5	-0.9	-0.6
12/19	13.8	8.7	5.1
3/20	-21.3	-23.7	2.4
6/20	25.6	16.8	8.8
9/20	12.9	6.3	6.6

Total Quarters Observed	34
Quarters At or Above the Benchmark	25
Quarters Below the Benchmark	9
Batting Average	.735

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
HGK ASSET MANAGEMENT - HGK INTERNATIONAL EQUITY
PERFORMANCE REVIEW
SEPTEMBER 2020

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System's HGK Asset Management HGK International Equity portfolio was valued at \$129,808,735, representing an increase of \$7,628,053 from the June quarter's ending value of \$122,180,682. Last quarter, the Fund posted withdrawals totaling \$195,263, which partially offset the portfolio's net investment return of \$7,823,316. Income receipts totaling \$370,251 plus net realized and unrealized capital gains of \$7,453,065 combined to produce the portfolio's net investment return.

RELATIVE PERFORMANCE

Total Fund

For the third quarter, the HGK Asset Management HGK International Equity portfolio returned 6.4%, which was 0.1% above the S&P BMI Developed Ex US Index's return of 6.3% and ranked in the 67th percentile of the International Equity universe. Over the trailing year, the portfolio returned 7.9%, which was 4.9% above the benchmark's 3.0% return, ranking in the 47th percentile. Since March 2012, the portfolio returned 9.1% annualized and ranked in the 10th percentile. The S&P BMI Developed Ex US Index returned an annualized 5.6% over the same period.

ASSET ALLOCATION

At the end of the third quarter, international equities comprised 97.8% of the total portfolio (\$127.0 million), while cash & equivalents totaled 2.2% (\$2.8 million).

EXECUTIVE SUMMARY**PERFORMANCE SUMMARY**

	Quarter	YTD	1 Year	3 Year	5 Year	Since 03/12
Total Portfolio - Gross	6.4	-3.8	7.9	2.8	8.3	9.1
<i>INTERNATIONAL EQUITY RANK</i>	(67)	(53)	(47)	(43)	(42)	(10)
Total Portfolio - Net	6.2	-4.3	7.1	2.1	7.5	8.4
S&P BMI Ex US	6.3	-5.2	3.0	1.5	6.4	5.6
International Equity - Gross	6.8	-4.0	8.0	2.8	8.6	9.5
<i>INTERNATIONAL EQUITY RANK</i>	(64)	(54)	(46)	(42)	(39)	(9)
S&P BMI Ex US	6.3	-5.2	3.0	1.5	6.4	5.6

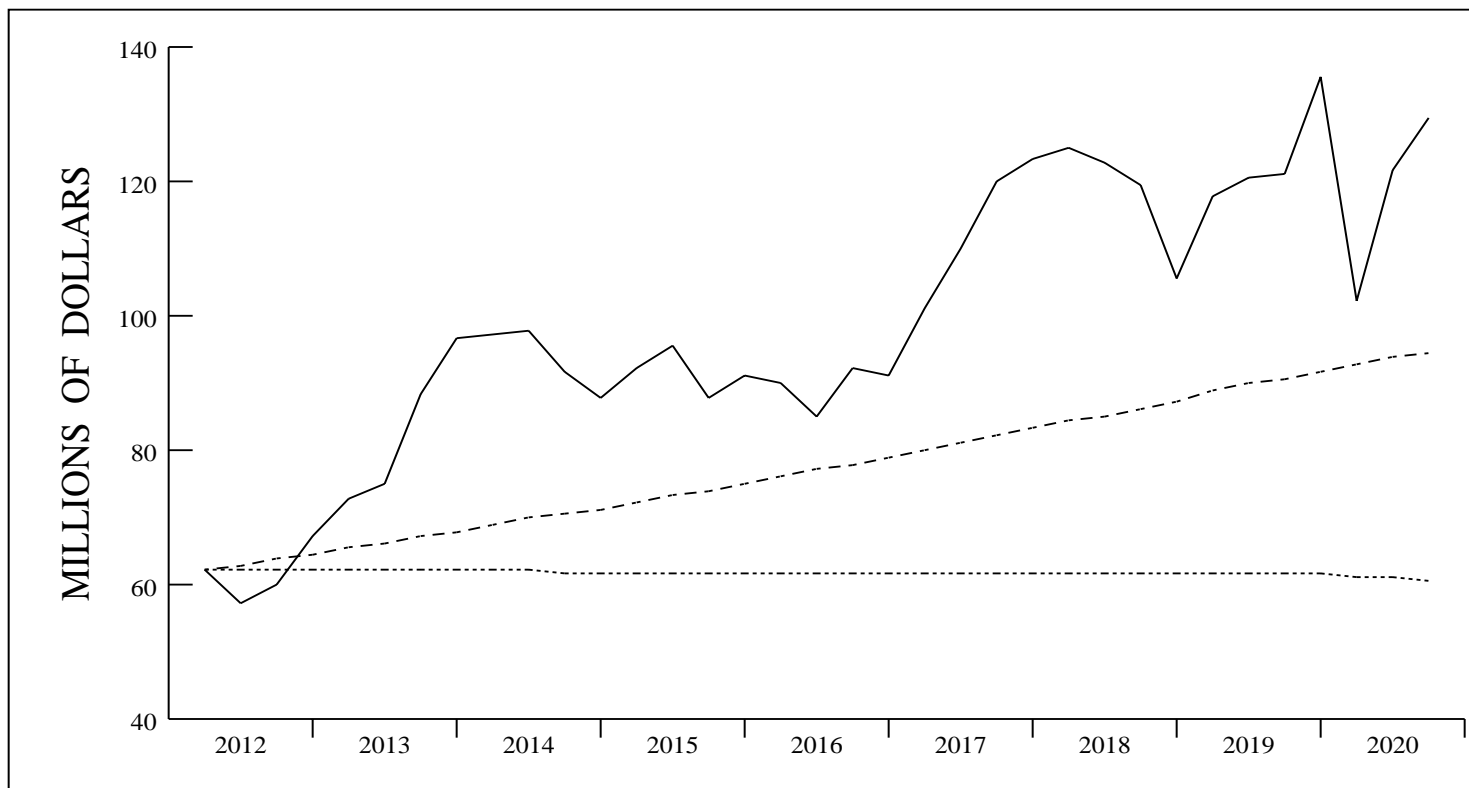
ASSET ALLOCATION

Int'l Equity	97.8%	\$ 126,992,160
Cash	2.2%	2,816,575
Total Portfolio	100.0%	\$ 129,808,735

INVESTMENT RETURN

Market Value 6/2020	\$ 122,180,682
Contribs / Withdrawals	-195,263
Income	370,251
Capital Gains / Losses	7,453,065
Market Value 9/2020	\$ 129,808,735

INVESTMENT GROWTH

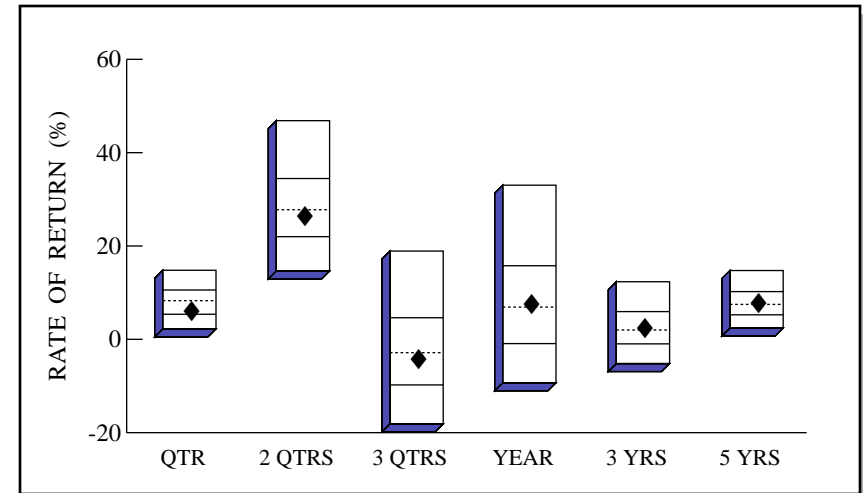
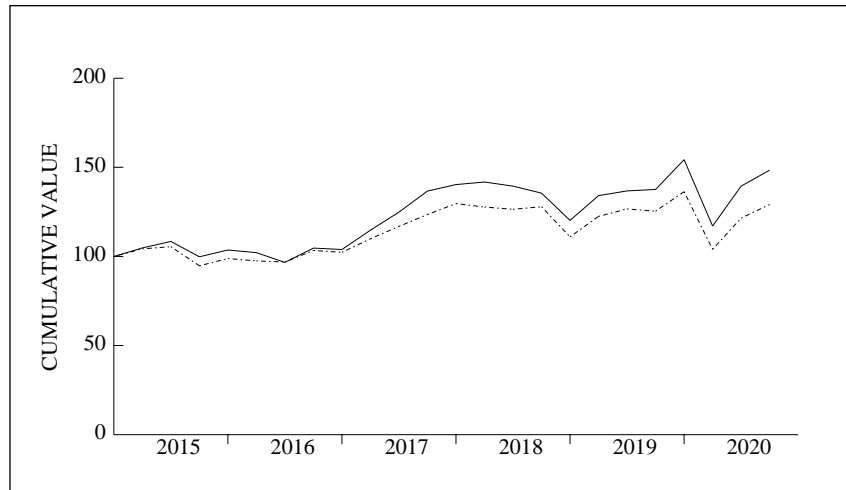


— ACTUAL RETURN
 - - - 5.25%
 0.0%

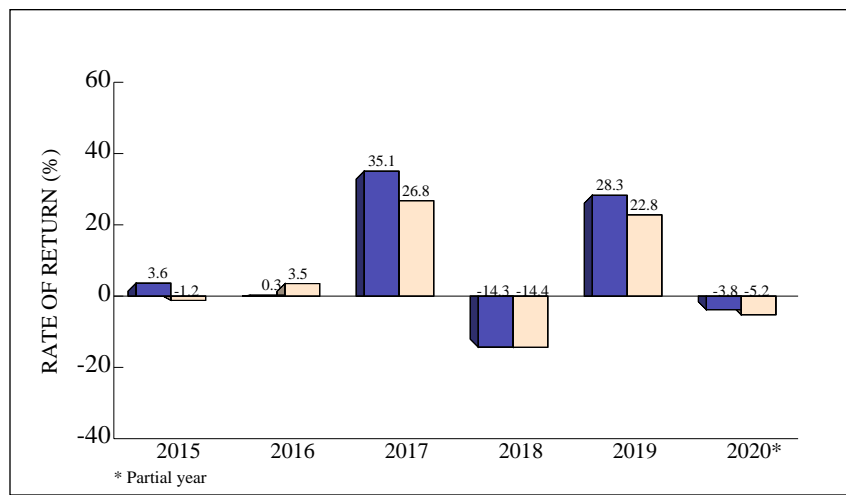
VALUE ASSUMING
 5.25% RETURN \$ 94,937,964

	LAST QUARTER	PERIOD 3/12 - 9/20
BEGINNING VALUE	\$ 122,180,682	\$ 62,430,922
NET CONTRIBUTIONS	-195,263	- 1,350,819
<u>INVESTMENT RETURN</u>	<u>7,823,316</u>	<u>68,728,632</u>
ENDING VALUE	\$ 129,808,735	\$ 129,808,735
INCOME	370,251	18,020,387
<u>CAPITAL GAINS (LOSSES)</u>	<u>7,453,065</u>	<u>50,708,245</u>
INVESTMENT RETURN	7,823,316	68,728,632

TOTAL RETURN COMPARISONS



International Equity Universe

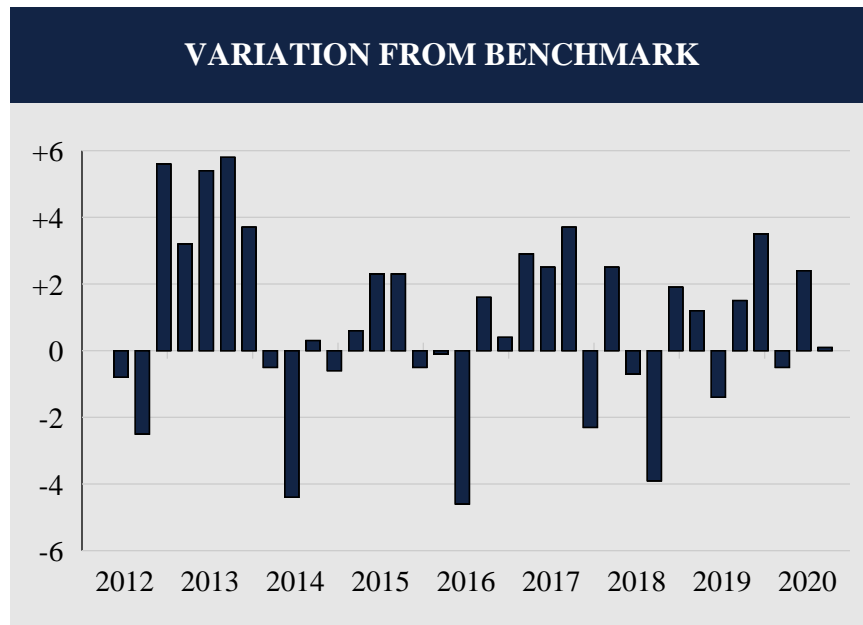


	QTR	2 QTRS	3 QTRS	YEAR	3 YRS	5 YRS
RETURN	6.4	26.8	-3.8	7.9	2.8	8.3
(RANK)	(67)	(56)	(53)	(47)	(43)	(42)
5TH %ILE	14.8	46.9	18.9	33.0	12.3	14.8
25TH %ILE	10.6	34.4	4.6	15.8	5.9	10.2
MEDIAN	8.3	27.8	-2.9	6.9	2.0	7.5
75TH %ILE	5.4	22.0	-9.8	-0.9	-1.0	5.2
95TH %ILE	2.2	14.6	-18.1	-9.3	-5.2	2.4
BMI Ex US	6.3	24.2	-5.2	3.0	1.5	6.4

International Equity Universe

TOTAL PORTFOLIO QUARTERLY PERFORMANCE SUMMARY

COMPARATIVE BENCHMARK: S&P BMI DEVELOPED EX US INDEX



Total Quarters Observed	34
Quarters At or Above the Benchmark	21
Quarters Below the Benchmark	13
Batting Average	.618

RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
6/12	-8.0	-7.2	-0.8
9/12	5.2	7.7	-2.5
12/12	11.4	5.8	5.6
3/13	8.1	4.9	3.2
6/13	3.6	-1.8	5.4
9/13	17.7	11.9	5.8
12/13	9.1	5.4	3.7
3/14	0.7	1.2	-0.5
6/14	0.4	4.8	-4.4
9/14	-5.6	-5.9	0.3
12/14	-4.3	-3.7	-0.6
3/15	4.8	4.2	0.6
6/15	3.5	1.2	2.3
9/15	-7.9	-10.2	2.3
12/15	3.8	4.3	-0.5
3/16	-1.4	-1.3	-0.1
6/16	-5.3	-0.7	-4.6
9/16	8.3	6.7	1.6
12/16	-0.7	-1.1	0.4
3/17	10.4	7.5	2.9
6/17	8.8	6.3	2.5
9/17	9.4	5.7	3.7
12/17	2.7	5.0	-2.3
3/18	1.0	-1.5	2.5
6/18	-1.6	-0.9	-0.7
9/18	-2.8	1.1	-3.9
12/18	-11.3	-13.2	1.9
3/19	11.5	10.3	1.2
6/19	2.0	3.4	-1.4
9/19	0.6	-0.9	1.5
12/19	12.2	8.7	3.5
3/20	-24.2	-23.7	-0.5
6/20	19.2	16.8	2.4
9/20	6.4	6.3	0.1

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
LSV ASSET MANAGEMENT - US LARGE CAP VALUE
PERFORMANCE REVIEW
SEPTEMBER 2020

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System's LSV Asset Management US Large Cap Value portfolio was valued at \$149,595,153, representing an increase of \$5,658,326 from the June quarter's ending value of \$143,936,827. Last quarter, the Fund posted withdrawals totaling \$136,738, which partially offset the portfolio's net investment return of \$5,795,064. Income receipts totaling \$968,583 plus net realized and unrealized capital gains of \$4,826,481 combined to produce the portfolio's net investment return.

RELATIVE PERFORMANCE

Total Fund

For the third quarter, the LSV Asset Management US Large Cap Value portfolio returned 4.0%, which was 1.6% below the Russell 1000 Value Index's return of 5.6% and ranked in the 74th percentile of the Large Cap Value universe. Over the trailing year, the portfolio returned -6.2%, which was 1.2% below the benchmark's -5.0% return, ranking in the 70th percentile. Since March 2004, the portfolio returned 7.5% annualized. The Russell 1000 Value returned an annualized 6.9% over the same period.

ASSET ALLOCATION

At the end of the third quarter, large cap equities comprised 99.5% of the total portfolio (\$148.9 million), while cash & equivalents totaled 0.5% (\$685,427).

EQUITY ANALYSIS

Last quarter, the LSV portfolio was diversified across all industry sectors in our analysis. Compared to the Russell 1000 Value benchmark, the portfolio placed greater emphasis on the Information Technology, Health Care, and Consumer Discretionary sectors.

The portfolio's outsize position in the Information Technology sector worked against its favor, as this sector was not a prime source of return last quarter. Selection effects were mixed, but more sectors underperformed than outperformed.

EXECUTIVE SUMMARY**PERFORMANCE SUMMARY**

	Quarter	YTD	1 Year	3 Year	5 Year	10 Year	Since 03/04
Total Portfolio - Gross	4.0	-14.2	-6.2	0.7	6.7	10.3	7.5
<i>LARGE CAP VALUE RANK</i>	(74)	(76)	(70)	(78)	(77)	(53)	----
Total Portfolio - Net	3.9	-14.5	-6.6	0.3	6.2	9.8	7.1
Russell 1000V	5.6	-11.6	-5.0	2.6	7.6	9.9	6.9
Large Cap Equity - Gross	4.0	-14.2	-6.3	0.8	6.7	10.3	7.6
<i>LARGE CAP VALUE RANK</i>	(74)	(76)	(70)	(78)	(75)	(51)	----
Russell 1000V	5.6	-11.6	-5.0	2.6	7.6	9.9	6.9
S&P 500	8.9	5.6	15.1	12.3	14.1	13.7	9.1
Russell 1000G	13.2	24.3	37.5	21.7	20.1	17.3	11.3

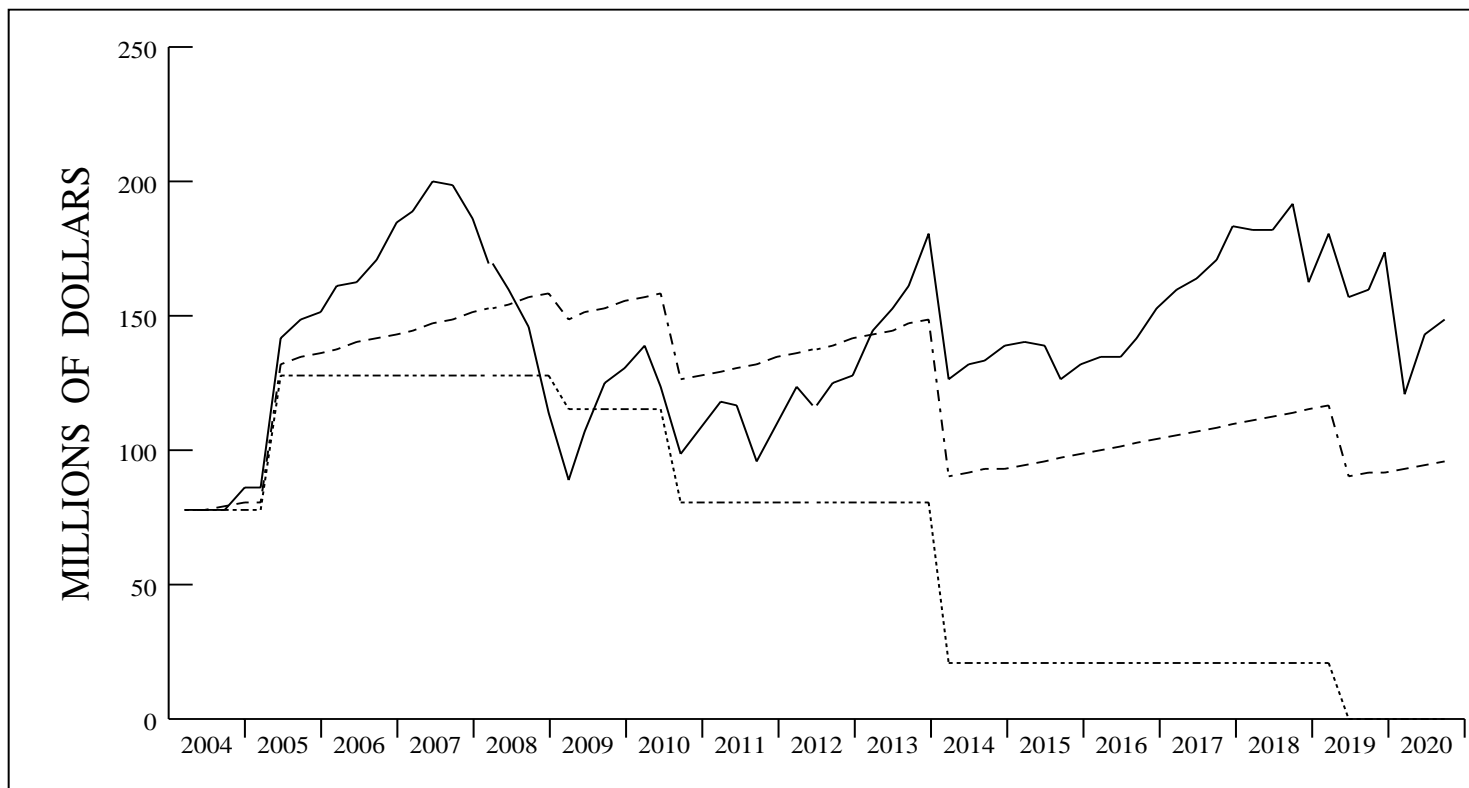
ASSET ALLOCATION

Large Cap Equity	99.5%	\$ 148,909,726
Cash	0.5%	685,427
Total Portfolio	100.0%	\$ 149,595,153

INVESTMENT RETURN

Market Value 6/2020	\$ 143,936,827
Contribs / Withdrawals	-136,738
Income	968,583
Capital Gains / Losses	4,826,481
Market Value 9/2020	\$ 149,595,153

INVESTMENT GROWTH

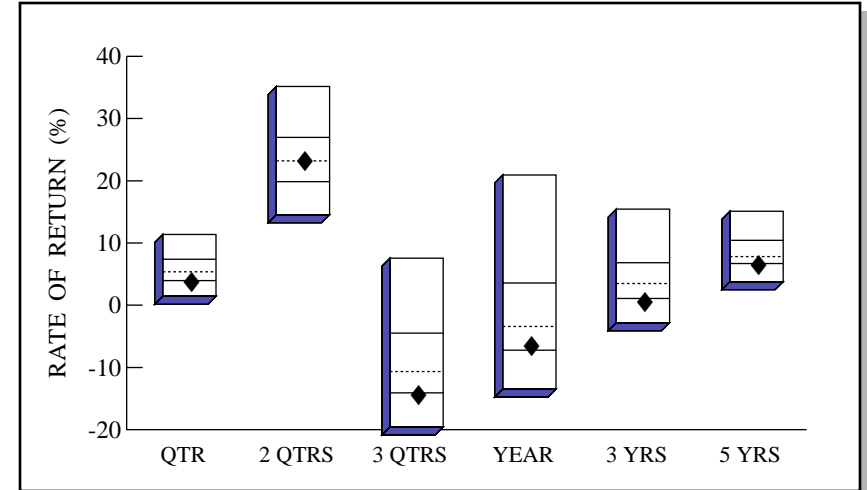
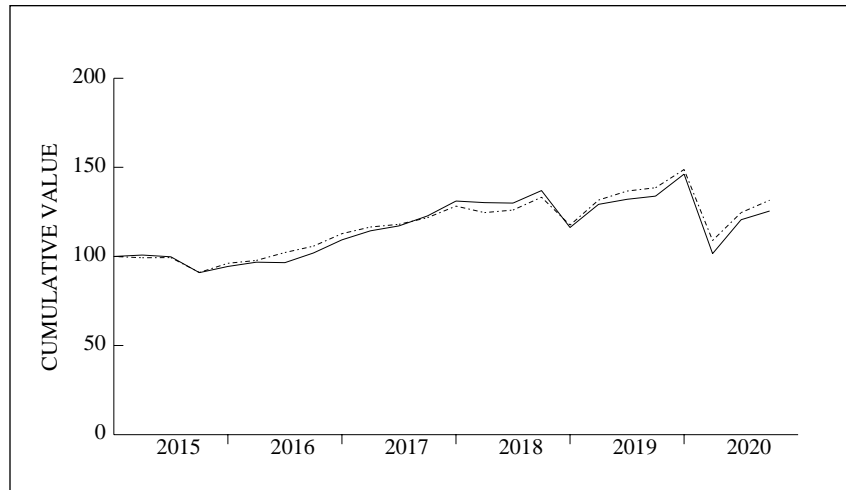


— ACTUAL RETURN
 - - - 5.25%
 . . . 0.0%

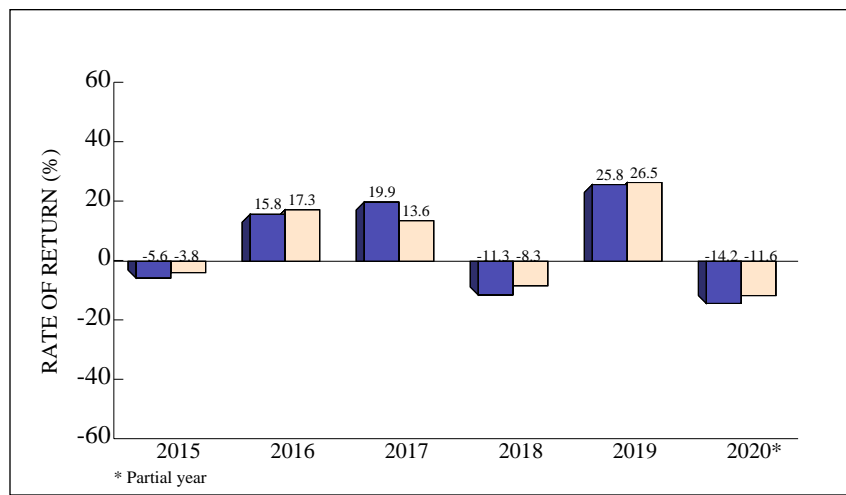
VALUE ASSUMING
 5.25% RETURN \$ 96,172,446

	LAST QUARTER	PERIOD 3/04 - 9/20
BEGINNING VALUE	\$ 143,936,827	\$ 77,834,544
NET CONTRIBUTIONS	-136,738	- 84,996,651
<u>INVESTMENT RETURN</u>	<u>5,795,064</u>	<u>156,757,260</u>
ENDING VALUE	\$ 149,595,153	\$ 149,595,153
INCOME	968,583	59,033,835
<u>CAPITAL GAINS (LOSSES)</u>	<u>4,826,481</u>	<u>97,723,425</u>
INVESTMENT RETURN	5,795,064	156,757,260

TOTAL RETURN COMPARISONS



Large Cap Value Universe

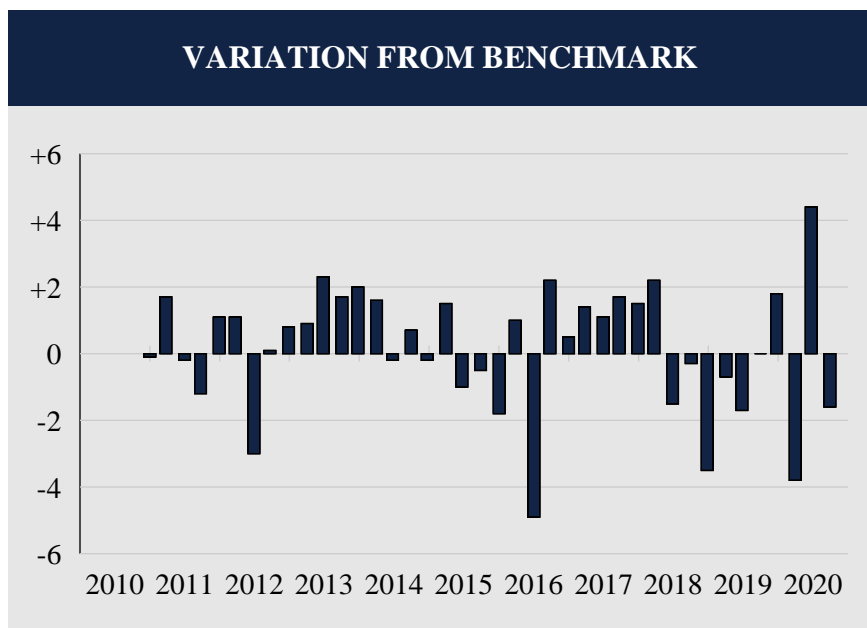


	QTR	2 QTRS	3 QTRS	YEAR	3 YRS	5 YRS
RETURN	4.0	23.5	-14.2	-6.2	0.7	6.7
(RANK)	(74)	(47)	(76)	(70)	(78)	(77)
5TH %ILE	11.4	35.2	7.5	20.9	15.5	15.1
25TH %ILE	7.4	27.0	-4.5	3.6	6.8	10.4
MEDIAN	5.4	23.2	-10.7	-3.4	3.5	7.8
75TH %ILE	4.0	19.8	-14.1	-7.2	1.1	6.7
95TH %ILE	1.4	14.6	-19.6	-13.5	-2.8	3.8
Russ 1000V	5.6	20.7	-11.6	-5.0	2.6	7.6

Large Cap Value Universe

TOTAL PORTFOLIO QUARTERLY PERFORMANCE SUMMARY - 10 YEARS

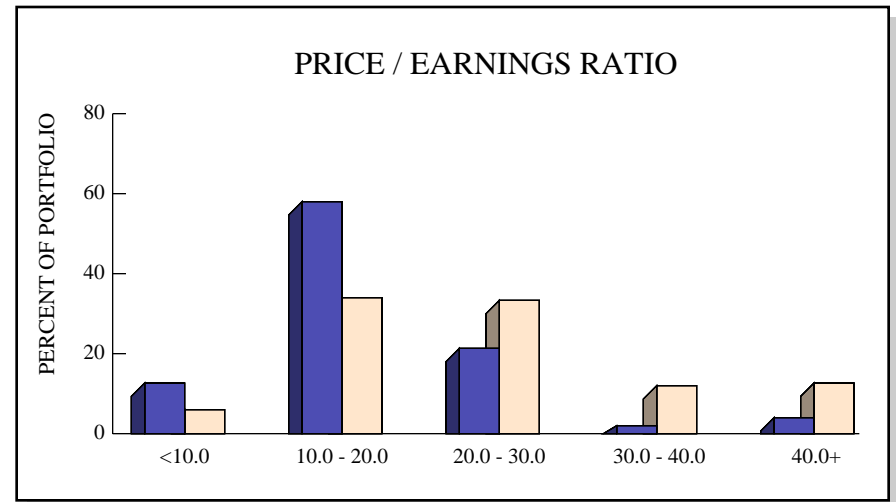
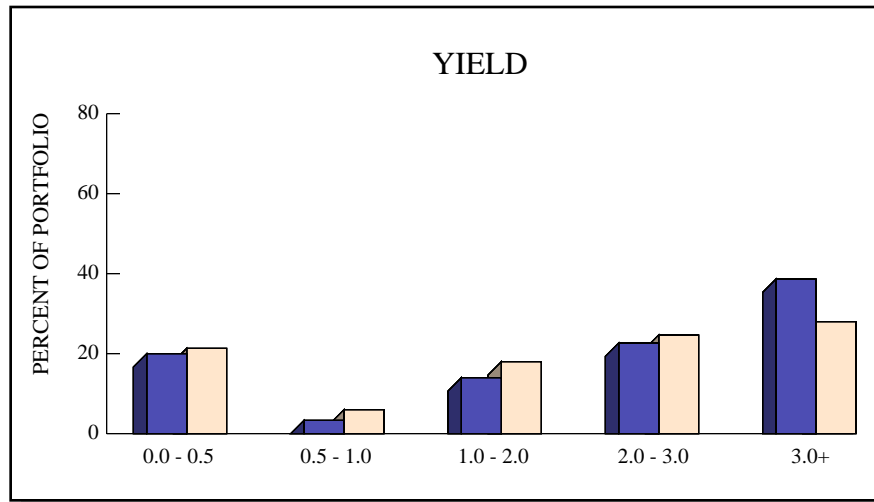
COMPARATIVE BENCHMARK: RUSSELL 1000 VALUE



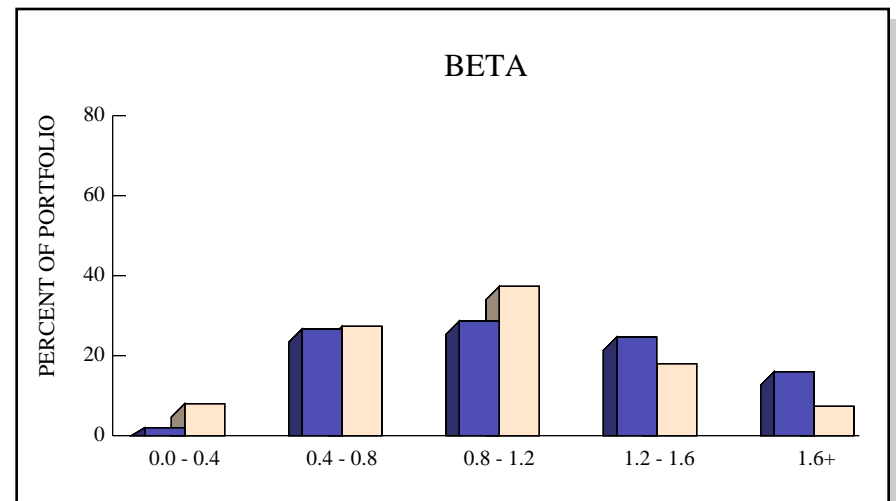
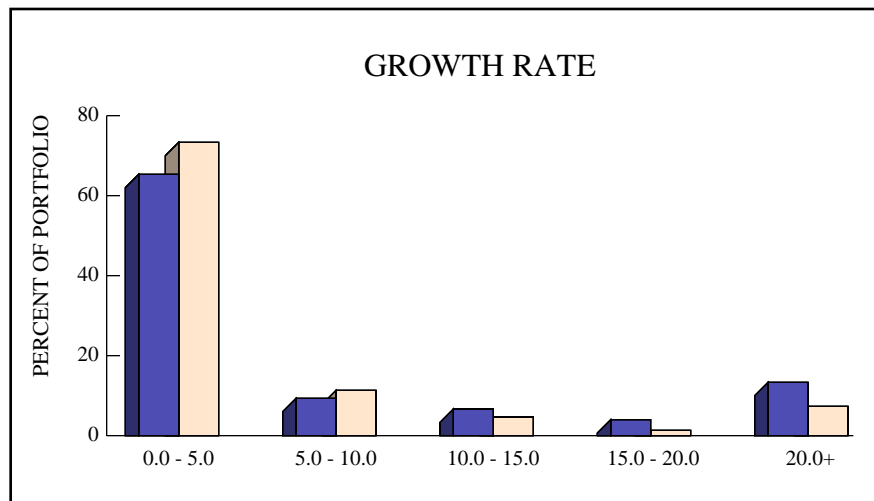
RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
12/10	10.4	10.5	-0.1
3/11	8.2	6.5	1.7
6/11	-0.7	-0.5	-0.2
9/11	-17.4	-16.2	-1.2
12/11	14.2	13.1	1.1
3/12	12.2	11.1	1.1
6/12	-5.2	-2.2	-3.0
9/12	6.6	6.5	0.1
12/12	2.3	1.5	0.8
3/13	13.2	12.3	0.9
6/13	5.5	3.2	2.3
9/13	5.6	3.9	1.7
12/13	12.0	10.0	2.0
3/14	4.6	3.0	1.6
6/14	4.9	5.1	-0.2
9/14	0.5	-0.2	0.7
12/14	4.8	5.0	-0.2
3/15	0.8	-0.7	1.5
6/15	-0.9	0.1	-1.0
9/15	-8.9	-8.4	-0.5
12/15	3.8	5.6	-1.8
3/16	2.6	1.6	1.0
6/16	-0.3	4.6	-4.9
9/16	5.7	3.5	2.2
12/16	7.2	6.7	0.5
3/17	4.7	3.3	1.4
6/17	2.4	1.3	1.1
9/17	4.8	3.1	1.7
12/17	6.8	5.3	1.5
3/18	-0.6	-2.8	2.2
6/18	-0.3	1.2	-1.5
9/18	5.4	5.7	-0.3
12/18	-15.2	-11.7	-3.5
3/19	11.2	11.9	-0.7
6/19	2.1	3.8	-1.7
9/19	1.4	1.4	0.0
12/19	9.2	7.4	1.8
3/20	-30.5	-26.7	-3.8
6/20	18.7	14.3	4.4
9/20	4.0	5.6	-1.6

Total Quarters Observed	40
Quarters At or Above the Benchmark	23
Quarters Below the Benchmark	17
Batting Average	.575

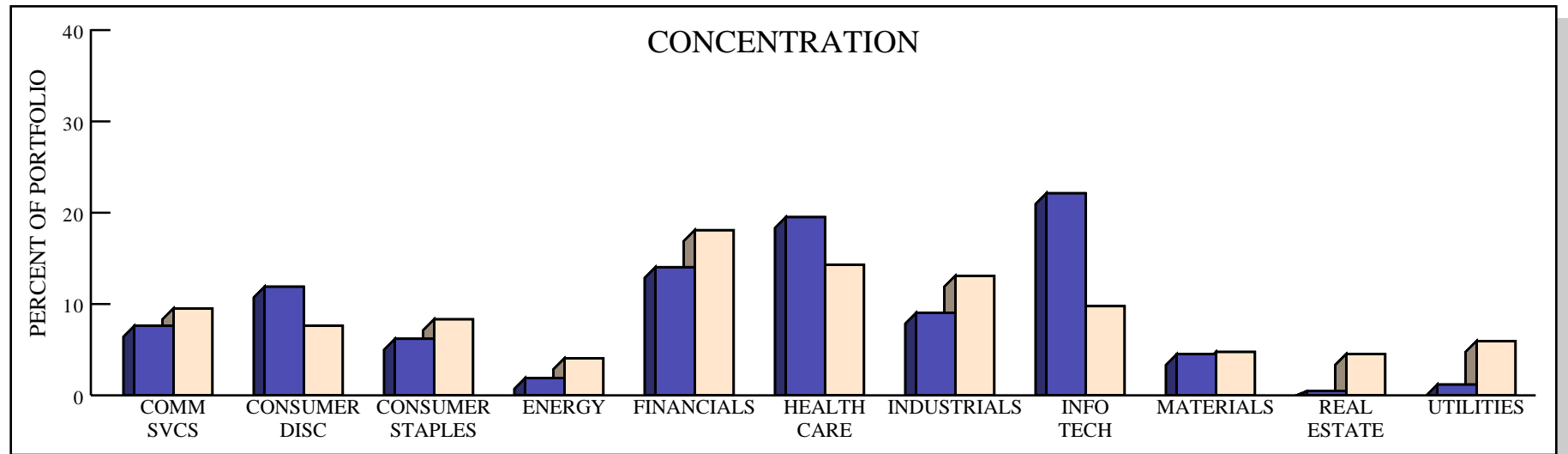
STOCK CHARACTERISTICS



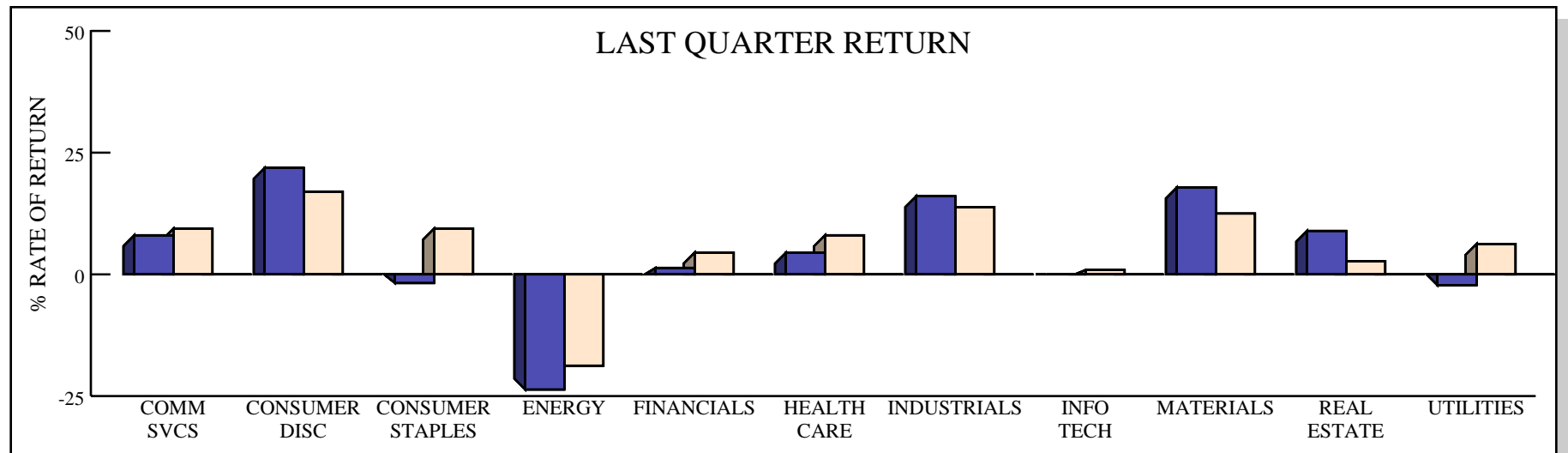
	# HOLDINGS	YIELD	GROWTH	P/E	BETA
PORTFOLIO	147	2.6%	-0.1%	18.4	1.11
RUSSELL 1000V	850	2.3%	-4.7%	25.8	0.97



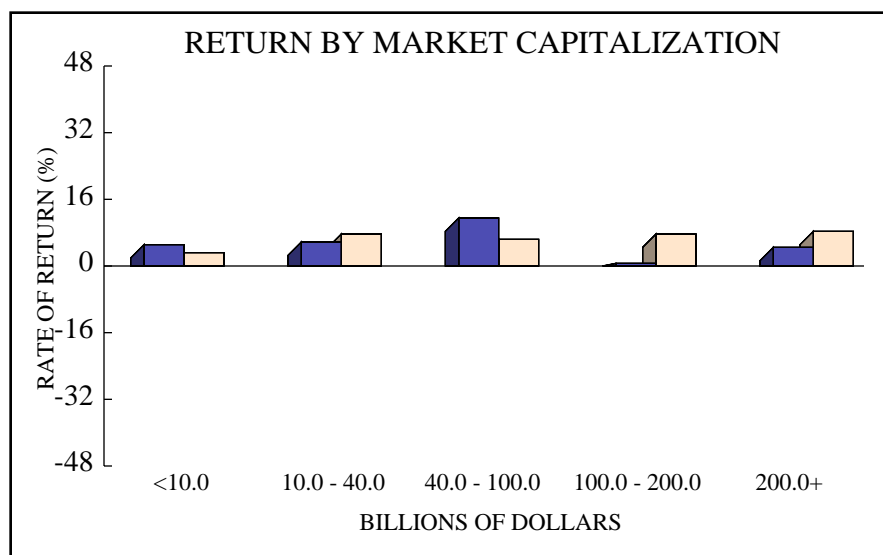
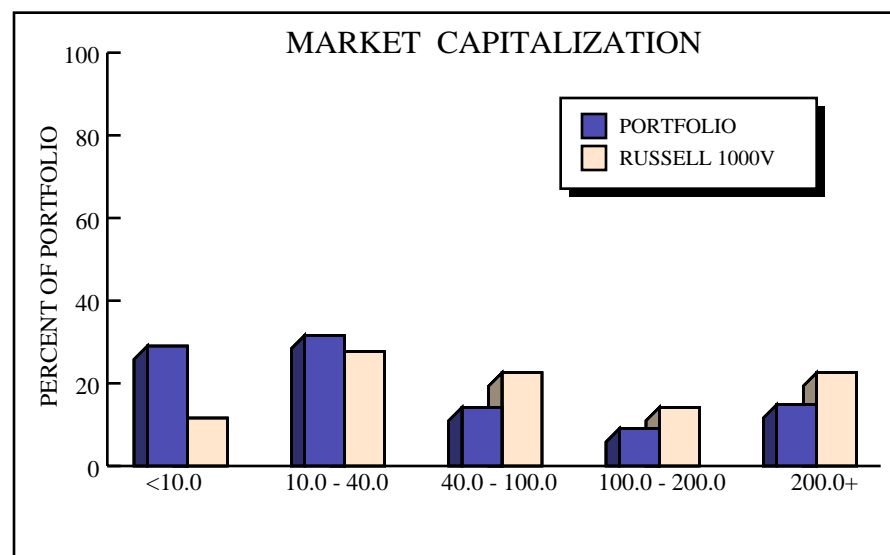
STOCK INDUSTRY ANALYSIS



■ PORTFOLIO ■ RUSSELL 1000V



TOP TEN HOLDINGS



TOP TEN EQUITY HOLDINGS

RANK	NAME	VALUE	% EQUITY	RETURN	INDUSTRY SECTOR	MKT CAP
1	INTEL CORP	\$ 3,681,558	2.47%	-12.9%	Information Technology	\$ 220.2 B
2	VERIZON COMMUNICATIONS INC	3,563,451	2.39%	9.1%	Communication Services	255.3 B
3	ORACLE CORP	3,253,650	2.18%	8.5%	Information Technology	179.5 B
4	MERCK & CO INC	3,226,755	2.17%	8.1%	Health Care	209.8 B
5	PFIZER INC	3,137,850	2.11%	13.3%	Health Care	203.9 B
6	AMGEN INC	3,100,752	2.08%	8.5%	Health Care	148.9 B
7	TARGET CORP	2,786,334	1.87%	31.9%	Consumer Discretionary	78.8 B
8	COMCAST CORP	2,683,080	1.80%	18.7%	Communication Services	211.3 B
9	AT&T INC	2,540,241	1.71%	-4.0%	Communication Services	203.1 B
10	EBAY INC	2,506,010	1.68%	-0.4%	Consumer Discretionary	36.5 B

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
LSV ASSET MANAGEMENT - US SMALL CAP VALUE EQUITY
PERFORMANCE REVIEW
SEPTEMBER 2020

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System's LSV Asset Management US Small Cap Value Equity portfolio was valued at \$58,865,704, representing an increase of \$2,276,634 from the June quarter's ending value of \$56,589,070. Last quarter, the Fund posted withdrawals totaling \$80,836, which partially offset the portfolio's net investment return of \$2,357,470. Income receipts totaling \$329,013 plus net realized and unrealized capital gains of \$2,028,457 combined to produce the portfolio's net investment return.

RELATIVE PERFORMANCE

Total Fund

For the third quarter, the LSV Asset Management US Small Cap Value Equity portfolio returned 4.2%, which was 1.6% above the Russell 2000 Value Index's return of 2.6% and ranked in the 33rd percentile of the Small Cap Value universe. Over the trailing year, the portfolio returned -17.8%, which was 2.9% below the benchmark's -14.9% return, ranking in the 79th percentile. Since December 2016, the portfolio returned -4.0% annualized and ranked in the 80th percentile. The Russell 2000 Value returned an annualized -2.7% over the same period.

ASSET ALLOCATION

At the end of the third quarter, small cap equities comprised 99.4% of the total portfolio (\$58.5 million), while cash & equivalents totaled 0.6% (\$351,513).

EQUITY ANALYSIS

The small cap LSV portfolio had a footprint in all sectors of our analysis at quarter end. Relative to the Russell 2000 Value index, the portfolio had larger positions in the Health Care, Industrials, and Information Technology sectors. The Financials and Real Estate sectors were underweight.

The portfolio's reduced position in Financials and Real Estate minimized the impact of weak returns in those sectors. Selection effects were mixed, with most sectors falling short of their index counterparts. Communication Services, Industrials, and Materials performed better for the portfolio than the index.

EXECUTIVE SUMMARY**PERFORMANCE SUMMARY**

	Quarter	YTD	1 Year	3 Year	5 Year	Since 12/16
Total Portfolio - Gross	4.2	-24.4	-17.8	-6.6	----	-4.0
<i>SMALL CAP VALUE RANK</i>	(33)	(81)	(79)	(83)	----	(80)
Total Portfolio - Net	4.0	-24.8	-18.3	-7.1	----	-4.6
Russell 2000V	2.6	-21.6	-14.9	-5.1	4.1	-2.7
Small Cap Equity - Gross	4.2	-24.9	-18.2	-6.8	----	-4.2
<i>SMALL CAP VALUE RANK</i>	(32)	(84)	(82)	(87)	----	(82)
Russell 2000V	2.6	-21.6	-14.9	-5.1	4.1	-2.7

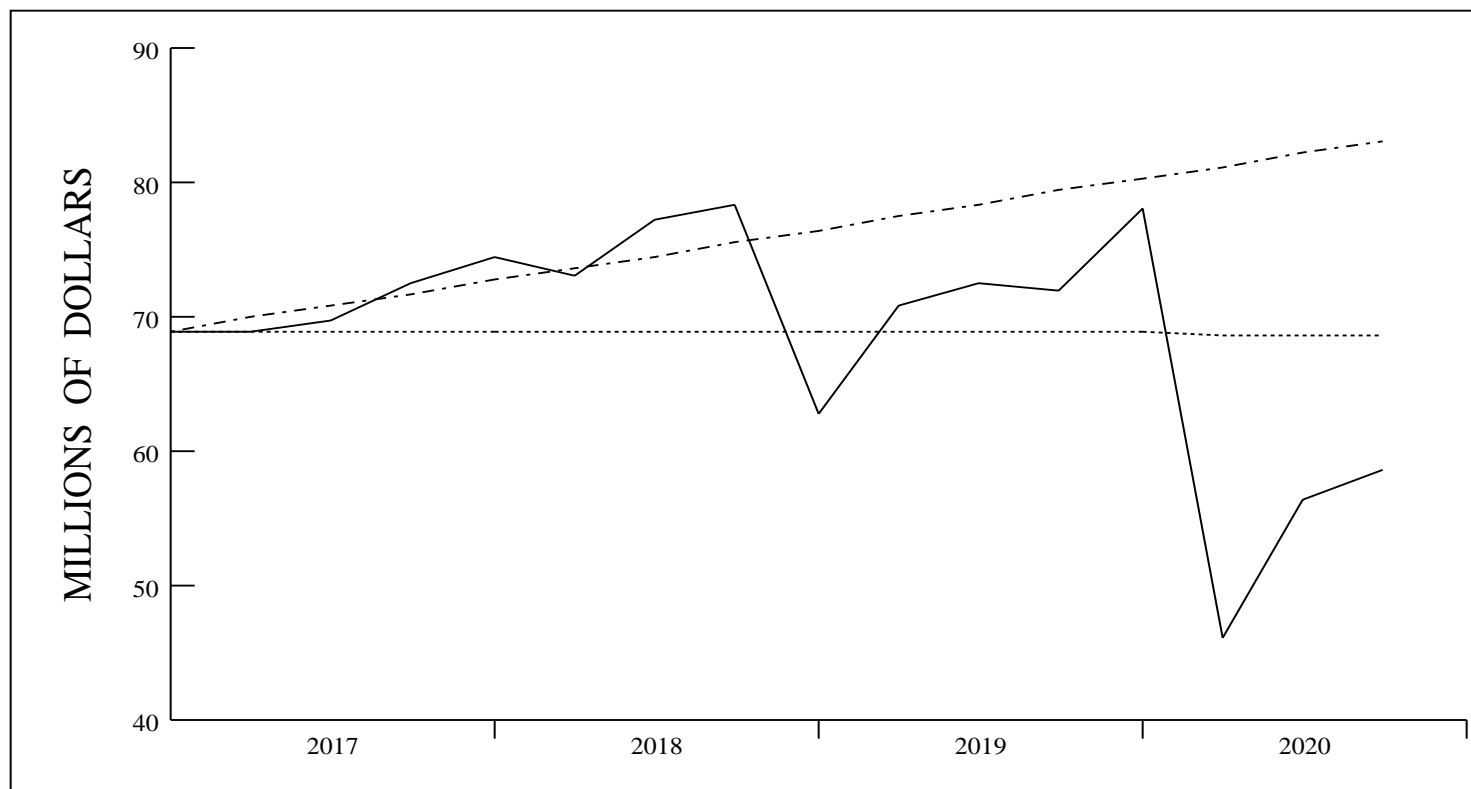
ASSET ALLOCATION

Small Cap	99.4%	\$ 58,514,191
Cash	0.6%	351,513
Total Portfolio	100.0%	\$ 58,865,704

INVESTMENT RETURN

Market Value 6/2020	\$ 56,589,070
Contribs / Withdrawals	- 80,836
Income	329,013
Capital Gains / Losses	2,028,457
Market Value 9/2020	\$ 58,865,704

INVESTMENT GROWTH

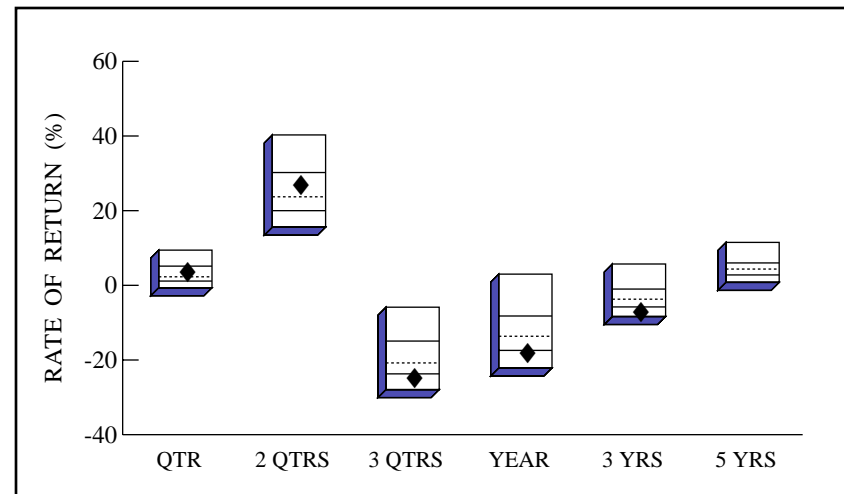
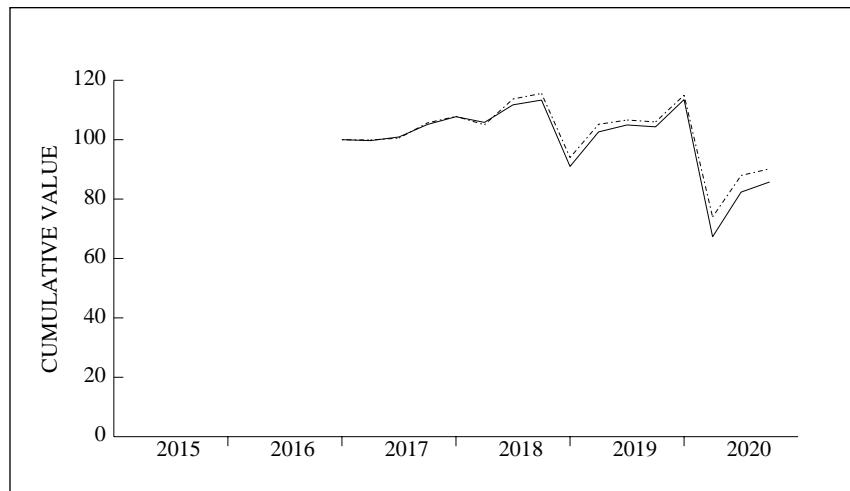


— ACTUAL RETURN
 - - - 5.25%
 . . . 0.0%

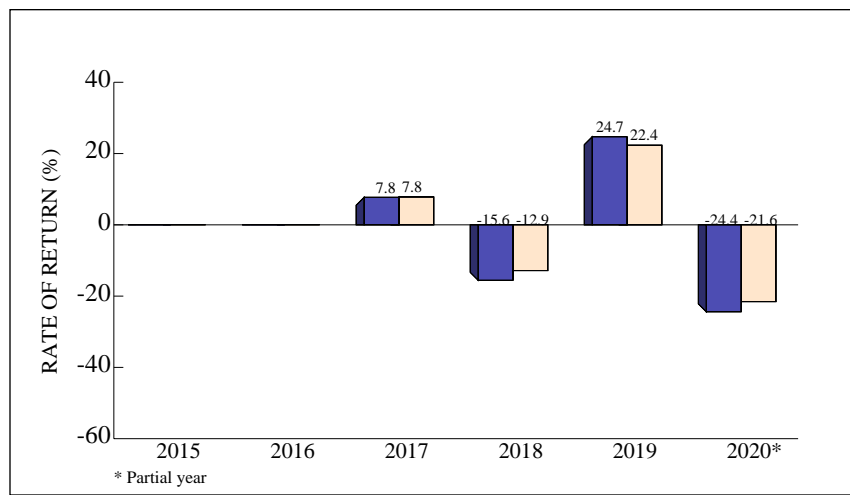
VALUE ASSUMING
 5.25% RETURN \$ 83,285,723

	LAST QUARTER	PERIOD 12/16 - 9/20
BEGINNING VALUE	\$ 56,589,070	\$ 69,163,490
NET CONTRIBUTIONS	- 80,836	-489,226
<u>INVESTMENT RETURN</u>	<u>2,357,470</u>	<u>- 9,808,560</u>
ENDING VALUE	\$ 58,865,704	\$ 58,865,704
INCOME	329,013	6,057,238
<u>CAPITAL GAINS (LOSSES)</u>	<u>2,028,457</u>	<u>- 15,865,798</u>
INVESTMENT RETURN	2,357,470	- 9,808,560

TOTAL RETURN COMPARISONS



Small Cap Value Universe

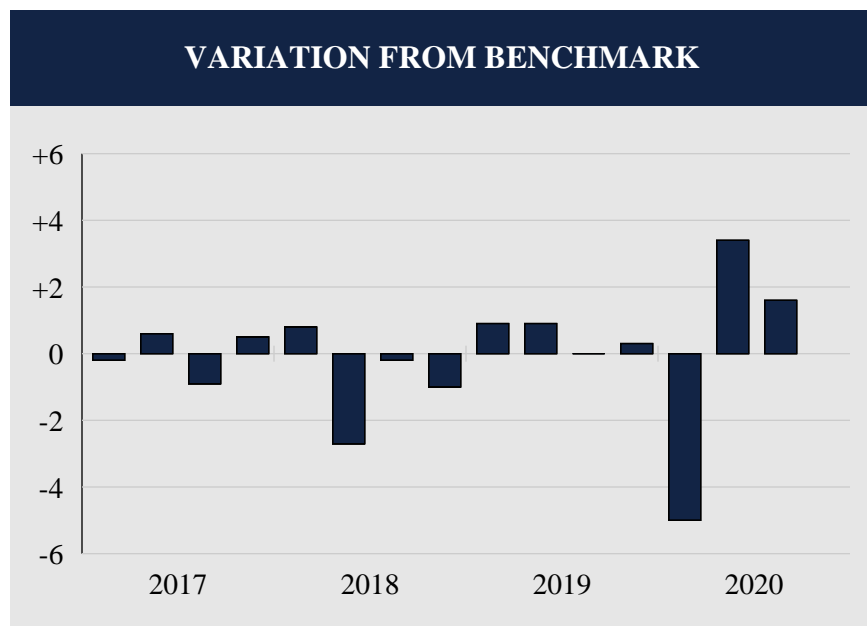


	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	4.2	27.4	-24.4	-17.8	-6.6	---
(RANK)	(33)	(36)	(81)	(79)	(83)	---
5TH %ILE	9.4	40.3	-5.9	3.0	5.7	11.5
25TH %ILE	5.1	30.2	-15.0	-8.2	-1.0	6.0
MEDIAN	2.3	23.7	-20.8	-13.7	-3.7	4.4
75TH %ILE	1.1	20.0	-23.7	-17.4	-5.8	2.8
95TH %ILE	-0.6	15.6	-27.9	-22.1	-8.4	0.8
Russ 2000V	2.6	21.9	-21.6	-14.9	-5.1	4.1

Small Cap Value Universe

TOTAL PORTFOLIO QUARTERLY PERFORMANCE SUMMARY

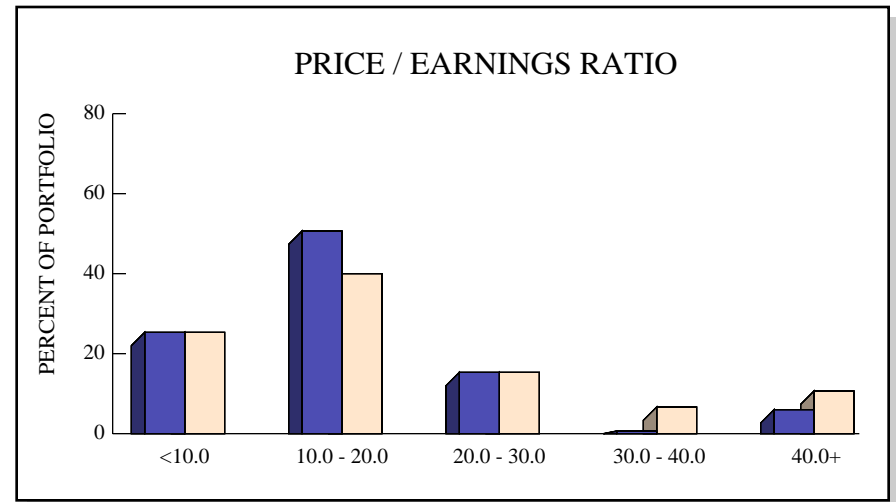
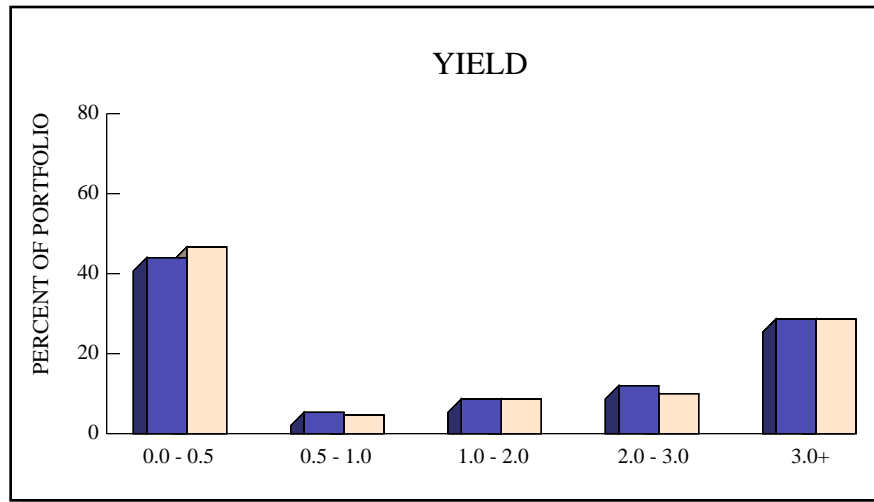
COMPARATIVE BENCHMARK: RUSSELL 2000 VALUE



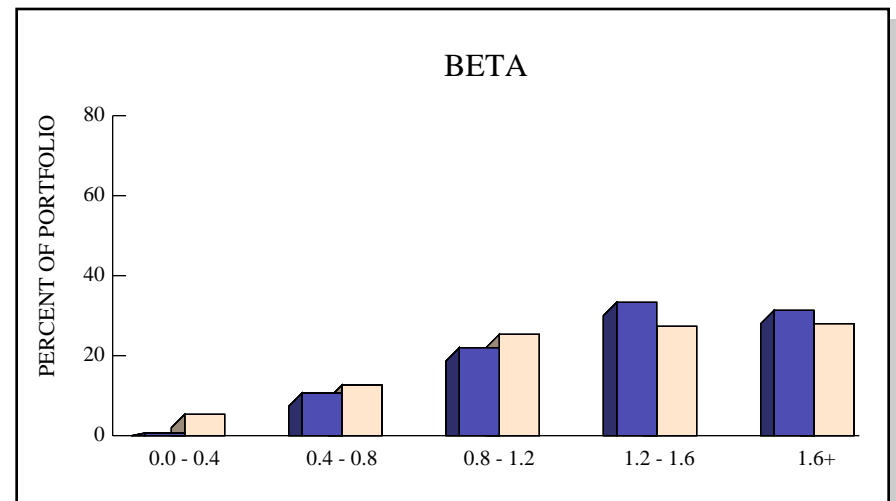
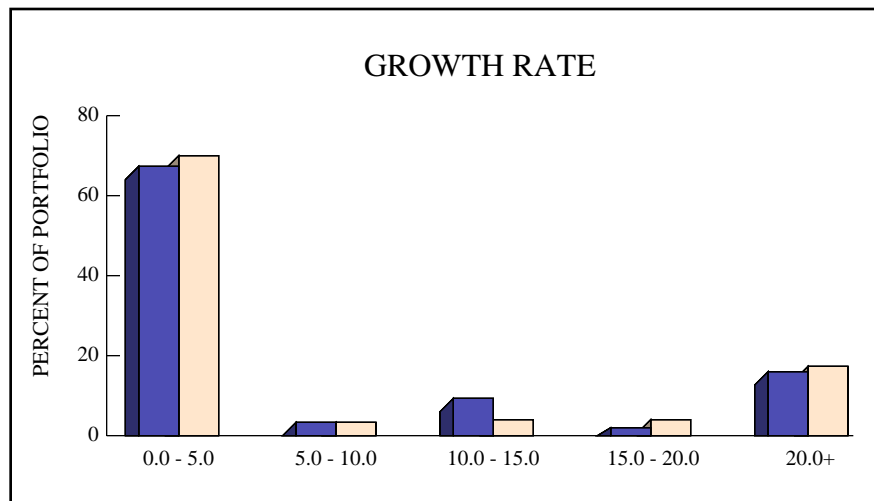
RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
3/17	-0.3	-0.1	-0.2
6/17	1.3	0.7	0.6
9/17	4.2	5.1	-0.9
12/17	2.5	2.0	0.5
3/18	-1.8	-2.6	0.8
6/18	5.6	8.3	-2.7
9/18	1.4	1.6	-0.2
12/18	-19.7	-18.7	-1.0
3/19	12.8	11.9	0.9
6/19	2.3	1.4	0.9
9/19	-0.6	-0.6	0.0
12/19	8.8	8.5	0.3
3/20	-40.7	-35.7	-5.0
6/20	22.3	18.9	3.4
9/20	4.2	2.6	1.6

Total Quarters Observed	15
Quarters At or Above the Benchmark	9
Quarters Below the Benchmark	6
Batting Average	.600

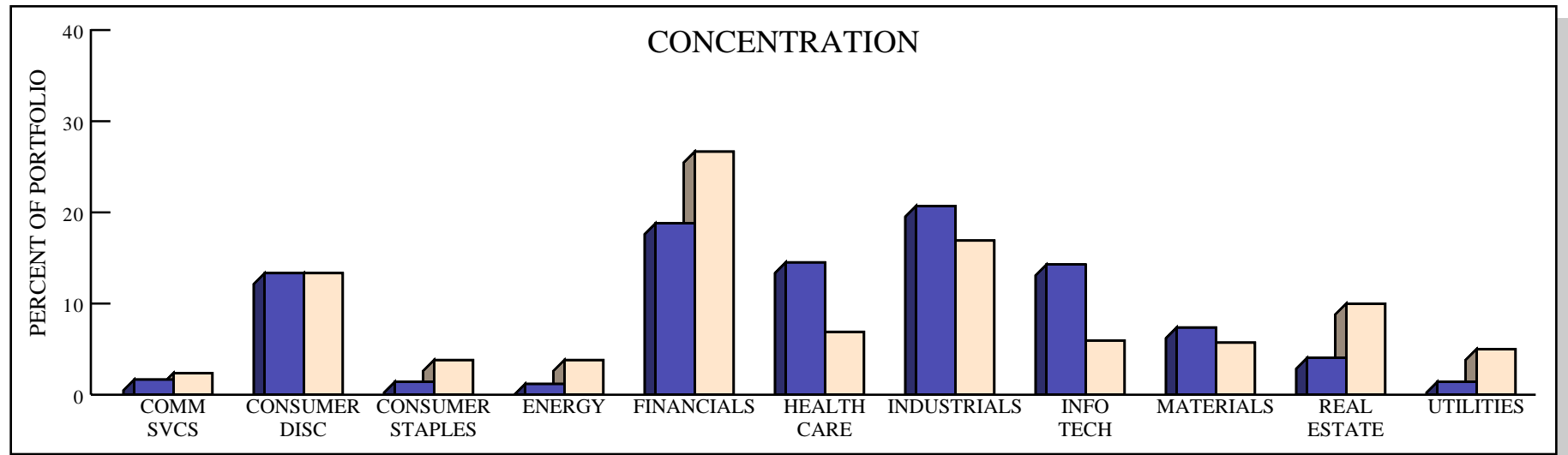
STOCK CHARACTERISTICS



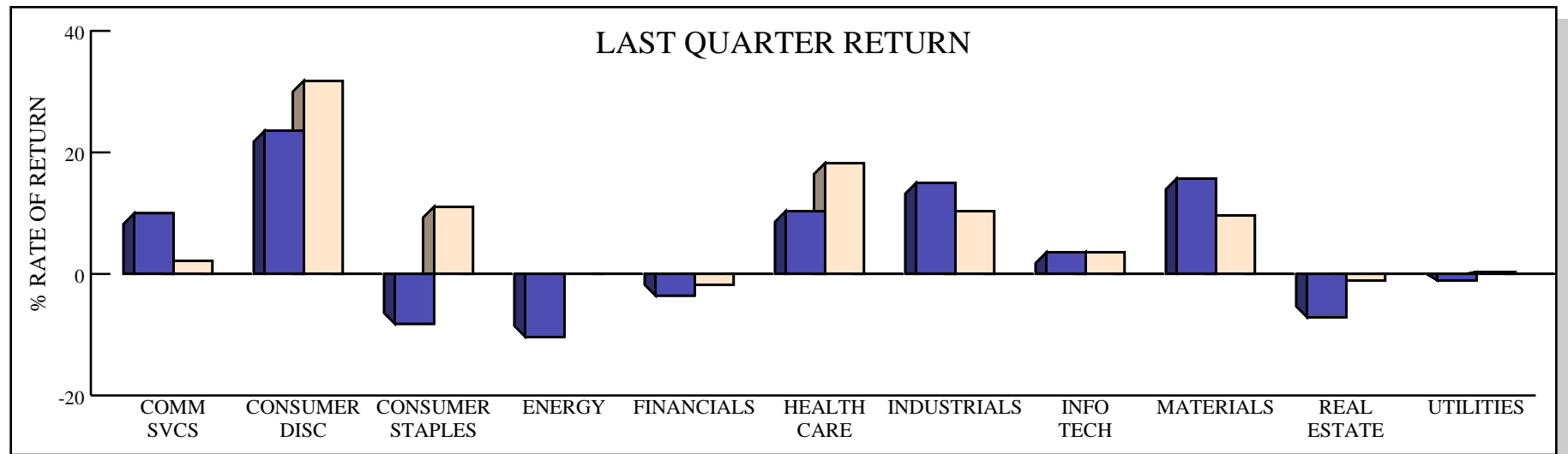
	# HOLDINGS	YIELD	GROWTH	P/E	BETA
PORTFOLIO	210	2.2%	-2.9%	16.5	1.42
RUSSELL 2000V	1,459	2.0%	-3.0%	20.5	1.35



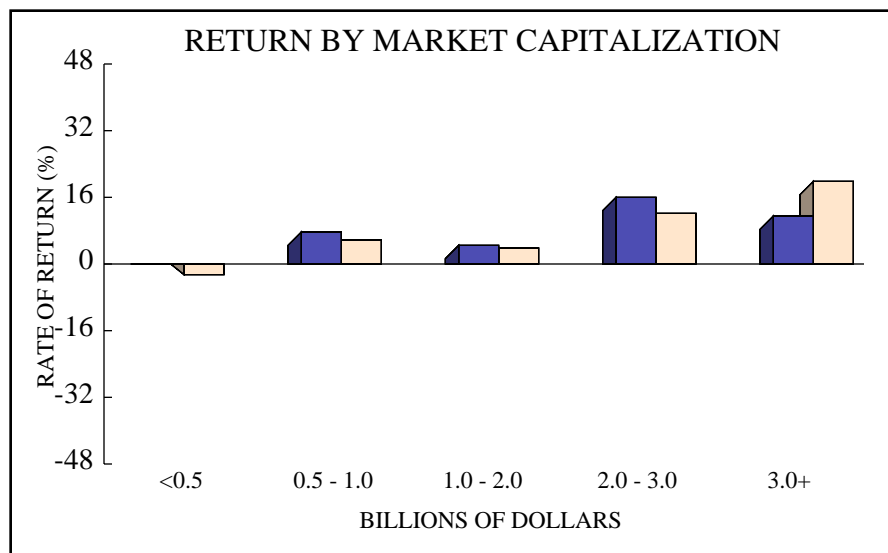
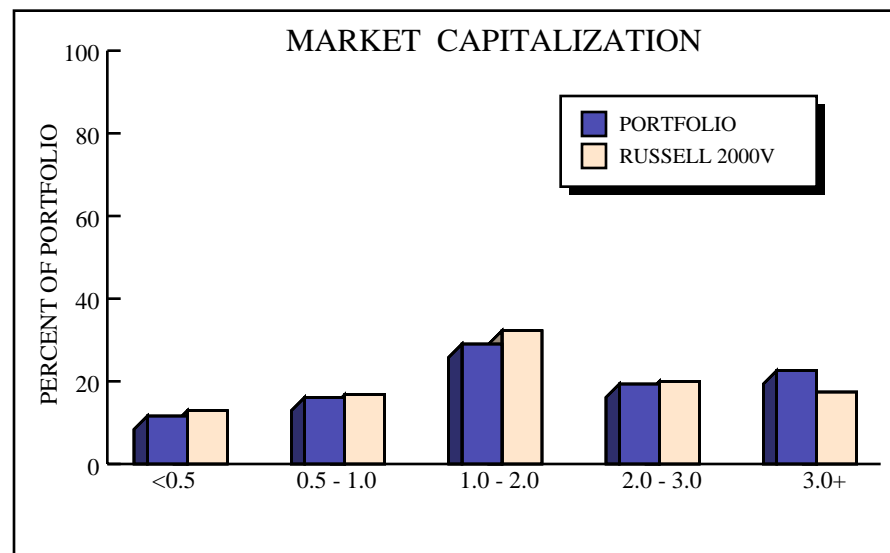
STOCK INDUSTRY ANALYSIS



■ PORTFOLIO ■ RUSSELL 2000V



TOP TEN HOLDINGS



TOP TEN EQUITY HOLDINGS

RANK	NAME	VALUE	% EQUITY	RETURN	INDUSTRY SECTOR	MKT CAP
1	BUILDERS FIRSTSOURCE INC	\$ 1,154,748	1.97%	57.6%	Industrials	\$ 3.8 B
2	SELECT MEDICAL HOLDINGS CORP	1,049,328	1.79%	41.3%	Health Care	2.8 B
3	KB HOME	998,140	1.71%	25.5%	Consumer Discretionary	3.5 B
4	CORCEPT THERAPEUTICS INC	835,680	1.43%	3.5%	Health Care	2.0 B
5	SYKES ENTERPRISES INC	797,093	1.36%	23.7%	Information Technology	1.4 B
6	CNO FINANCIAL GROUP INC	781,854	1.34%	3.8%	Financials	2.3 B
7	RELIANCE STEEL & ALUMINUM CO	734,688	1.26%	8.1%	Materials	6.5 B
8	TRI POINTE GROUP INC	734,670	1.26%	23.5%	Consumer Discretionary	2.4 B
9	DIODES INC	671,755	1.15%	11.3%	Information Technology	2.9 B
10	TENET HEALTHCARE CORP	661,770	1.13%	35.3%	Health Care	2.6 B

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
POLEN CAPITAL MANAGEMENT - FOCUS GROWTH
PERFORMANCE REVIEW
SEPTEMBER 2020

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System's Polen Capital Management Focus Growth portfolio was valued at \$244,381,864, representing an increase of \$22,426,792 from the June quarter's ending value of \$221,955,072. Last quarter, the Fund posted withdrawals totaling \$228,446, which partially offset the portfolio's net investment return of \$22,655,238. Income receipts totaling \$331,990 plus net realized and unrealized capital gains of \$22,323,248 combined to produce the portfolio's net investment return.

RELATIVE PERFORMANCE

Total Fund

For the third quarter, the Polen Capital Management Focus Growth portfolio returned 10.2%, which was 3.0% below the Russell 1000 Growth Index's return of 13.2% and ranked in the 67th percentile of the Large Cap Growth universe. Over the trailing year, the portfolio returned 35.4%, which was 2.1% below the benchmark's 37.5% return, ranking in the 35th percentile. Since September 2010, the portfolio returned 18.6% annualized and ranked in the 11th percentile. The Russell 1000 Growth returned an annualized 17.3% over the same period.

ASSET ALLOCATION

At the end of the third quarter, large cap equities comprised 96.4% of the total portfolio (\$235.6 million), while cash & equivalents totaled 3.6% (\$8.8 million).

EQUITY ANALYSIS

The Polen portfolio maintained its heavy concentration in the Information Technology sector last quarter. The Communication Services, Health Care, and Information Technology sectors were overweight, while the Consumer Discretionary and Financials sectors made up small portions. The remaining sectors were vacant.

The portfolio's performance in its heaviest sector fell short of its index counterpart. Since this sector (Information Technology) made up such a large portion of the portfolio and its benchmark, it had an outsize impact on the total return, resulting in last quarter's sub-par return.

EXECUTIVE SUMMARY**PERFORMANCE SUMMARY**

	Quarter	YTD	1 Year	3 Year	5 Year	Since 09/10
Total Portfolio - Gross	10.2	22.5	35.4	24.9	21.1	18.6
<i>LARGE CAP GROWTH RANK</i>	(67)	(43)	(35)	(14)	(16)	(11)
Total Portfolio - Net	10.1	22.1	34.9	24.5	20.6	18.1
Russell 1000G	13.2	24.3	37.5	21.7	20.1	17.3
Large Cap Equity - Gross	10.5	23.5	36.8	26.0	21.9	19.5
<i>LARGE CAP GROWTH RANK</i>	(63)	(35)	(28)	(11)	(10)	(5)
Russell 1000G	13.2	24.3	37.5	21.7	20.1	17.3

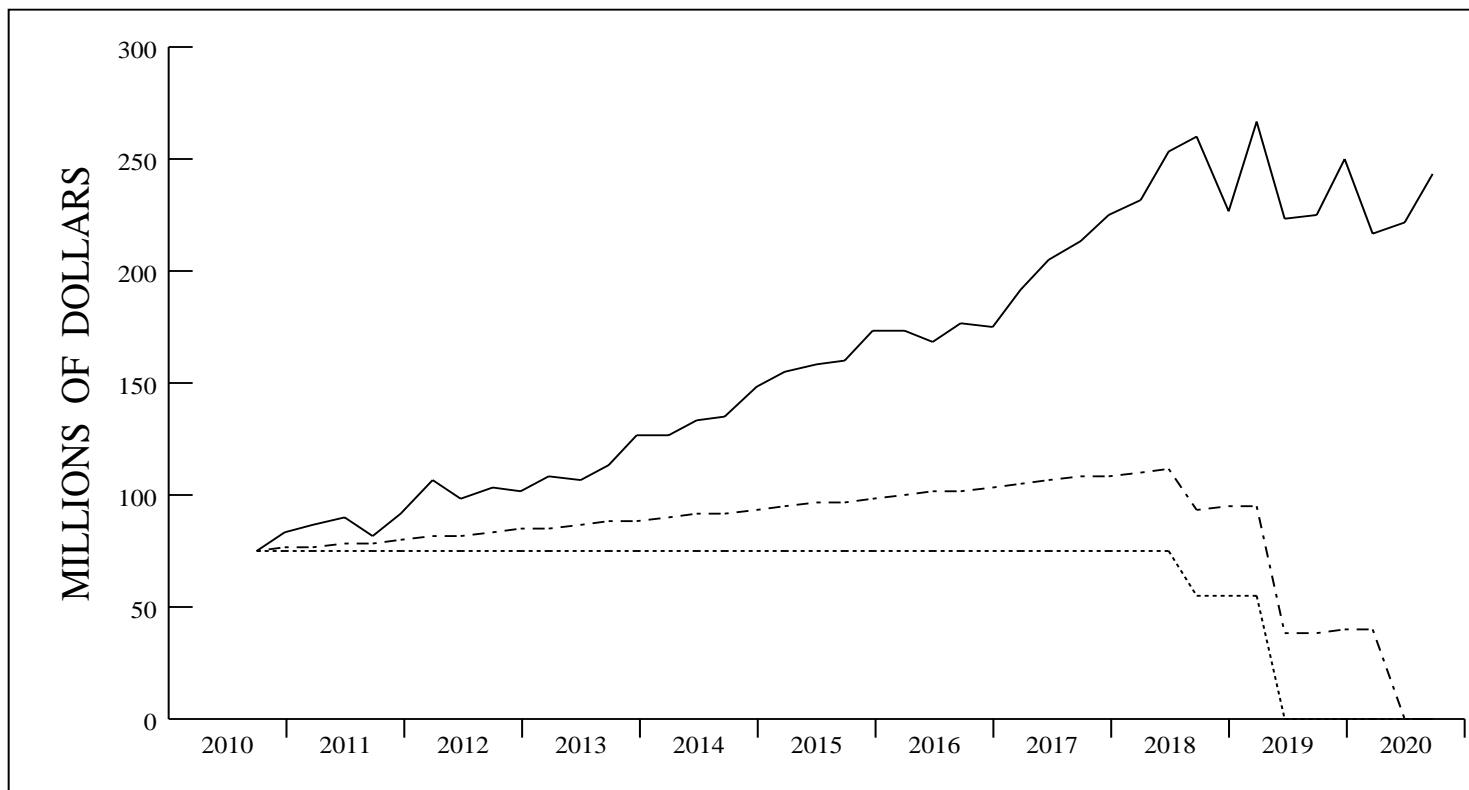
ASSET ALLOCATION

Large Cap Equity	96.4%	\$ 235,556,318
Cash	3.6%	8,825,546
Total Portfolio	100.0%	\$ 244,381,864

INVESTMENT RETURN

Market Value 6/2020	\$ 221,955,072
Contribs / Withdrawals	-228,446
Income	331,990
Capital Gains / Losses	22,323,248
Market Value 9/2020	\$ 244,381,864

INVESTMENT GROWTH

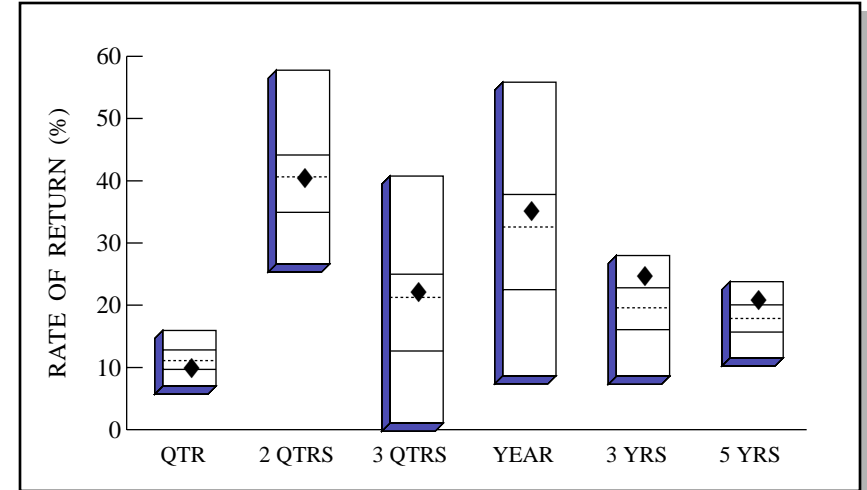
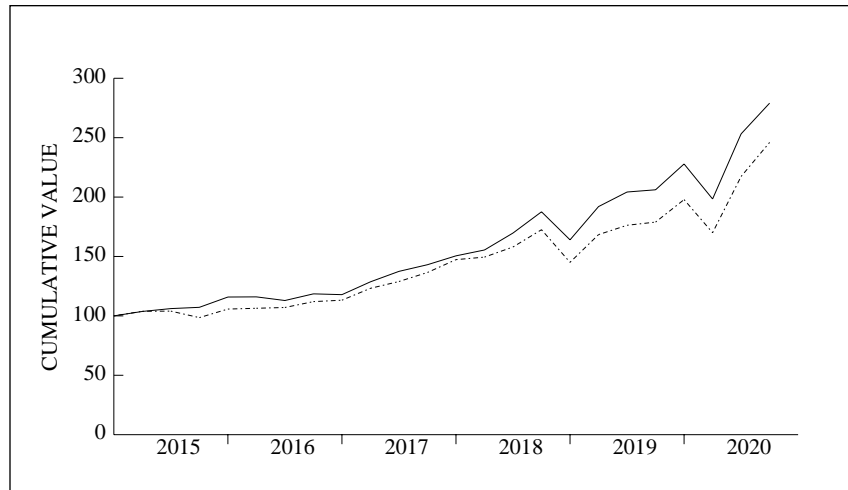


— ACTUAL RETURN
 - - - 5.25%
 0.0%

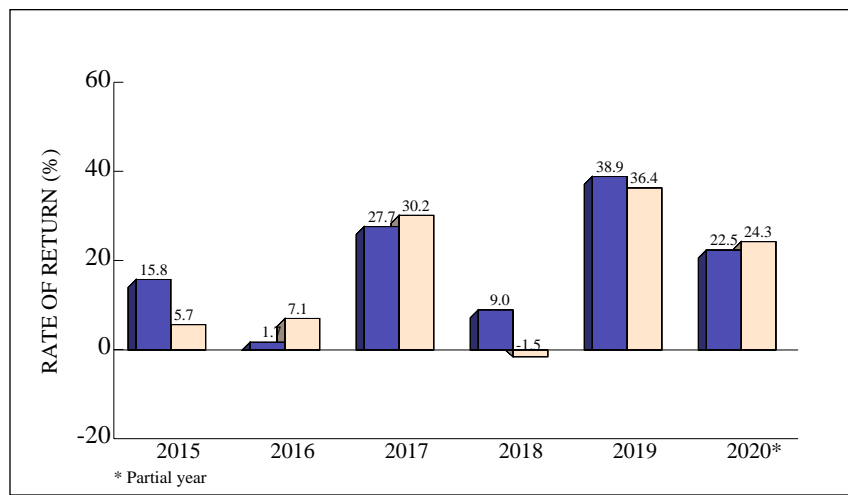
VALUE ASSUMING
 5.25% RETURN \$ -12,557,875

	LAST QUARTER	PERIOD 9/10 - 9/20
BEGINNING VALUE	\$ 221,955,072	\$ 75,827,096
NET CONTRIBUTIONS	-228,446	-131,326,342
<u>INVESTMENT RETURN</u>	<u>22,655,238</u>	<u>299,881,110</u>
ENDING VALUE	\$ 244,381,864	\$ 244,381,864
INCOME	331,990	14,722,348
<u>CAPITAL GAINS (LOSSES)</u>	<u>22,323,248</u>	<u>285,158,762</u>
INVESTMENT RETURN	22,655,238	299,881,110

TOTAL RETURN COMPARISONS



Large Cap Growth Universe



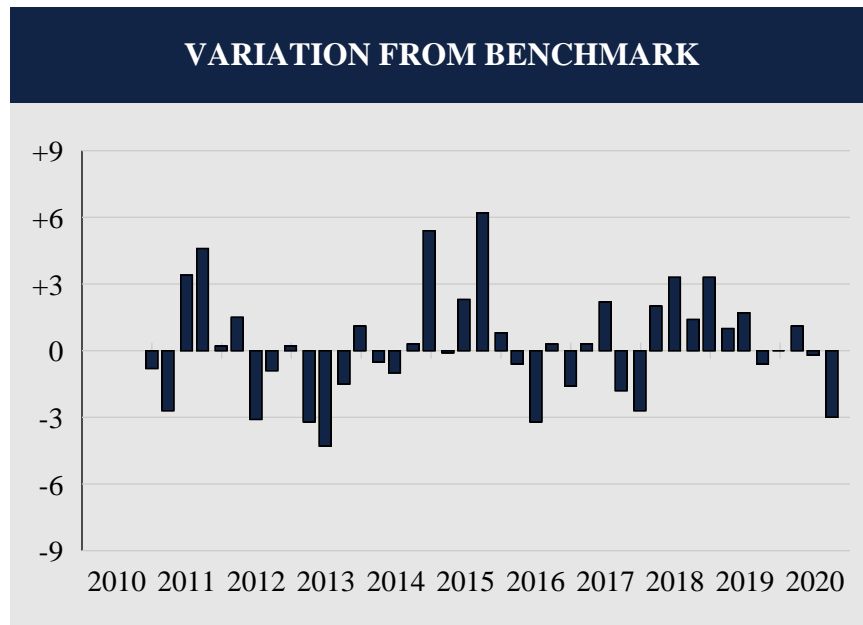
* Partial year

	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	10.2	40.7	22.5	35.4	24.9	21.1
(RANK)	(67)	(50)	(43)	(35)	(14)	(16)
5TH %ILE	16.0	57.8	40.8	55.9	28.0	23.8
25TH %ILE	12.8	44.1	25.0	37.8	22.8	20.1
MEDIAN	11.1	40.6	21.2	32.6	19.6	17.9
75TH %ILE	9.7	34.9	12.6	22.5	16.1	15.7
95TH %ILE	7.0	26.6	1.0	8.7	8.6	11.5
Russ 1000G	13.2	44.7	24.3	37.5	21.7	20.1

Large Cap Growth Universe

TOTAL PORTFOLIO QUARTERLY PERFORMANCE SUMMARY

COMPARATIVE BENCHMARK: RUSSELL 1000 GROWTH

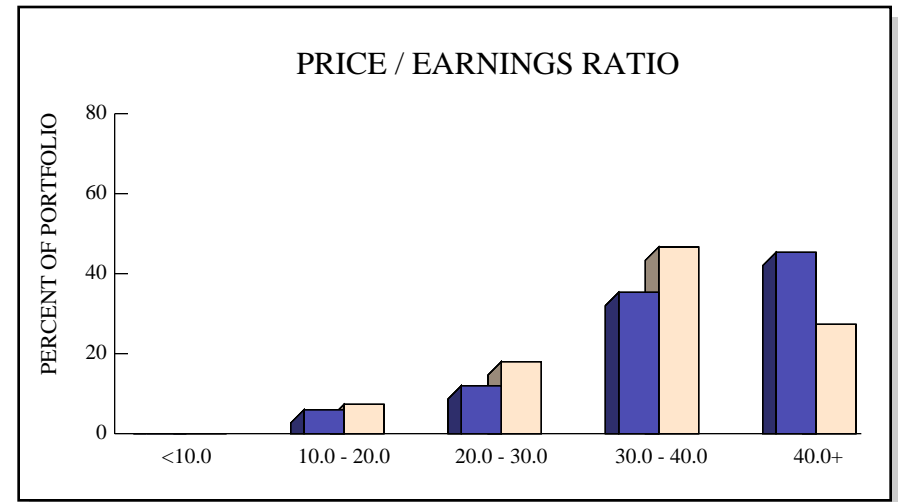
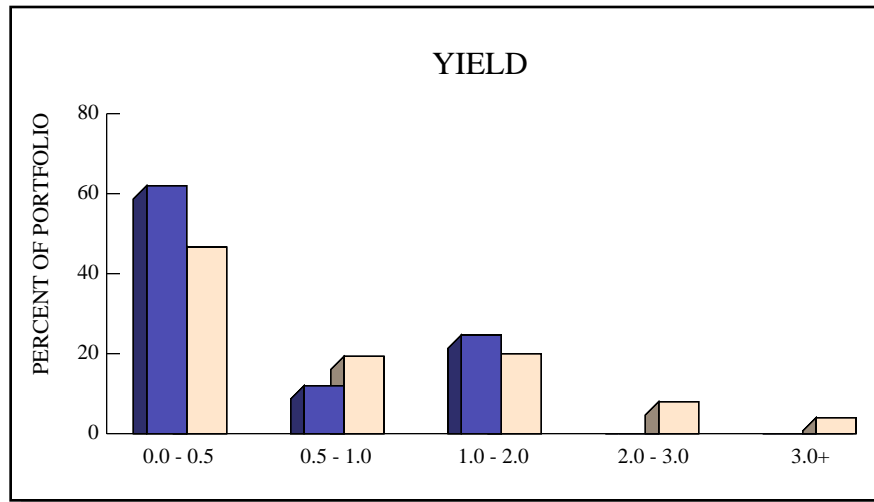


RATES OF RETURN

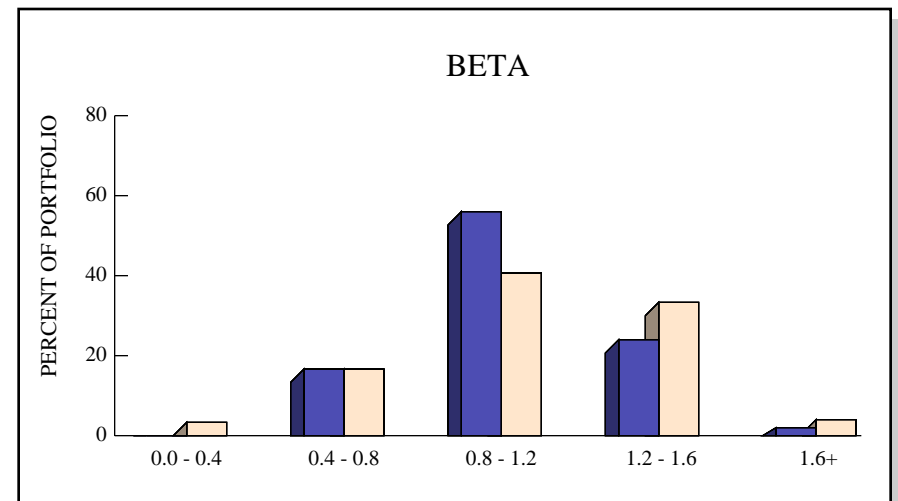
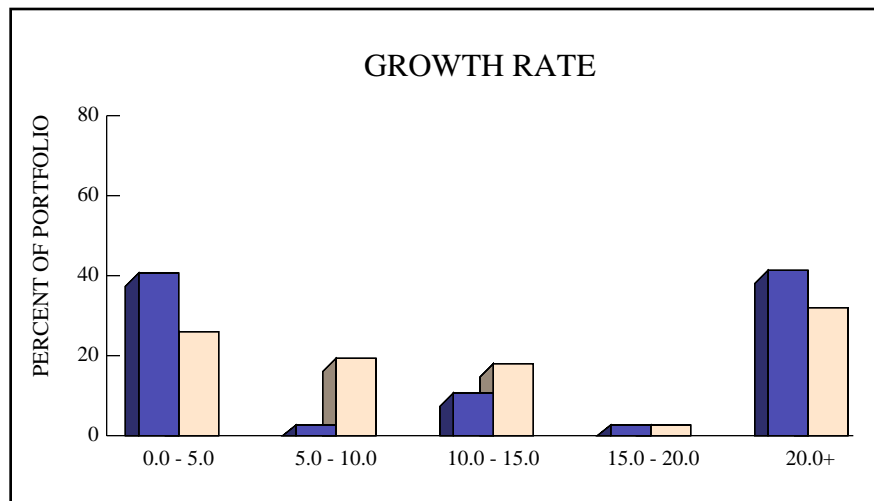
Date	Portfolio	Benchmark	Difference
12/10	11.0	11.8	-0.8
3/11	3.3	6.0	-2.7
6/11	4.2	0.8	3.4
9/11	-8.5	-13.1	4.6
12/11	10.8	10.6	0.2
3/12	16.2	14.7	1.5
6/12	-7.1	-4.0	-3.1
9/12	5.2	6.1	-0.9
12/12	-1.1	-1.3	0.2
3/13	6.3	9.5	-3.2
6/13	-2.2	2.1	-4.3
9/13	6.6	8.1	-1.5
12/13	11.5	10.4	1.1
3/14	0.6	1.1	-0.5
6/14	4.1	5.1	-1.0
9/14	1.8	1.5	0.3
12/14	10.2	4.8	5.4
3/15	3.7	3.8	-0.1
6/15	2.4	0.1	2.3
9/15	0.9	-5.3	6.2
12/15	8.1	7.3	0.8
3/16	0.1	0.7	-0.6
6/16	-2.6	0.6	-3.2
9/16	4.9	4.6	0.3
12/16	-0.6	1.0	-1.6
3/17	9.2	8.9	0.3
6/17	6.9	4.7	2.2
9/17	4.1	5.9	-1.8
12/17	5.2	7.9	-2.7
3/18	3.4	1.4	2.0
6/18	9.1	5.8	3.3
9/18	10.6	9.2	1.4
12/18	-12.6	-15.9	3.3
3/19	17.1	16.1	1.0
6/19	6.3	4.6	1.7
9/19	0.9	1.5	-0.6
12/19	10.6	10.6	0.0
3/20	-13.0	-14.1	1.1
6/20	27.6	27.8	-0.2
9/20	10.2	13.2	-3.0

Total Quarters Observed	40
Quarters At or Above the Benchmark	22
Quarters Below the Benchmark	18
Batting Average	.550

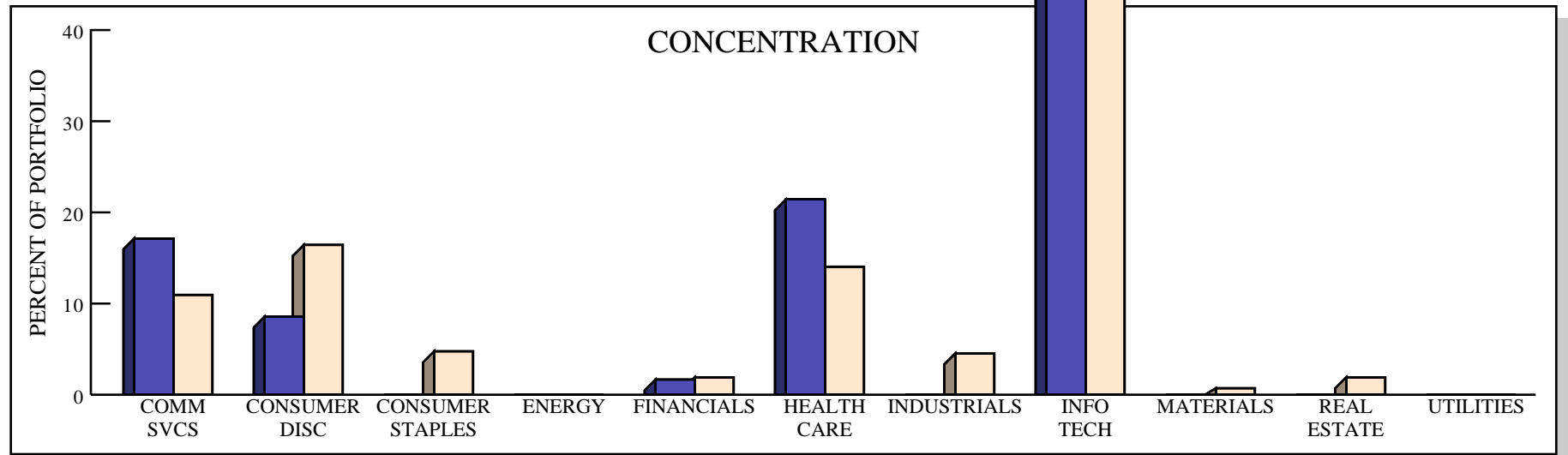
STOCK CHARACTERISTICS



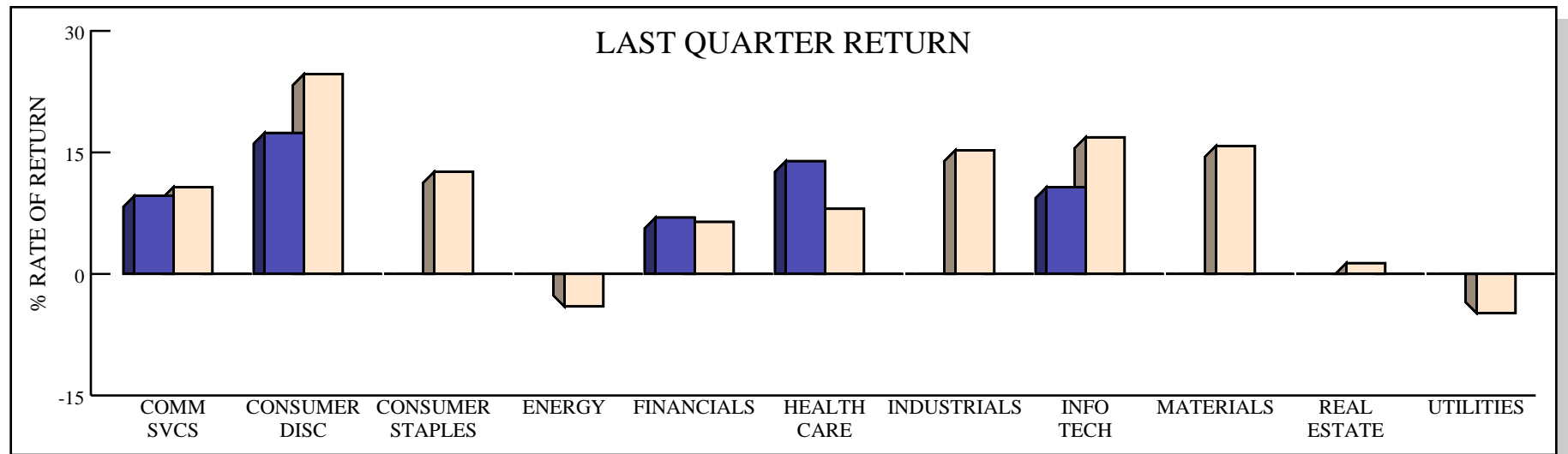
	# HOLDINGS	YIELD	GROWTH	P/E	BETA
PORTFOLIO	24	0.5%	12.7%	45.5	1.03
RUSSELL 1000G	447	0.8%	14.6%	40.9	1.06



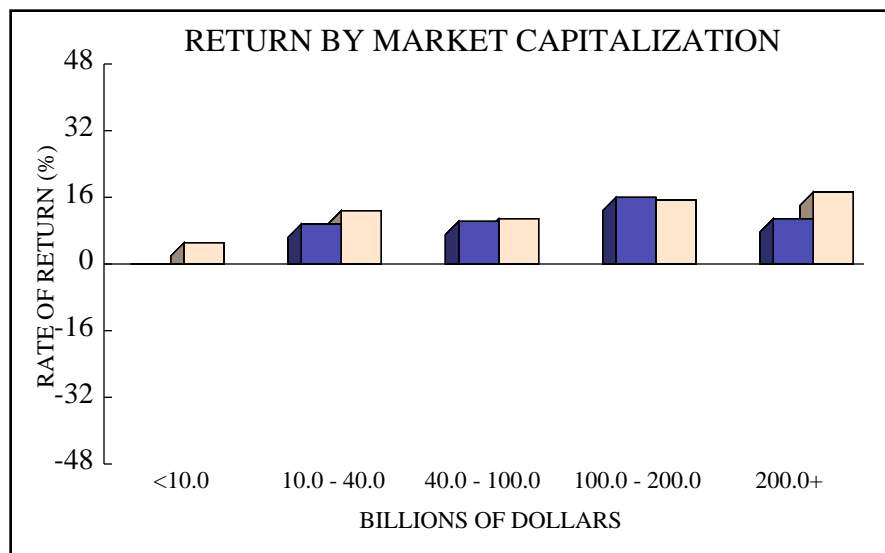
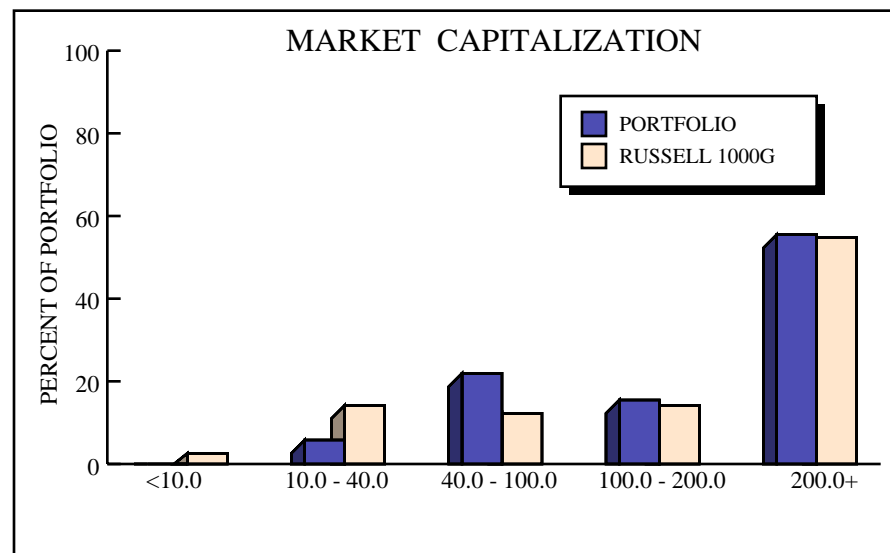
STOCK INDUSTRY ANALYSIS



■ PORTFOLIO ■ RUSSELL 1000G



TOP TEN HOLDINGS



TOP TEN EQUITY HOLDINGS

RANK	NAME	VALUE	% EQUITY	RETURN	INDUSTRY SECTOR	MKT CAP
1	FACEBOOK INC	\$ 20,732,789	8.80%	15.3%	Communication Services	\$ 746.1 B
2	MICROSOFT CORP	19,956,531	8.47%	3.6%	Information Technology	1591.7 B
3	ADOBE INC	18,277,345	7.76%	12.7%	Information Technology	235.3 B
4	ALPHABET INC	15,327,928	6.51%	4.0%	Communication Services	490.3 B
5	ABBOTT LABORATORIES	14,081,296	5.98%	19.5%	Health Care	192.7 B
6	MASTERCARD INC	12,160,256	5.16%	14.5%	Information Technology	338.5 B
7	ZOETIS INC	11,952,943	5.07%	20.8%	Health Care	78.6 B
8	VISA INC	11,919,212	5.06%	3.7%	Information Technology	425.5 B
9	SALESFORCE.COM INC	11,699,952	4.97%	34.2%	Information Technology	228.7 B
10	SERVICENOW INC	10,490,550	4.45%	19.7%	Information Technology	93.0 B

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
SMITH, GRAHAM & COMPANY - SMALL CAP VALUE
PERFORMANCE REVIEW
SEPTEMBER 2020

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System's Smith, Graham & Company Small Cap Value portfolio was valued at \$69,818,363, representing an increase of \$6,727,996 from the June quarter's ending value of \$63,090,367. Last quarter, the Fund posted withdrawals totaling \$109,301, which partially offset the portfolio's net investment return of \$6,837,297. Income receipts totaling \$190,019 plus net realized and unrealized capital gains of \$6,647,278 combined to produce the portfolio's net investment return.

RELATIVE PERFORMANCE

Total Fund

For the third quarter, the Smith, Graham & Company Small Cap Value portfolio returned 10.9%, which was 8.3% above the Russell 2000 Value Index's return of 2.6% and ranked in the 2nd percentile of the Small Cap Value universe. Over the trailing year, the portfolio returned -1.3%, which was 13.6% above the benchmark's -14.9% return, ranking in the 11th percentile. Since December 2016, the portfolio returned 0.9% annualized and ranked in the 21st percentile. The Russell 2000 Value returned an annualized -2.7% over the same period.

ASSET ALLOCATION

At the end of the third quarter, small cap equities comprised 98.9% of the total portfolio (\$69.0 million), while cash & equivalents totaled 1.1% (\$785,729).

EQUITY ANALYSIS

The Smith, Graham portfolio was invested in ten of the eleven industry sectors in our analysis. Relative to the Russell 2000 Value index, the portfolio had greater weight in the Consumer Discretionary, Health Care, and Information Technology sectors. Financials, Real Estate, and Utilities were underweight, while the Communication Services sector was vacant.

Greater allocations in the Consumer Discretionary and Health Care sectors amplified the strong performance in those sectors. In the case of Health Care, the portfolio improved upon the market return, further adding value.

EXECUTIVE SUMMARY**PERFORMANCE SUMMARY**

	Quarter	YTD	1 Year	3 Year	5 Year	Since 12/16
Total Portfolio - Gross	10.9	-11.6	-1.3	-1.7	----	0.9
<i>SMALL CAP VALUE RANK</i>	(2)	(14)	(11)	(29)	----	(21)
Total Portfolio - Net	10.7	-12.2	-2.0	-2.5	----	0.2
Russell 2000V	2.6	-21.6	-14.9	-5.1	4.1	-2.7
Small Cap Equity - Gross	11.1	-11.7	-1.1	-1.7	----	1.0
<i>SMALL CAP VALUE RANK</i>	(1)	(14)	(11)	(29)	----	(21)
Russell 2000V	2.6	-21.6	-14.9	-5.1	4.1	-2.7

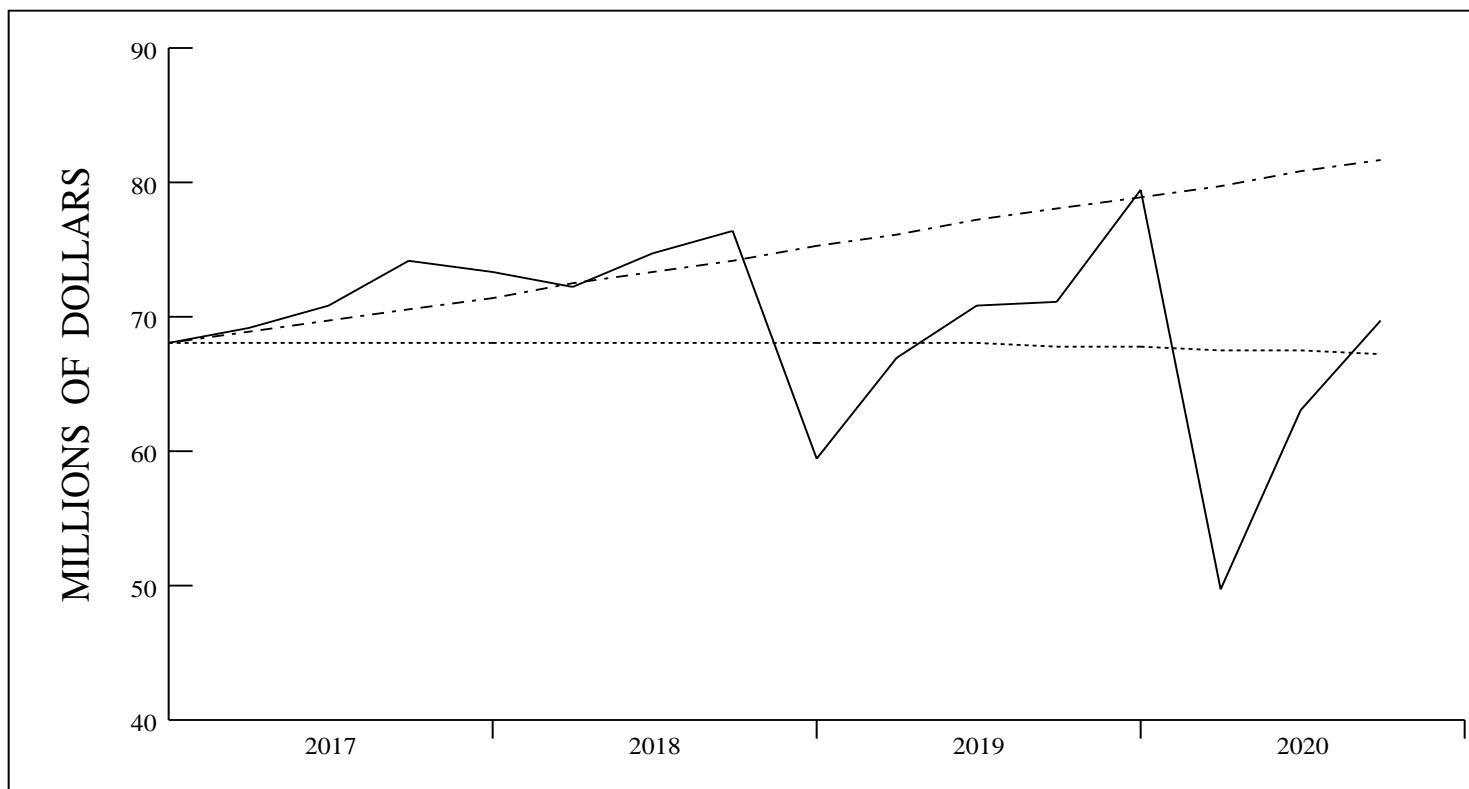
ASSET ALLOCATION

Small Cap	98.9%	\$ 69,032,634
Cash	1.1%	785,729
Total Portfolio	100.0%	\$ 69,818,363

INVESTMENT RETURN

Market Value 6/2020	\$ 63,090,367
Contribs / Withdrawals	-109,301
Income	190,019
Capital Gains / Losses	6,647,278
Market Value 9/2020	\$ 69,818,363

INVESTMENT GROWTH

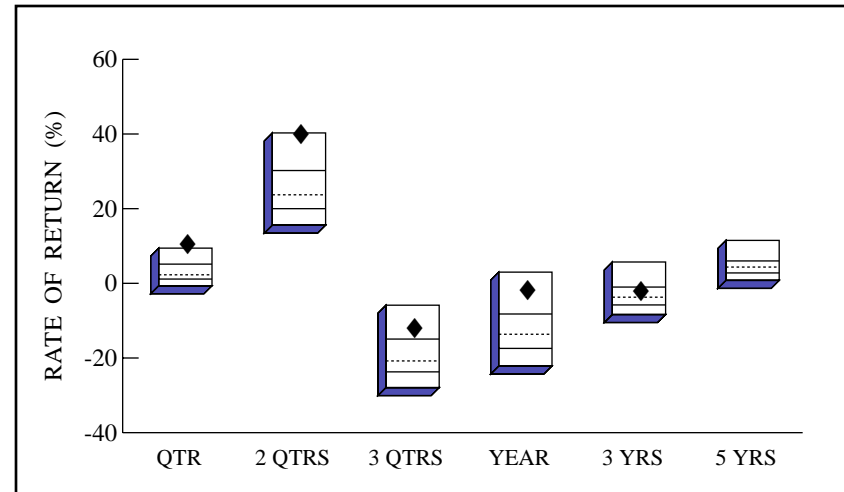
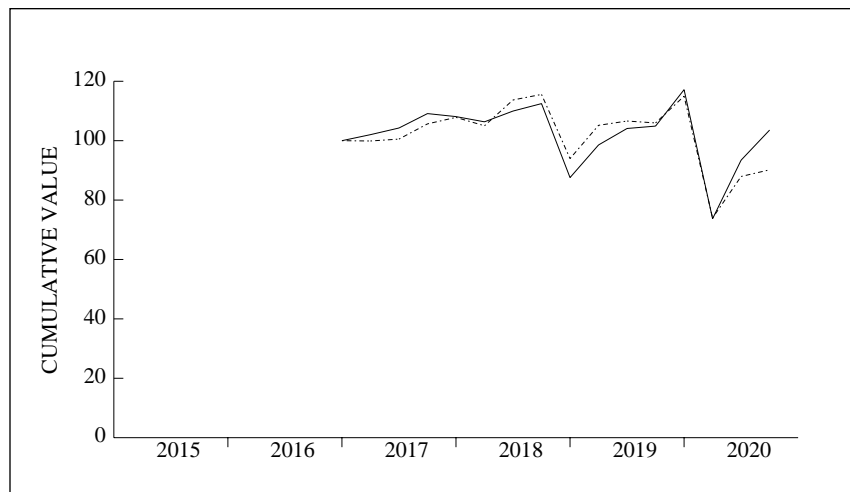


— ACTUAL RETURN
 - - - 5.25%
 . . . 0.0%

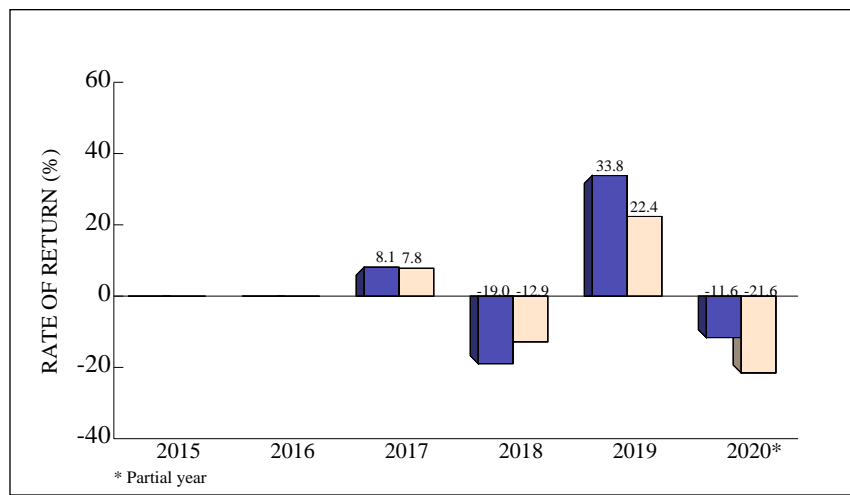
VALUE ASSUMING
 5.25% RETURN \$ 81,826,073

	LAST QUARTER	PERIOD 12/16 - 9/20
BEGINNING VALUE	\$ 63,090,367	\$ 68,056,392
NET CONTRIBUTIONS	-109,301	-604,324
<u>INVESTMENT RETURN</u>	<u>6,837,297</u>	<u>2,366,295</u>
ENDING VALUE	\$ 69,818,363	\$ 69,818,363
INCOME	190,019	3,760,603
<u>CAPITAL GAINS (LOSSES)</u>	<u>6,647,278</u>	<u>- 1,394,308</u>
INVESTMENT RETURN	6,837,297	2,366,295

TOTAL RETURN COMPARISONS



Small Cap Value Universe

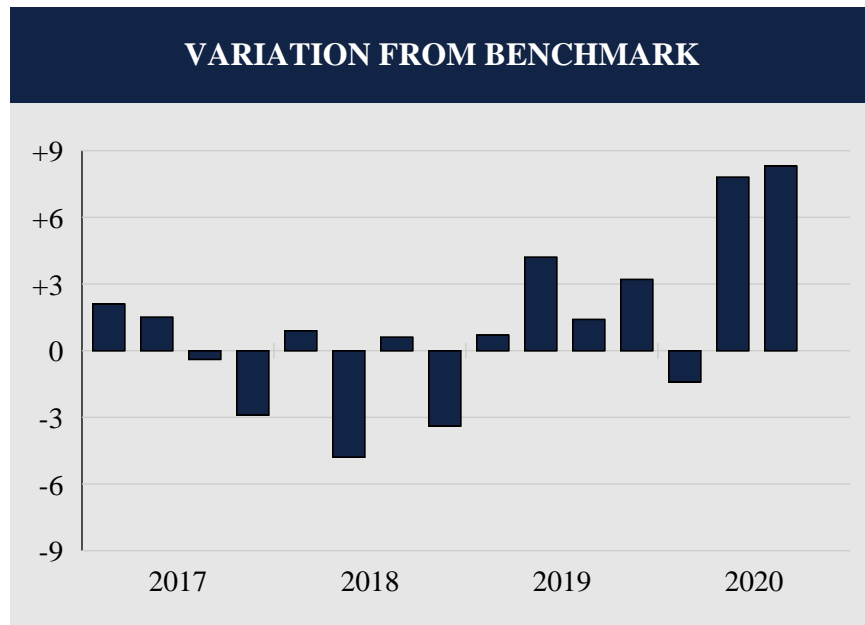


	QTR	2 QTRS	3 QTRS	YEAR	3 YRS	5 YRS
RETURN	10.9	40.5	-11.6	-1.3	-1.7	----
(RANK)	(2)	(5)	(14)	(11)	(29)	----
5TH %ILE	9.4	40.3	-5.9	3.0	5.7	11.5
25TH %ILE	5.1	30.2	-15.0	-8.2	-1.0	6.0
MEDIAN	2.3	23.7	-20.8	-13.7	-3.7	4.4
75TH %ILE	1.1	20.0	-23.7	-17.4	-5.8	2.8
95TH %ILE	-0.6	15.6	-27.9	-22.1	-8.4	0.8
Russ 2000V	2.6	21.9	-21.6	-14.9	-5.1	4.1

Small Cap Value Universe

TOTAL PORTFOLIO QUARTERLY PERFORMANCE SUMMARY

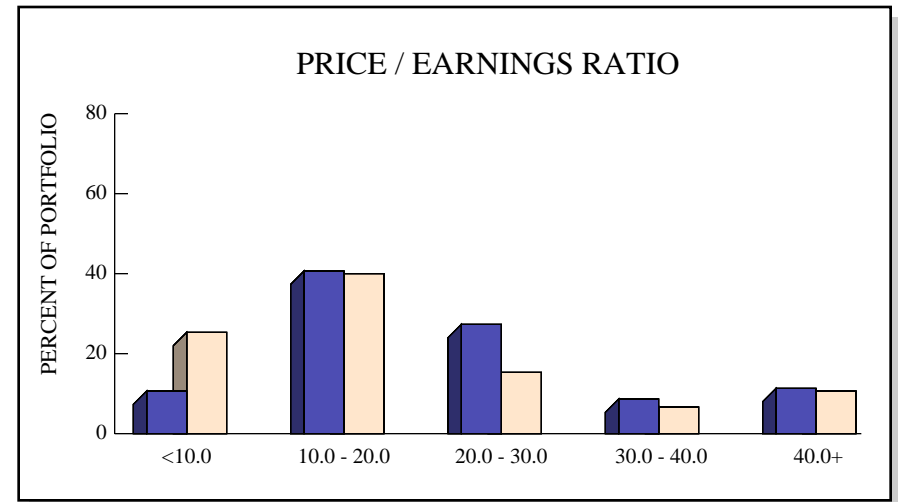
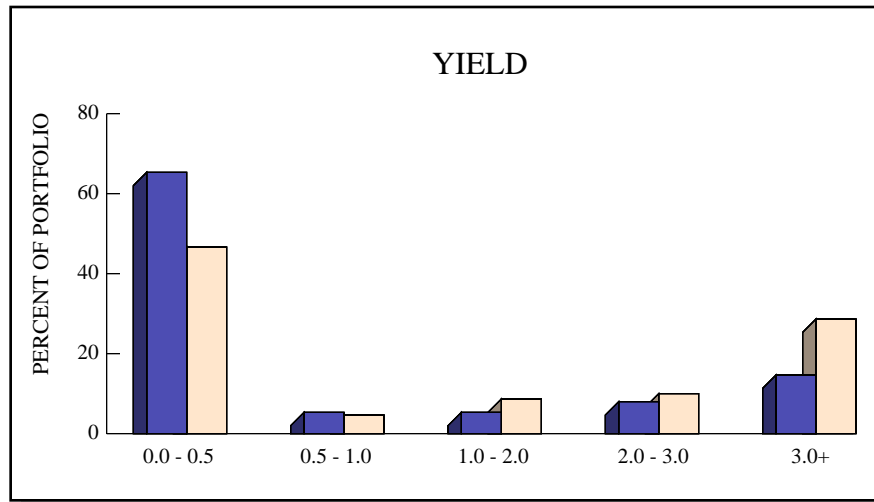
COMPARATIVE BENCHMARK: RUSSELL 2000 VALUE



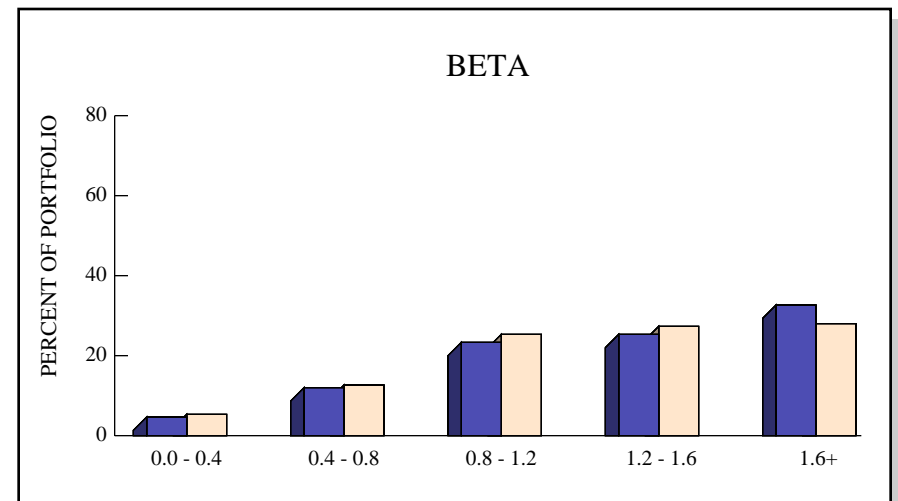
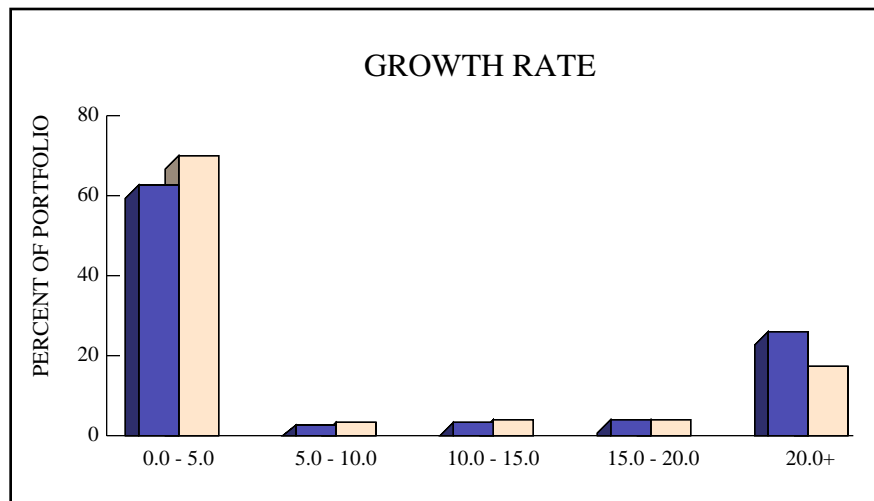
RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
3/17	2.0	-0.1	2.1
6/17	2.2	0.7	1.5
9/17	4.7	5.1	-0.4
12/17	-0.9	2.0	-2.9
3/18	-1.7	-2.6	0.9
6/18	3.5	8.3	-4.8
9/18	2.2	1.6	0.6
12/18	-22.1	-18.7	-3.4
3/19	12.6	11.9	0.7
6/19	5.6	1.4	4.2
9/19	0.8	-0.6	1.4
12/19	11.7	8.5	3.2
3/20	-37.1	-35.7	-1.4
6/20	26.7	18.9	7.8
9/20	10.9	2.6	8.3

Total Quarters Observed	15
Quarters At or Above the Benchmark	10
Quarters Below the Benchmark	5
Batting Average	.667

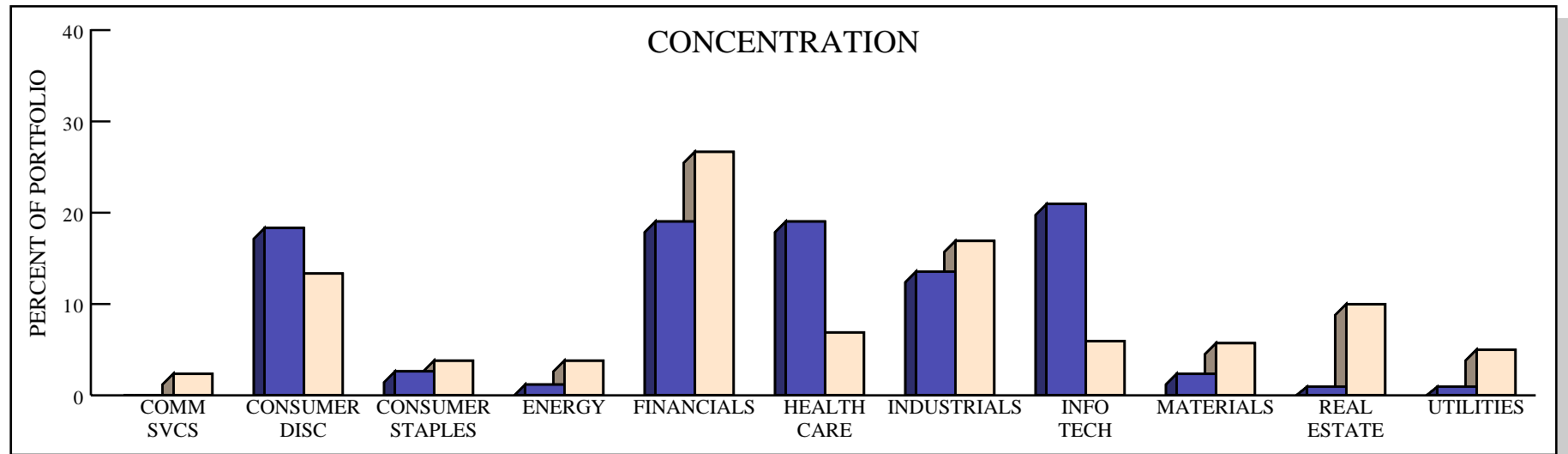
STOCK CHARACTERISTICS



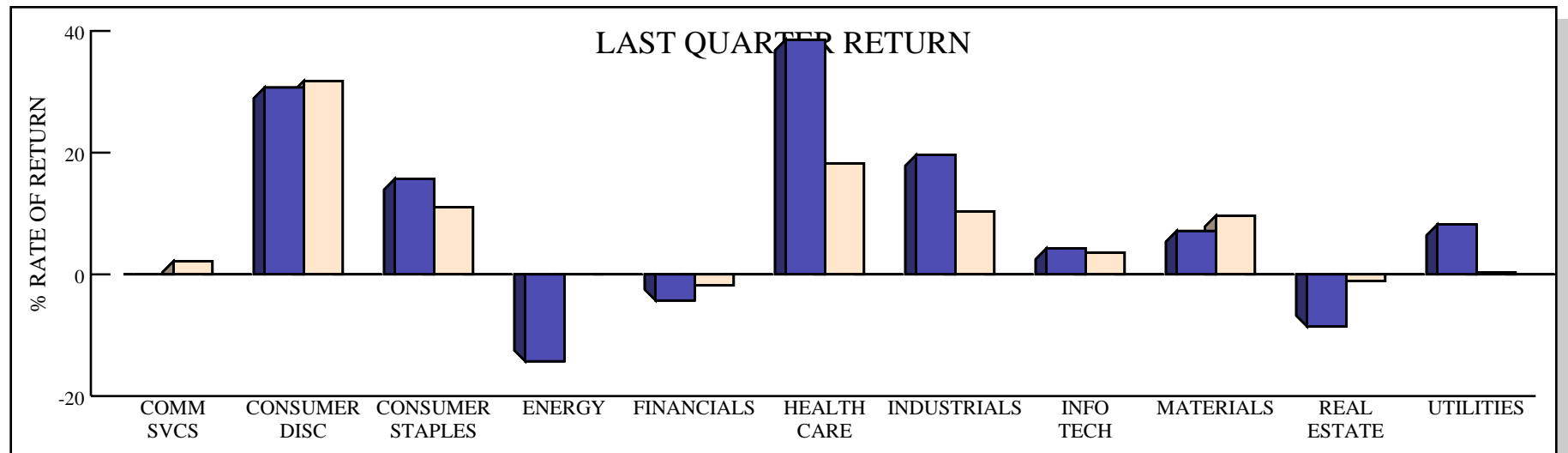
	# HOLDINGS	YIELD	GROWTH	P/E	BETA
PORTFOLIO	66	1.3%	1.0%	23.9	1.36
RUSSELL 2000V	1,459	2.0%	-3.0%	20.5	1.35



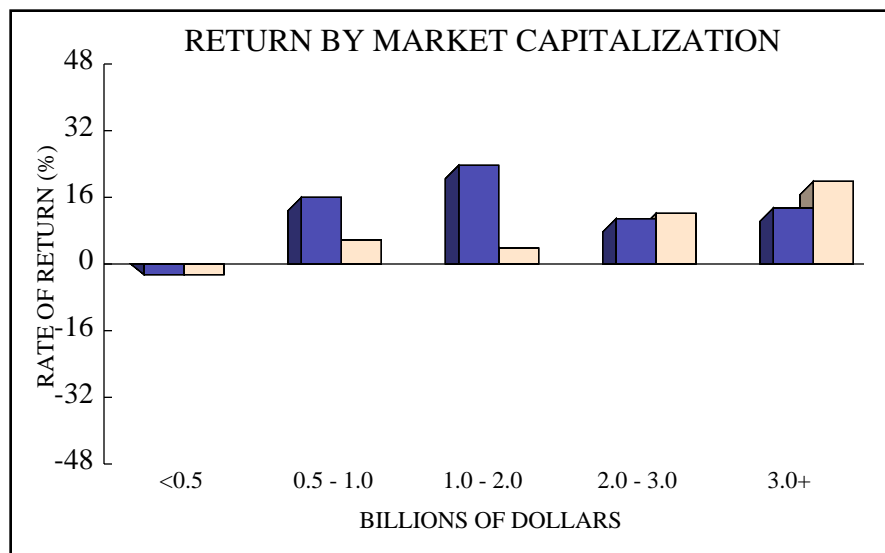
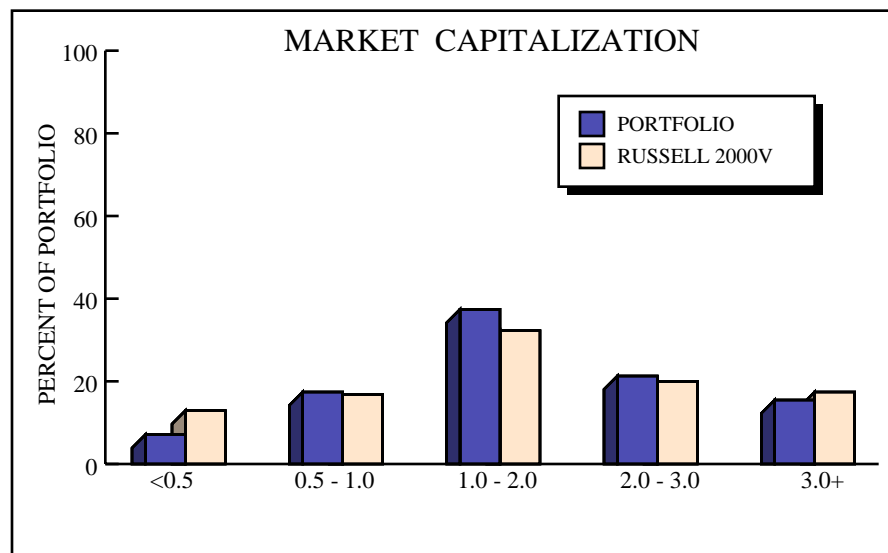
STOCK INDUSTRY ANALYSIS



■ PORTFOLIO ■ RUSSELL 2000V



TOP TEN HOLDINGS



TOP TEN EQUITY HOLDINGS

RANK	NAME	VALUE	% EQUITY	RETURN	INDUSTRY SECTOR	MKT CAP
1	OWENS & MINOR INC	\$ 1,934,223	2.80%	229.6%	Health Care	\$ 1.6 B
2	HIBBETT SPORTS INC	1,933,938	2.80%	87.3%	Consumer Discretionary	0.6 B
3	B&G FOODS INC	1,932,514	2.80%	15.9%	Consumer Staples	1.8 B
4	LITHIA MOTORS INC	1,905,578	2.76%	50.8%	Consumer Discretionary	5.9 B
5	MDC HOLDINGS INC	1,848,675	2.68%	33.0%	Consumer Discretionary	3.0 B
6	ATLAS AIR WORLDWIDE HOLDINGS	1,801,970	2.61%	41.5%	Industrials	1.6 B
7	SELECT MEDICAL HOLDINGS CORP	1,753,294	2.54%	41.3%	Health Care	2.8 B
8	DYCOM INDUSTRIES INC	1,733,552	2.51%	29.2%	Industrials	1.7 B
9	MAGELLAN HEALTH INC	1,724,753	2.50%	3.8%	Health Care	1.9 B
10	DECKERS OUTDOOR CORP	1,669,876	2.42%	12.0%	Consumer Discretionary	6.2 B

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
STATE STREET GLOBAL ADVISORS
PERFORMANCE REVIEW
SEPTEMBER 2020

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System's State Street Global Advisors portfolio was valued at \$1,096,581,039, representing an increase of \$29,833,693 from the June quarter's ending value of \$1,066,747,346. Last quarter, the Fund posted withdrawals totaling \$21,500,000, which offset the portfolio's net investment return of \$51,333,693. Since there were no income receipts for the third quarter, the portfolio's net investment return figure was the product of net realized and unrealized capital gains totaling \$51,333,693.

RELATIVE PERFORMANCE

Total Portfolio

During the third quarter, the State Street Global Advisors portfolio returned 4.9%, which was 0.1% above the Shadow Index's return of 4.8% and ranked in the 67th percentile of the Balanced Fund universe. Over the trailing twelve-month period, this portfolio returned 7.9%, which was 0.7% above the benchmark's 7.2% performance, and ranked in the 67th percentile. Since March 1997, the account returned 6.4% per annum. For comparison, the Shadow Index returned an annualized 7.1% over the same time frame.

Large Cap Equity

For the third quarter, the large cap equity portion of the portfolio returned 8.9%, which was equal to the S&P 500 Index's return of 8.9% and ranked in the 40th percentile of the Large Cap Core universe. Over the trailing twelve-month period, this segment's return was 15.1%, which was equal to the benchmark's 15.1% performance, ranking in the 37th percentile. Since March 1997, this component returned 8.6% on an annualized basis. The S&P 500 returned an annualized 8.6% during the same period.

Small Cap Equity

During the third quarter, the small cap equity component returned 4.9%, which was equal to the Russell 2000 Index's return of 4.9% and ranked in the 54th percentile of the Small Cap universe. Over the trailing year, the small cap equity portfolio returned 0.4%, which was equal to the benchmark's 0.4% return, and ranked in the 47th percentile. Since March 1997, this component returned 7.9% per annum. The Russell 2000 returned an annualized 7.9% over the same time frame.

International Equity

For the third quarter, the international equity segment returned 5.0%, which was 0.3% greater than the MSCI World Ex US Index's return of 4.7% and ranked in the 79th percentile of the International Equity universe. Over the trailing twelve-month period, this segment's return was 0.6%, which was 2.1% above the benchmark's -1.5% return, ranking in the 72nd percentile.

Emerging Markets Equity

The emerging markets equity component returned 9.6% in the third quarter; that return was 0.1% below the Blended Emerging Markets Index's return of 9.7% and ranked in the 56th percentile of the Emerging Markets universe. Over the trailing twelve months, the emerging markets equity portfolio returned 11.0%; that return was 0.1% above the benchmark's 10.9% return, ranking in the 46th percentile.

Fixed Income

During the third quarter, the fixed income component returned 0.7%, which was 0.1% greater than the Bloomberg Barclays Aggregate Index's return of 0.6% and ranked in the 82nd percentile of the Core Fixed Income universe. Over the trailing twelve months, this segment's return was 7.0%, which was equal to the benchmark's 7.0% performance, and ranked in the 77th percentile. Since March 1997, this component returned 5.4% on an annualized basis. The Bloomberg Barclays Aggregate Index returned an annualized 5.3% over the same period.

ASSET ALLOCATION

At the end of the third quarter, large cap equities comprised 11.2% of the total portfolio (\$123.2 million), while small cap equities totaled 12.7% (\$139.0 million). The account's international equity segment was valued at \$162.5 million, representing 14.8% of the portfolio, while the emerging markets equity component's \$274.6 million totaled 25.0%. The remaining 36.2% was comprised of fixed income (\$397.2 million).

EXECUTIVE SUMMARY

PERFORMANCE SUMMARY

	Quarter	YTD	1 Year	3 Year	5 Year	10 Year	Since 03/97
Total Portfolio - Gross	4.9	1.9	7.9	4.2	6.7	4.5	6.4
<i>BALANCED FUND RANK</i>	(67)	(74)	(67)	(78)	(76)	(94)	----
Total Portfolio - Net	4.9	1.9	7.9	4.2	6.7	4.4	6.4
Shadow Index	4.8	1.2	7.2	4.1	6.6	4.6	7.1
Large Cap Equity - Gross	8.9	5.5	15.1	12.3	14.1	13.7	8.6
<i>LARGE CAP CORE RANK</i>	(40)	(39)	(37)	(34)	(27)	(47)	----
S&P 500	8.9	5.6	15.1	12.3	14.1	13.7	8.6
Russell 3000	9.2	5.4	15.0	11.6	13.7	13.5	8.7
Russell 1000G	13.2	24.3	37.5	21.7	20.1	17.3	9.4
Russell 1000V	5.6	-11.6	-5.0	2.6	7.6	9.9	7.6
Small Cap Equity - Gross	4.9	-8.7	0.4	1.8	8.1	9.9	7.9
<i>SMALL CAP RANK</i>	(54)	(47)	(47)	(51)	(49)	(60)	----
Russell 2000	4.9	-8.7	0.4	1.7	8.0	9.8	7.9
Russell 2000G	7.2	3.9	15.7	8.1	11.4	12.3	7.6
Russell 2000V	2.6	-21.6	-14.9	-5.1	4.1	7.1	7.7
International Equity - Gross	5.0	-6.7	0.6	1.0	5.8	----	----
<i>INTERNATIONAL EQUITY RANK</i>	(79)	(65)	(72)	(59)	(69)	----	----
MSCI World Ex US	4.7	-8.7	-1.5	0.4	5.5	4.7	5.1
S&P BMI Ex US	6.3	-5.2	3.0	1.5	6.4	5.4	5.7
MSCI EAFE	4.9	-6.7	0.9	1.1	5.8	5.1	4.9
Emerging Markets Equity - Gross	9.6	-0.7	11.0	2.6	9.1	2.5	----
<i>EMERGING MARKETS RANK</i>	(56)	(46)	(46)	(49)	(44)	(72)	----
S&P BMI EMGM	9.0	-2.0	8.9	2.8	9.5	2.9	----
MSCI Emg Mkts	9.7	-0.9	10.9	2.8	9.4	2.9	6.0
Fixed Income - Gross	0.7	6.9	7.0	5.3	4.2	3.7	5.4
<i>CORE FIXED INCOME RANK</i>	(82)	(73)	(77)	(88)	(88)	(90)	----
Aggregate Index	0.6	6.8	7.0	5.2	4.2	3.6	5.3
Gov/Credit	0.8	8.0	8.0	5.9	4.7	3.9	5.5

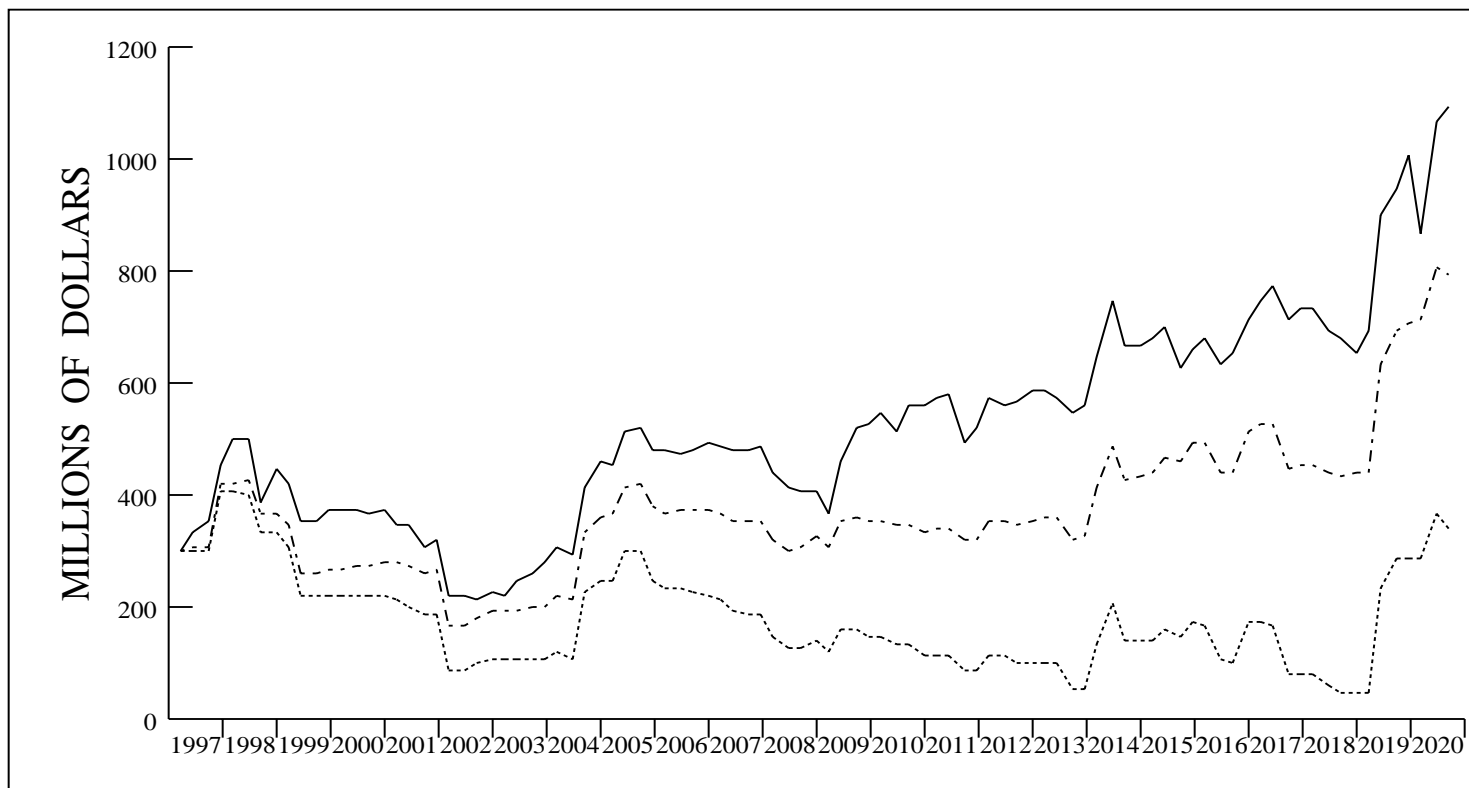
ASSET ALLOCATION

Large Cap Equity	11.2%	\$ 123,204,781
Small Cap	12.7%	139,041,532
Int'l Equity	14.8%	162,537,922
Emerging Markets	25.0%	274,578,761
Fixed Income	36.2%	397,218,043
Total Portfolio	100.0%	1,096,581,039

INVESTMENT RETURN

Market Value 6/2020	\$ 1,066,747,346
Contribs / Withdrawals	- 21,500,000
Income	0
Capital Gains / Losses	51,333,693
Market Value 9/2020	\$ 1,096,581,039

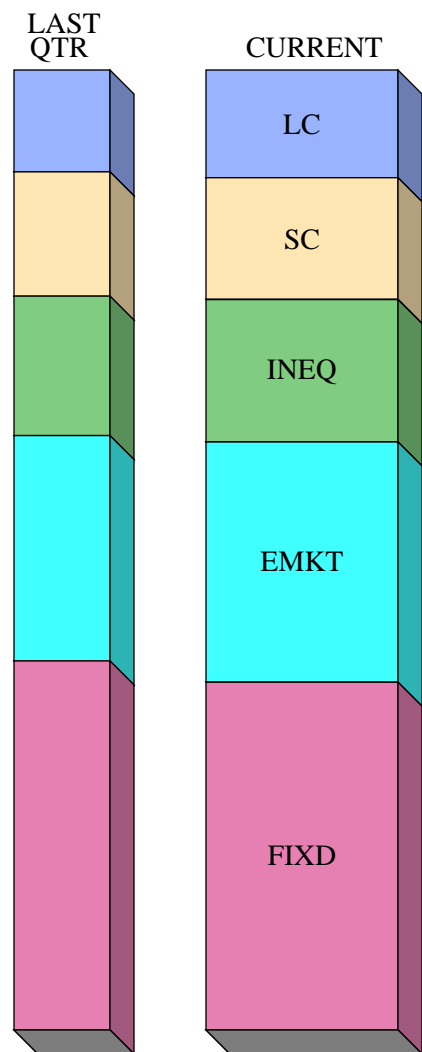
INVESTMENT GROWTH



— ACTUAL RETURN
 - - - 5.25%
 . . . 0.0%

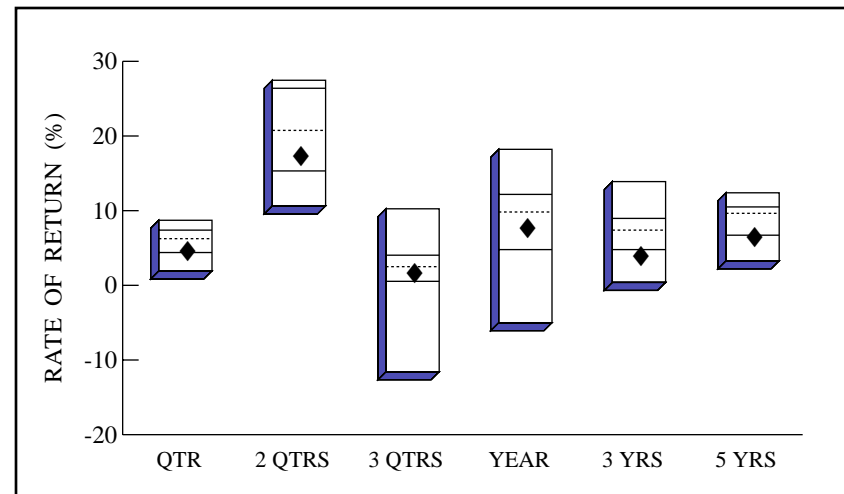
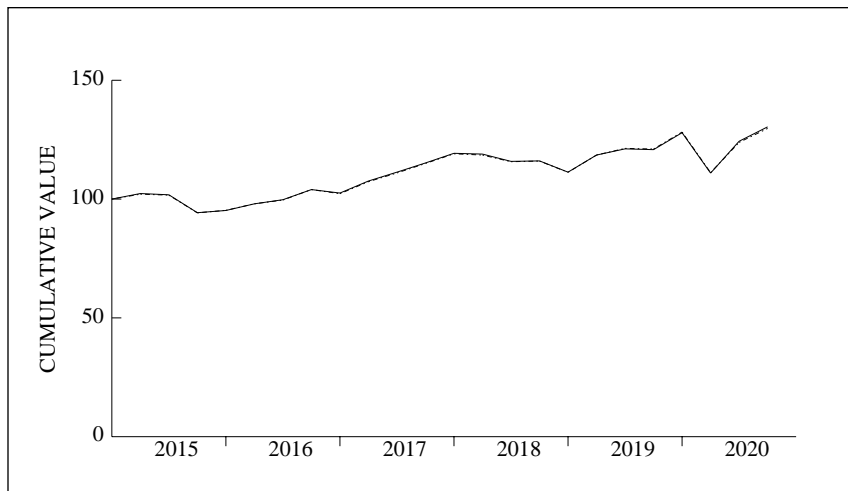
VALUE ASSUMING
 5.25% RETURN \$ 796,390,124

	LAST QUARTER	PERIOD 3/97 - 9/20
BEGINNING VALUE	\$ 1,066,747,346	\$ 304,615,360
NET CONTRIBUTIONS	- 21,500,000	40,599,569
<u>INVESTMENT RETURN</u>	<u>51,333,693</u>	<u>751,366,110</u>
ENDING VALUE	\$ 1,096,581,039	\$ 1,096,581,039
INCOME	0	7,438
<u>CAPITAL GAINS (LOSSES)</u>	<u>51,333,693</u>	<u>751,358,672</u>
INVESTMENT RETURN	51,333,693	751,366,110

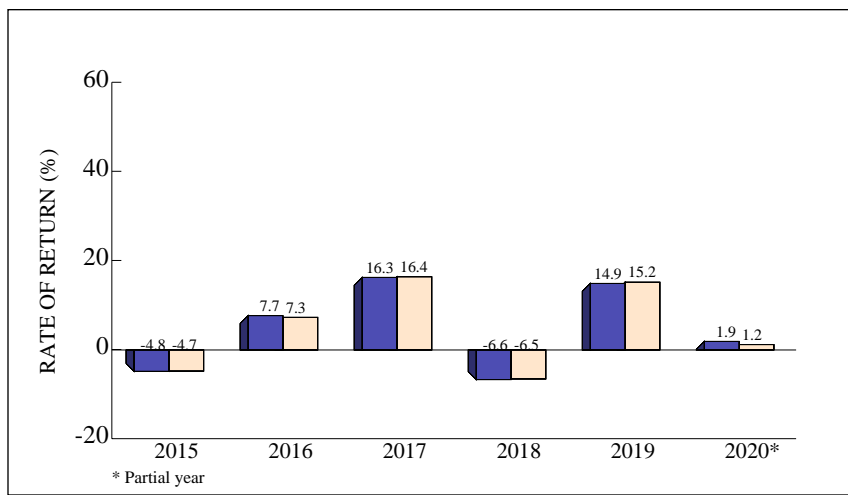


	<u>VALUE</u>	<u>PERCENT</u>
■ LARGE CAP EQUITY	\$ 123, 204, 781	11.2%
■ SMALL CAP EQUITY	139, 041, 532	12.7%
■ INTERNATIONAL EQUITY	162, 537, 922	14.8%
■ EMERGING MARKETS EQUITY	274, 578, 761	25.0%
■ FIXED INCOME	397, 218, 043	36.2%
TOTAL FUND	\$ 1, 096, 581, 039	100.0%

TOTAL RETURN COMPARISONS



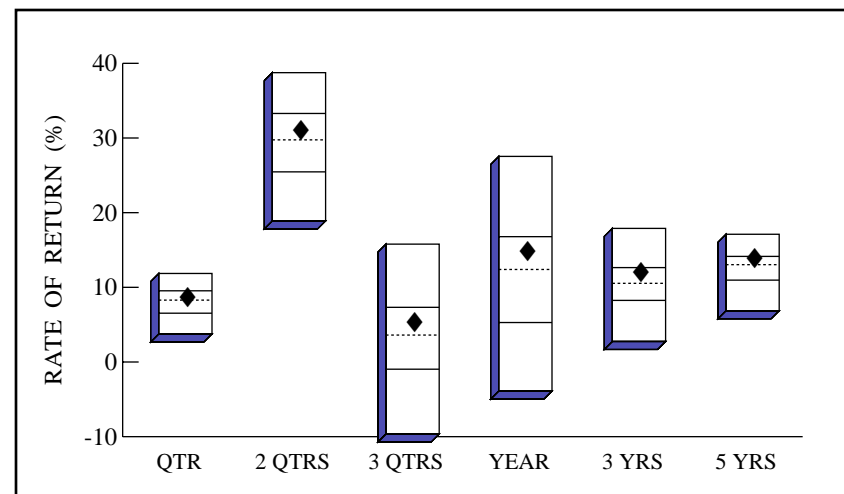
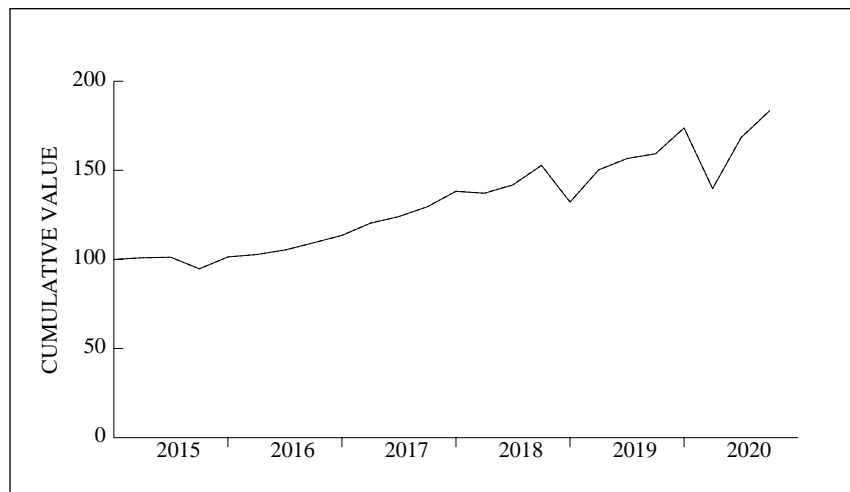
Balanced Fund Universe



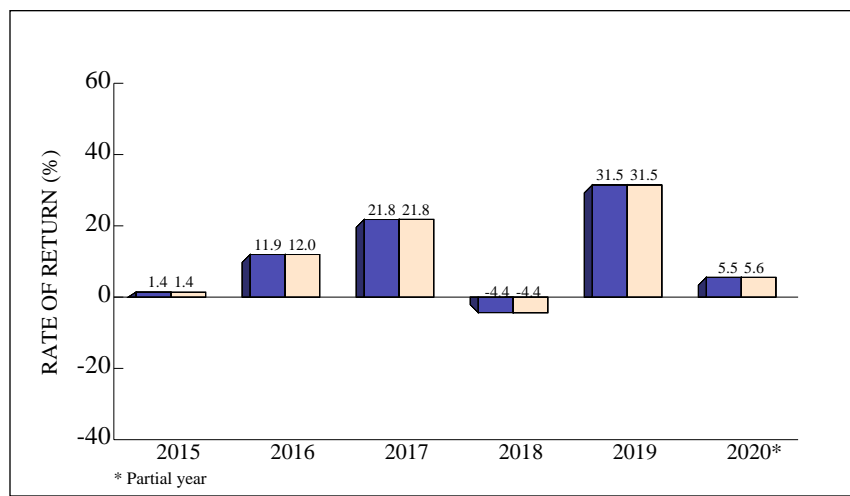
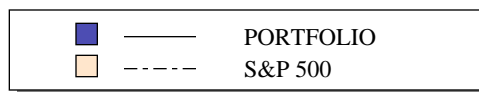
	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	4.9	17.6	1.9	7.9	4.2	6.7
(RANK)	(67)	(63)	(74)	(67)	(78)	(76)
5TH %ILE	8.7	27.5	10.2	18.2	13.9	12.4
25TH %ILE	7.4	26.4	4.0	12.2	9.0	10.5
MEDIAN	6.3	20.8	2.5	9.8	7.4	9.6
75TH %ILE	4.4	15.3	0.6	4.8	4.8	6.7
95TH %ILE	1.9	10.7	-11.6	-5.0	0.4	3.3
<i>Shadow Idx</i>	<i>4.8</i>	<i>16.8</i>	<i>1.2</i>	<i>7.2</i>	<i>4.1</i>	<i>6.6</i>

Balanced Fund Universe

LARGE CAP EQUITY RETURN COMPARISONS



Large Cap Core Universe

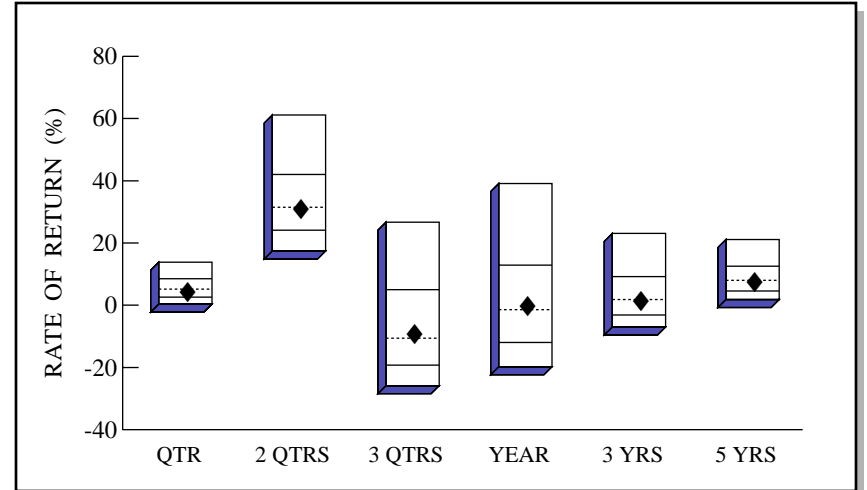
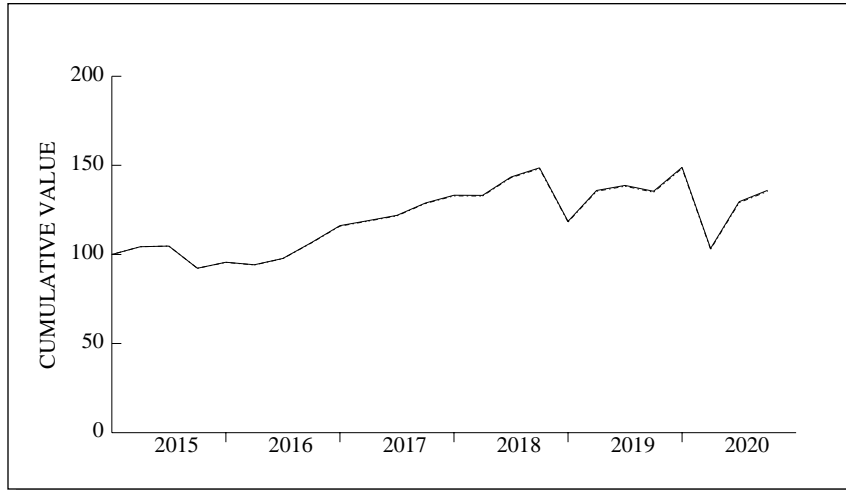


* Partial year

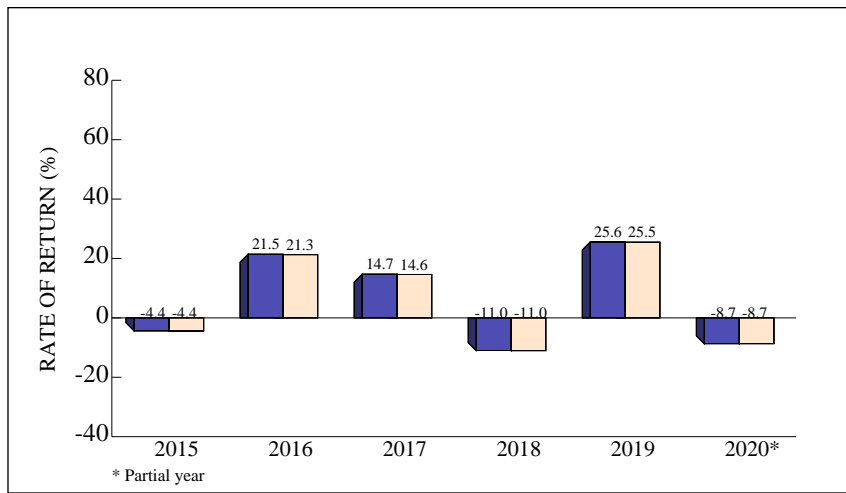
	QTR	2 QTRS	3 QTRS	YEAR	3 YRS	5 YRS
RETURN	8.9	31.2	5.5	15.1	12.3	14.1
(RANK)	(40)	(41)	(39)	(37)	(34)	(27)
5TH %ILE	11.9	38.7	15.8	27.5	17.9	17.1
25TH %ILE	9.5	33.3	7.3	16.8	12.7	14.2
MEDIAN	8.3	29.8	3.6	12.4	10.5	13.0
75TH %ILE	6.5	25.5	-1.0	5.3	8.2	11.0
95TH %ILE	3.8	18.9	-9.7	-3.9	2.8	6.8
S&P 500	8.9	31.3	5.6	15.1	12.3	14.1

Large Cap Core Universe

SMALL CAP EQUITY RETURN COMPARISONS



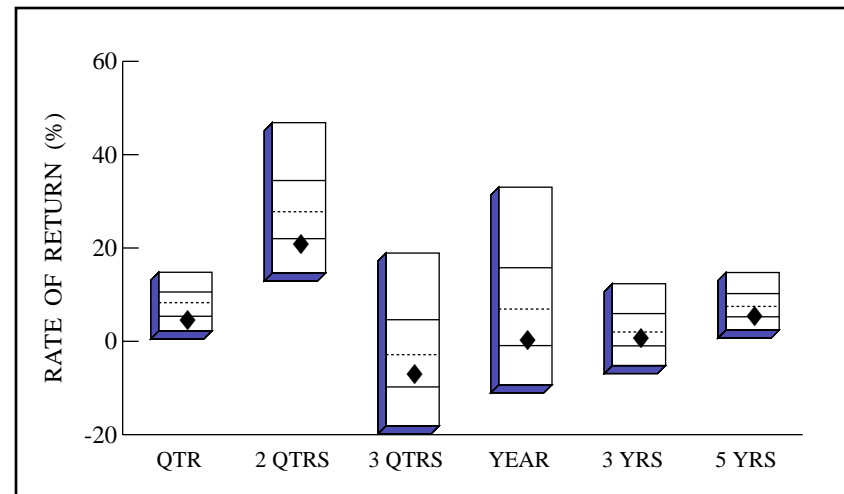
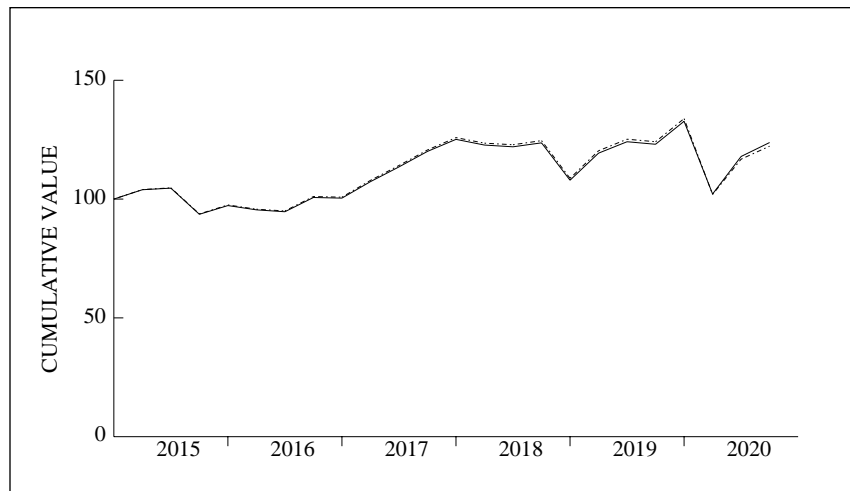
Small Cap Universe



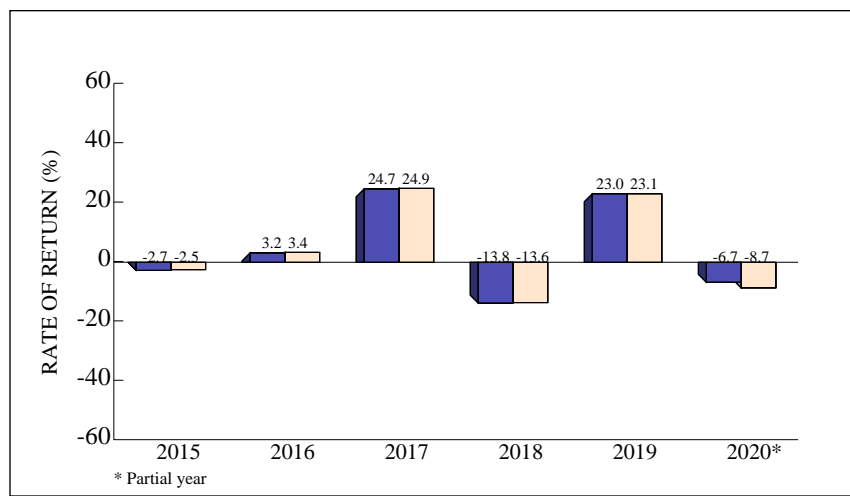
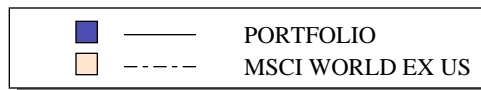
	QTR	2 QTRS	3 QTRS	YEAR	3 YRS	5 YRS
RETURN	4.9	31.6	-8.7	0.4	1.8	8.1
(RANK)	(54)	(50)	(47)	(47)	(51)	(49)
5TH %ILE	13.8	61.2	26.7	39.1	23.1	21.1
25TH %ILE	8.5	42.0	5.0	12.9	9.2	12.6
MEDIAN	5.2	31.5	-10.6	-1.5	1.8	8.0
75TH %ILE	2.6	24.1	-19.3	-12.0	-3.1	4.6
95TH %ILE	0.4	17.5	-25.9	-19.7	-7.0	1.8
Russ 2000	4.9	31.6	-8.7	0.4	1.7	8.0

Small Cap Universe

INTERNATIONAL EQUITY RETURN COMPARISONS



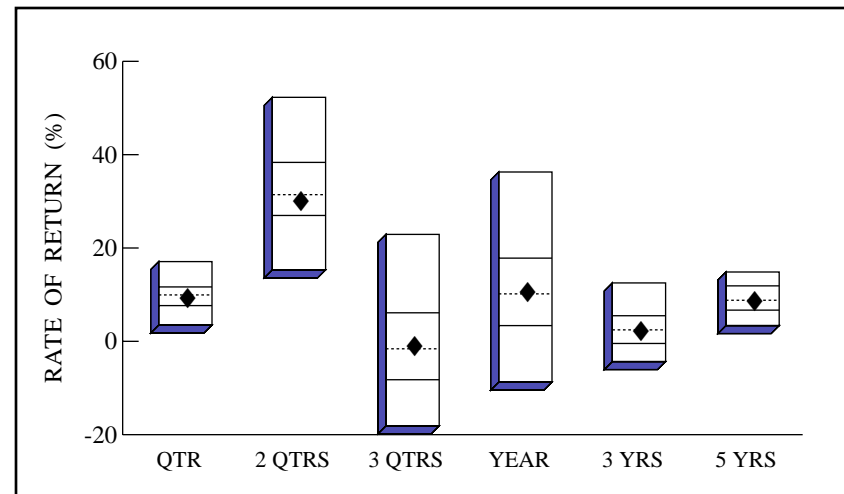
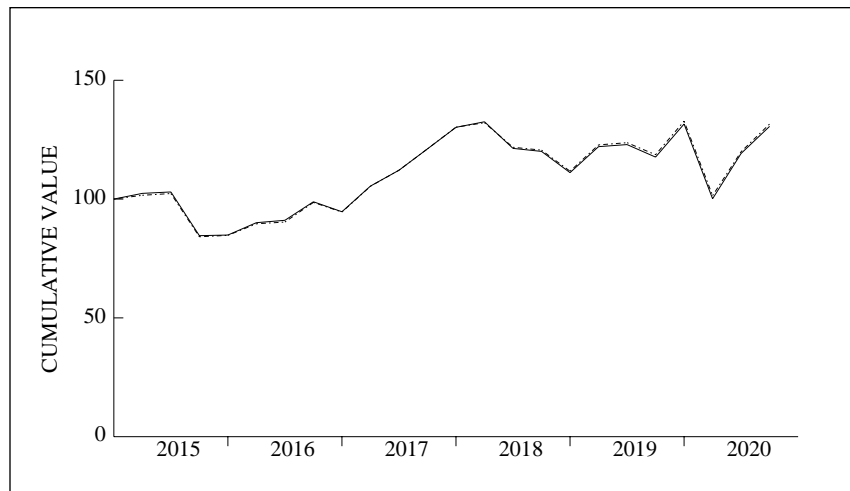
International Equity Universe



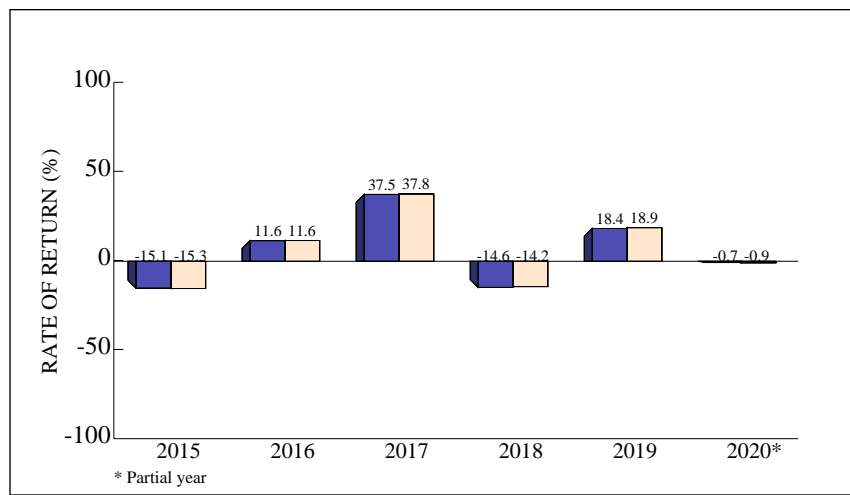
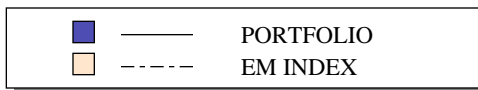
	QTR	2 QTRS	3 QTRS	YEAR	3 YRS	5 YRS
RETURN	5.0	21.3	-6.7	0.6	1.0	5.8
(RANK)	(79)	(79)	(65)	(72)	(59)	(69)
5TH %ILE	14.8	46.9	18.9	33.0	12.3	14.8
25TH %ILE	10.6	34.4	4.6	15.8	5.9	10.2
MEDIAN	8.3	27.8	-2.9	6.9	2.0	7.5
75TH %ILE	5.4	22.0	-9.8	-0.9	-1.0	5.2
95TH %ILE	2.2	14.6	-18.1	-9.3	-5.2	2.4
World Ex Us	4.7	20.0	-8.7	-1.5	0.4	5.5

International Equity Universe

EMERGING MARKETS EQUITY RETURN COMPARISONS



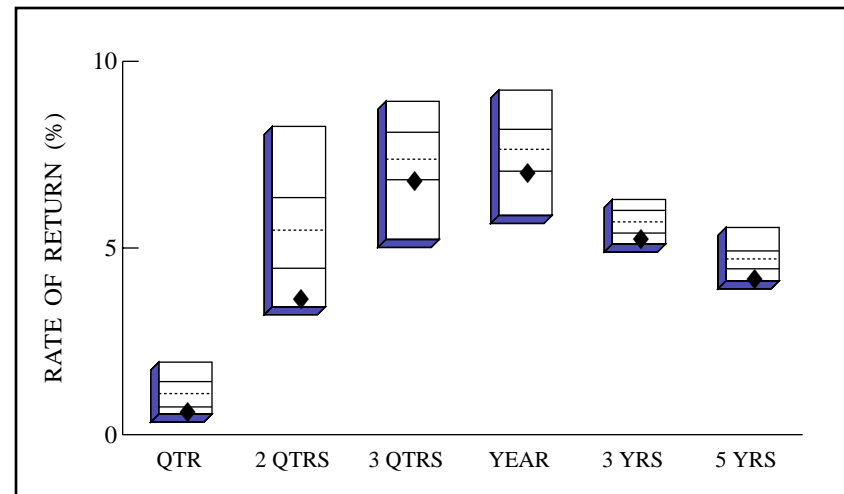
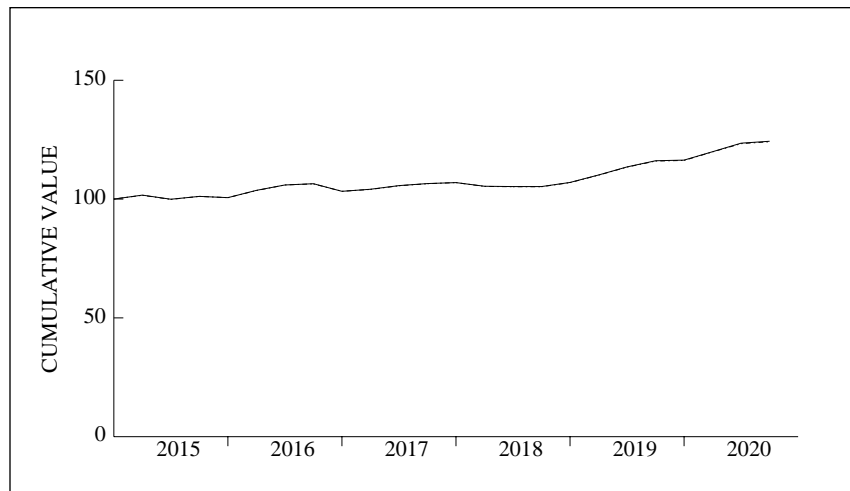
Emerging Markets Universe



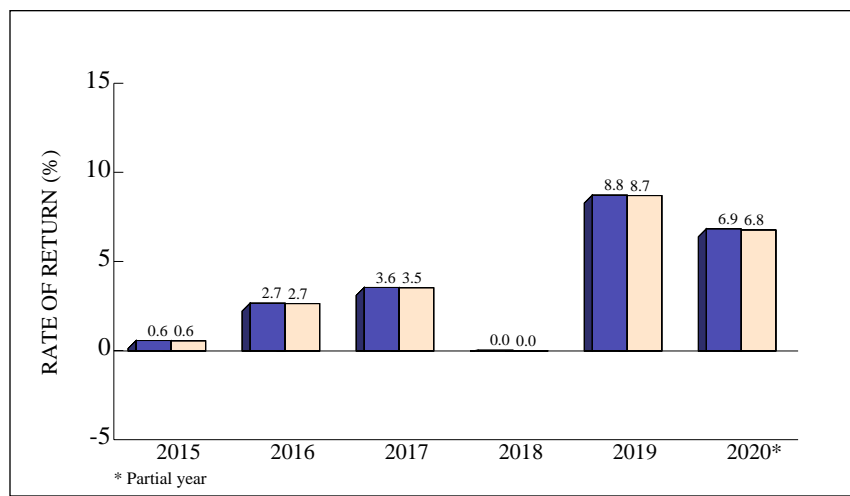
	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	9.6	30.4	-0.7	11.0	2.6	9.1
(RANK)	(56)	(56)	(46)	(46)	(49)	(44)
5TH %ILE	17.1	52.3	22.9	36.3	12.5	14.9
25TH %ILE	11.7	38.4	6.1	17.8	5.5	11.9
MEDIAN	9.9	31.4	-1.6	10.2	2.4	8.8
75TH %ILE	7.7	27.0	-8.2	3.4	-0.4	6.7
95TH %ILE	3.5	15.3	-18.1	-8.7	-4.4	3.4
EM Index	9.7	29.6	-0.9	10.9	2.8	9.4

Emerging Markets Universe

FIXED INCOME RETURN COMPARISONS



Core Fixed Income Universe

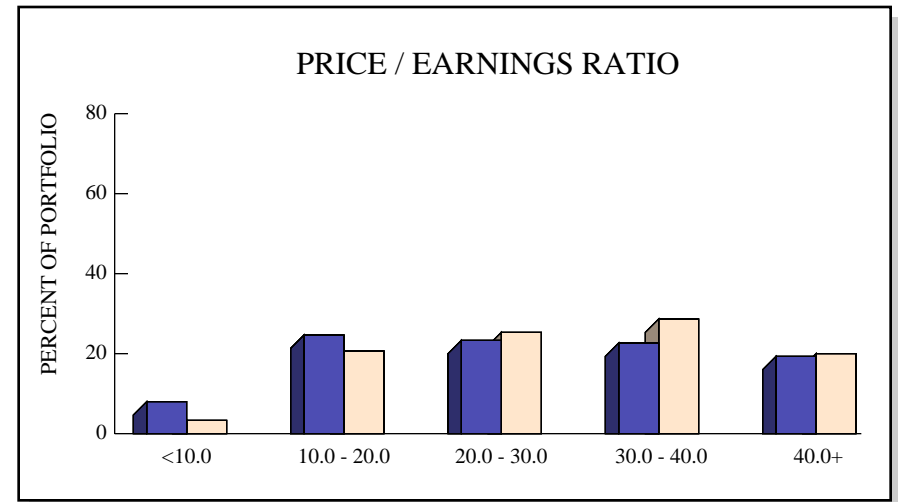
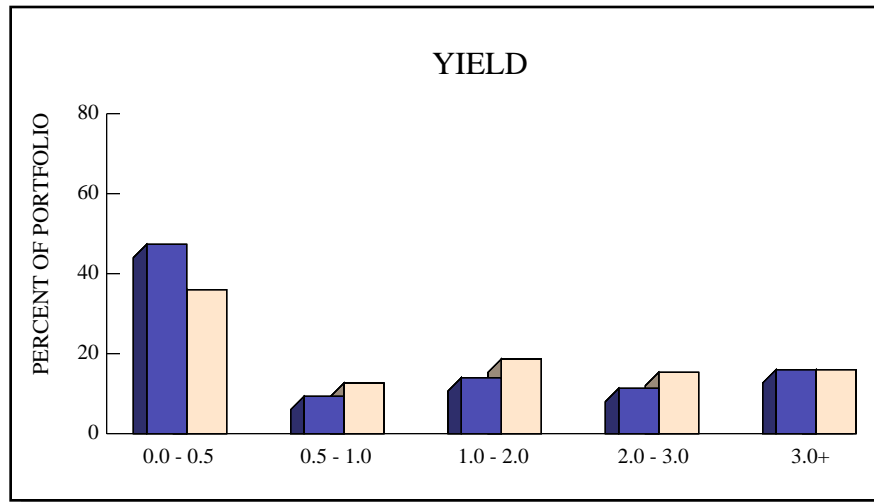


* Partial year

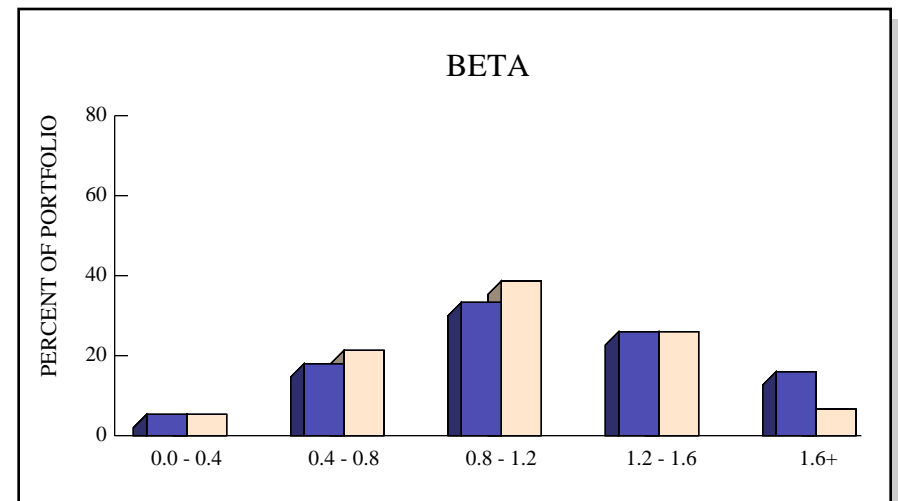
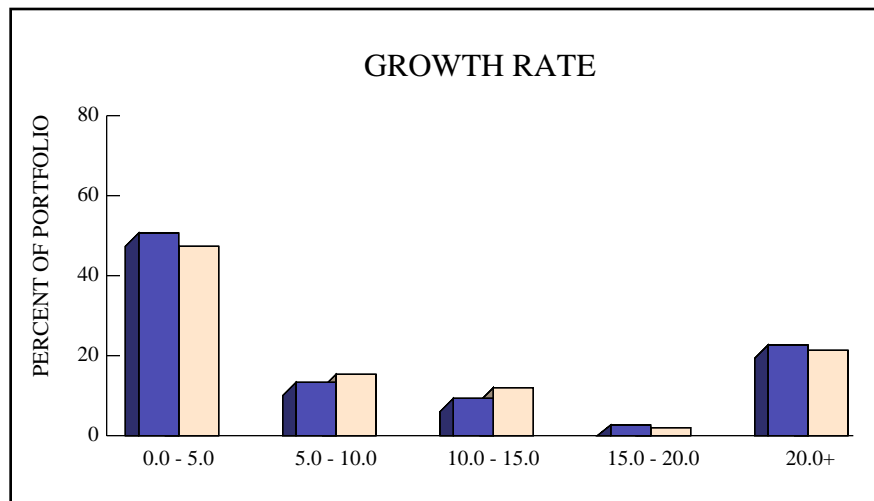
	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	0.7	3.7	6.9	7.0	5.3	4.2
(RANK)	(82)	(85)	(73)	(77)	(88)	(88)
5TH %ILE	1.9	8.3	8.9	9.2	6.3	5.6
25TH %ILE	1.4	6.4	8.1	8.2	6.0	4.9
MEDIAN	1.1	5.5	7.4	7.6	5.7	4.7
75TH %ILE	0.7	4.5	6.8	7.1	5.4	4.4
95TH %ILE	0.6	3.4	5.2	5.9	5.1	4.1
Agg	0.6	3.5	6.8	7.0	5.2	4.2

Core Fixed Income Universe

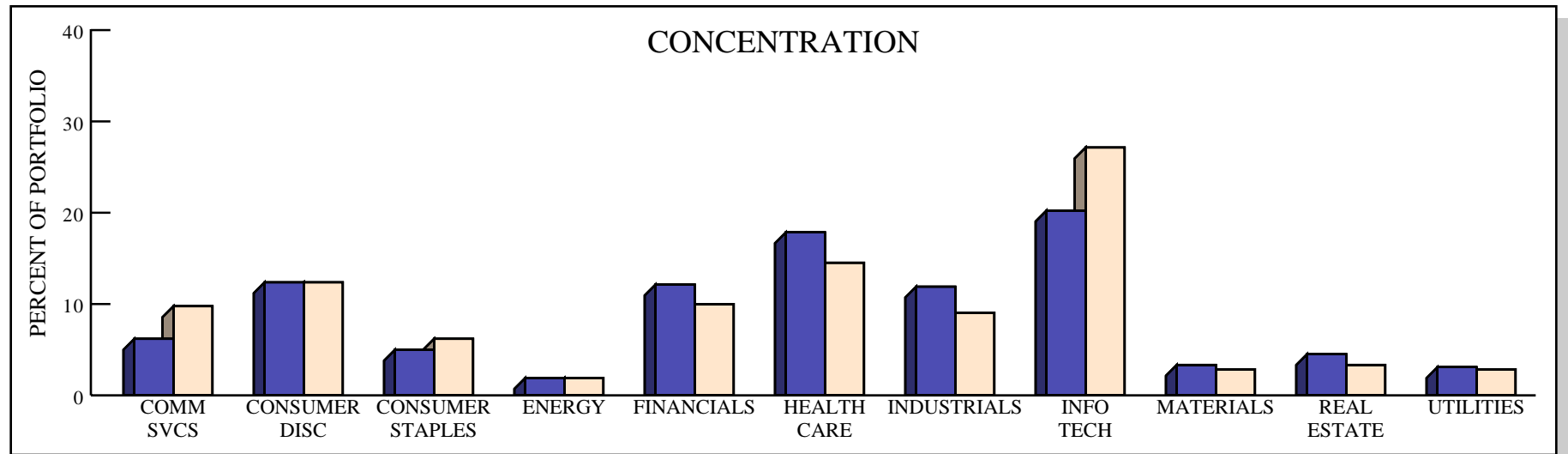
STOCK CHARACTERISTICS



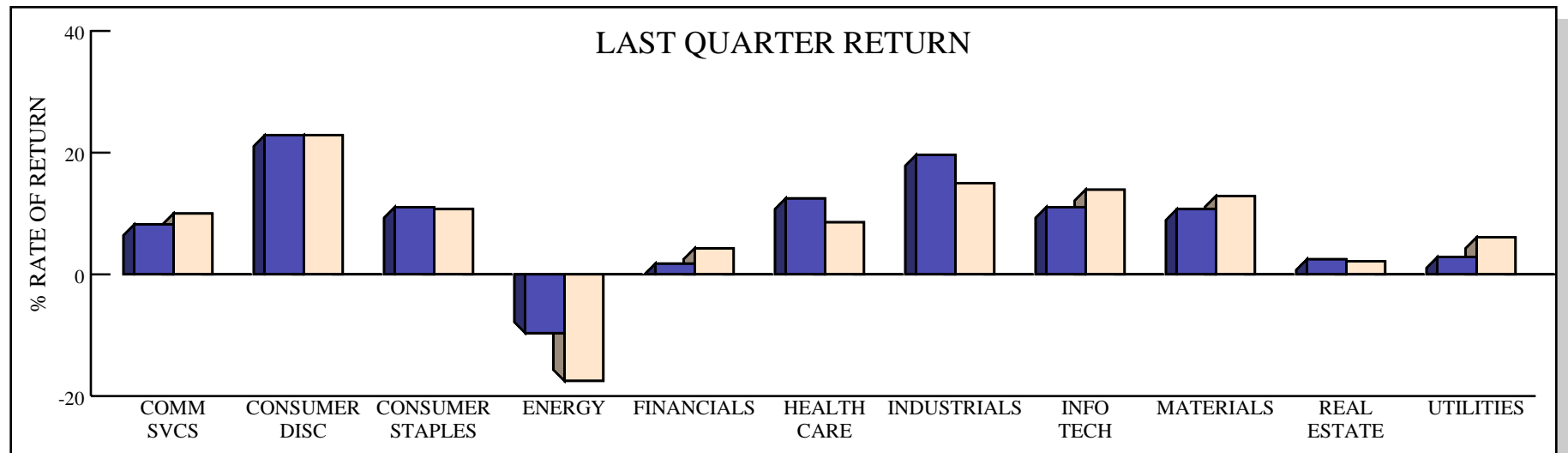
	# HOLDINGS	YIELD	GROWTH	P/E	BETA
PORTFOLIO	2,524	1.4%	5.3%	30.8	1.15
RUSSELL 3000	3,036	1.5%	6.0%	33.3	1.03



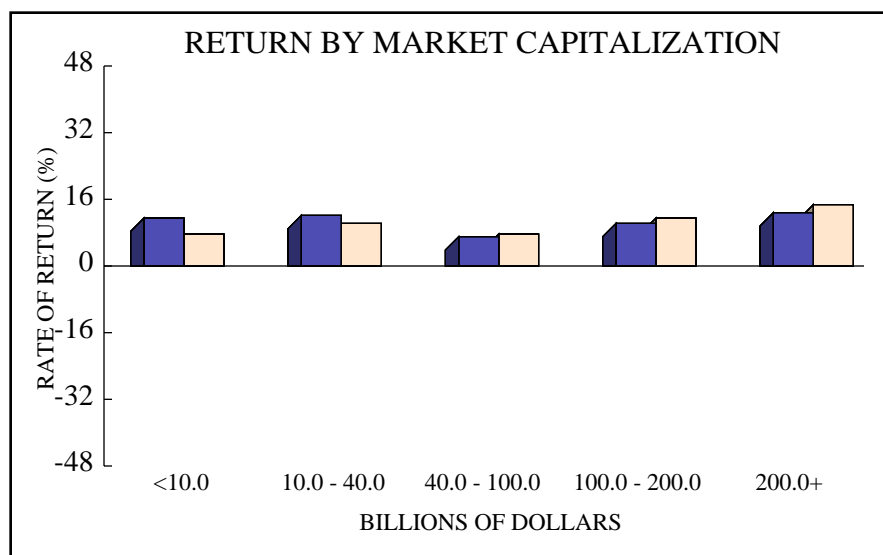
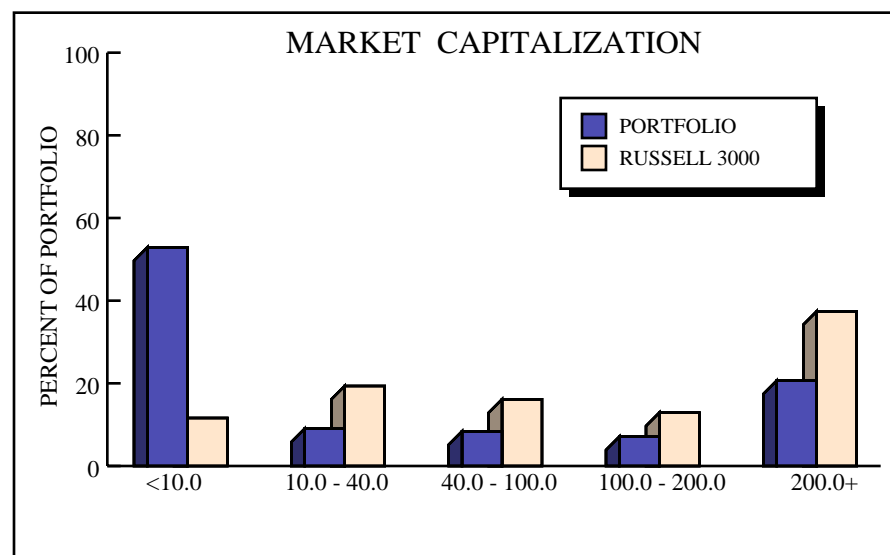
STOCK INDUSTRY ANALYSIS



■ PORTFOLIO ■ RUSSELL 3000



TOP TEN HOLDINGS



TOP TEN EQUITY HOLDINGS

RANK	NAME	VALUE	% EQUITY	RETURN	INDUSTRY SECTOR	MKT CAP
1	APPLE INC	\$ 8,231,080	3.14%	27.2%	Information Technology	\$ 1980.6 B
2	MICROSOFT CORP	7,037,011	2.68%	3.6%	Information Technology	1591.7 B
3	AMAZON.COM INC	5,925,910	2.26%	14.1%	Consumer Discretionary	1577.2 B
4	FACEBOOK INC	2,783,735	1.06%	15.3%	Communication Services	746.1 B
5	ALPHABET INC	1,946,317	.74%	3.4%	Communication Services	507.9 B
6	ALPHABET INC	1,907,541	.73%	4.0%	Communication Services	490.3 B
7	BERKSHIRE HATHAWAY INC	1,865,993	.71%	19.3%	Financials	298.4 B
8	JOHNSON & JOHNSON	1,732,963	.66%	6.6%	Health Care	392.0 B
9	PROCTER & GAMBLE CO	1,529,863	.58%	17.0%	Consumer Staples	346.0 B
10	VISA INC	1,490,576	.57%	3.7%	Information Technology	425.5 B

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
WILLIAM BLAIR - LARGE CAP GROWTH
PERFORMANCE REVIEW
SEPTEMBER 2020

INVESTMENT RETURN

On September 30th, 2020, the Pennsylvania Municipal Retirement System's William Blair Large Cap Growth portfolio was valued at \$61,300,453, representing an increase of \$6,097,730 from the June quarter's ending value of \$55,202,723. Last quarter, the Fund posted withdrawals totaling \$23,906, which partially offset the portfolio's net investment return of \$6,121,636. Income receipts totaling \$117,493 plus net realized and unrealized capital gains of \$6,004,143 combined to produce the portfolio's net investment return.

RELATIVE PERFORMANCE

Total Fund

For the third quarter, the William Blair Large Cap Growth portfolio returned 11.1%, which was 2.1% below the Russell 1000 Growth Index's return of 13.2% and ranked in the 50th percentile of the Large Cap Growth universe.

ASSET ALLOCATION

At the end of the third quarter, large cap equities comprised 99.6% of the total portfolio (\$61.0 million), while cash & equivalents comprised the remaining 0.4% (\$263,157).

EQUITY ANALYSIS

The William Blair portfolio was invested last quarter in eight of the industry sectors in our analysis. Sector allocations were similar to those within the Russell 1000 Growth index. The Energy, Real Estate, and Utilities sectors were not represented.

Unfavorable selection in all but two of the invested sectors resulted in the portfolio's shortfall against the index. The Consumer Staples and Health Care sectors beat their index counterparts, but that was not enough to eclipse the effects from the remaining sectors.

EXECUTIVE SUMMARY**PERFORMANCE SUMMARY**

	Quarter	YTD	1 Year	3 Year	5 Year
Total Portfolio - Gross	11.1	----	----	----	----
<i>LARGE CAP GROWTH RANK</i>	(50)	----	----	----	----
Total Portfolio - Net	11.0	----	----	----	----
Russell 1000G	13.2	24.3	37.5	21.7	20.1
Large Cap Equity - Gross	11.1	----	----	----	----
<i>LARGE CAP GROWTH RANK</i>	(48)	----	----	----	----
Russell 1000G	13.2	24.3	37.5	21.7	20.1

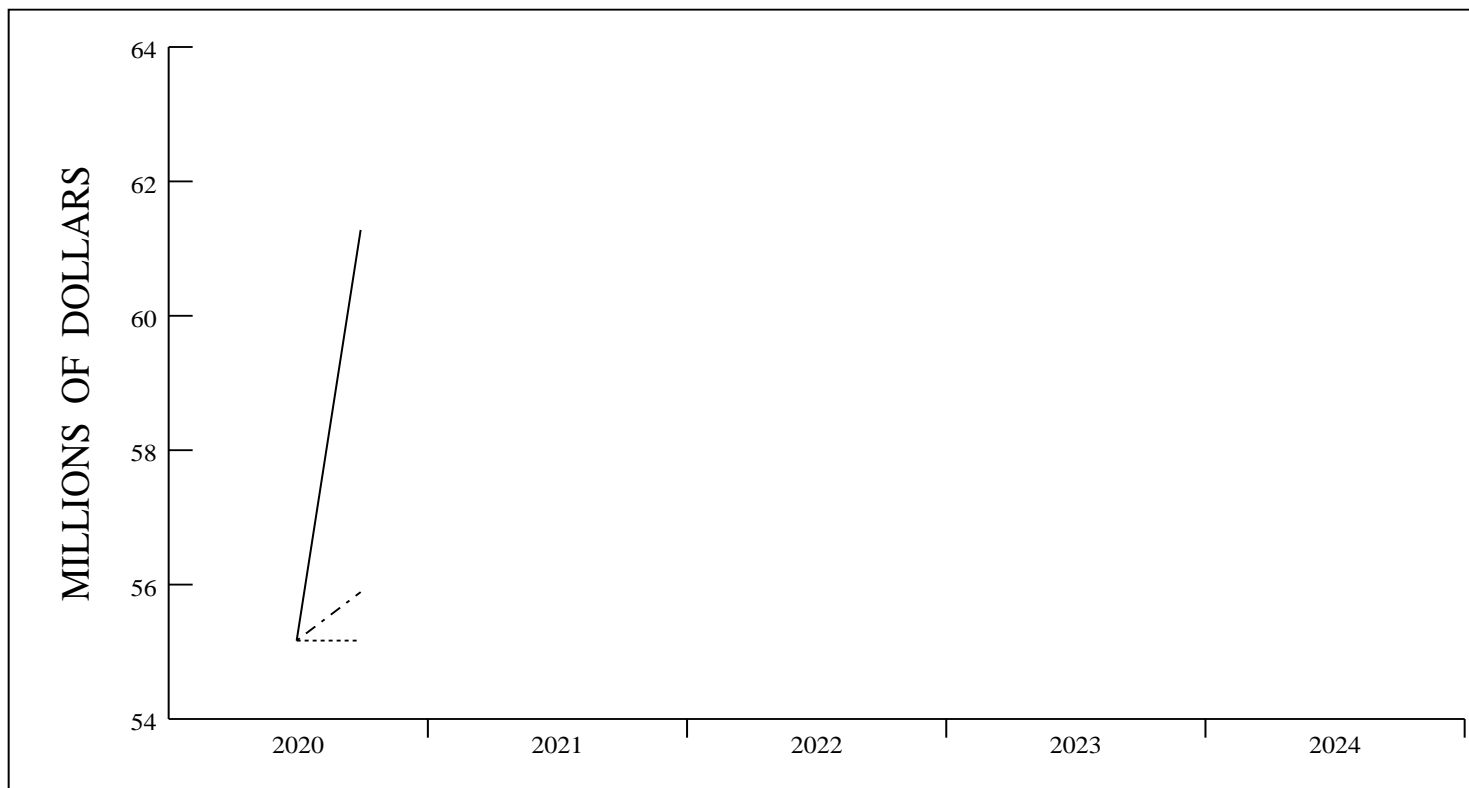
ASSET ALLOCATION

Large Cap Equity	99.6%	\$ 61,037,296
Cash	0.4%	263,157
Total Portfolio	100.0%	\$ 61,300,453

INVESTMENT RETURN

Market Value 6/2020	\$ 55,202,723
Contribs / Withdrawals	- 23,906
Income	117,493
Capital Gains / Losses	6,004,143
Market Value 9/2020	\$ 61,300,453

INVESTMENT GROWTH

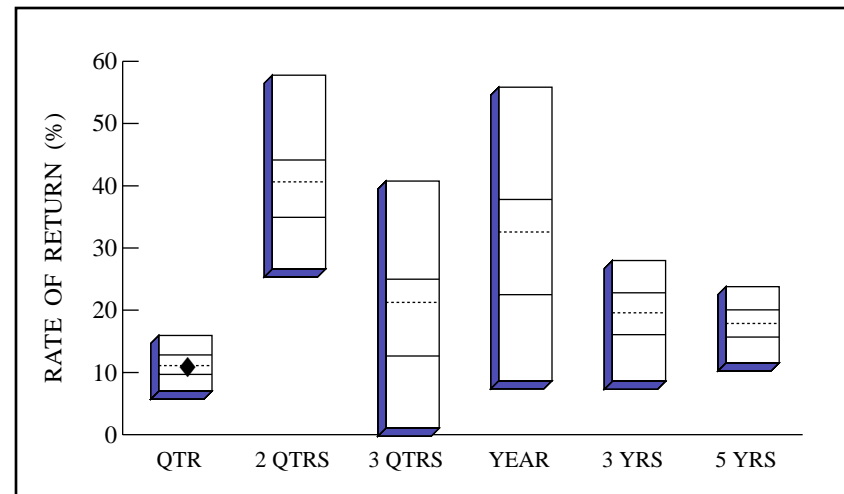
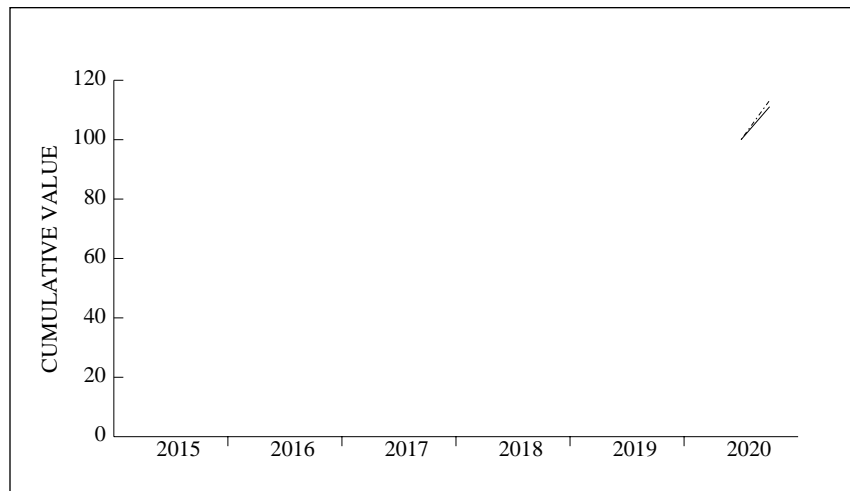


——— ACTUAL RETURN
 - - - - - 5.25%
 ······ 0.0%

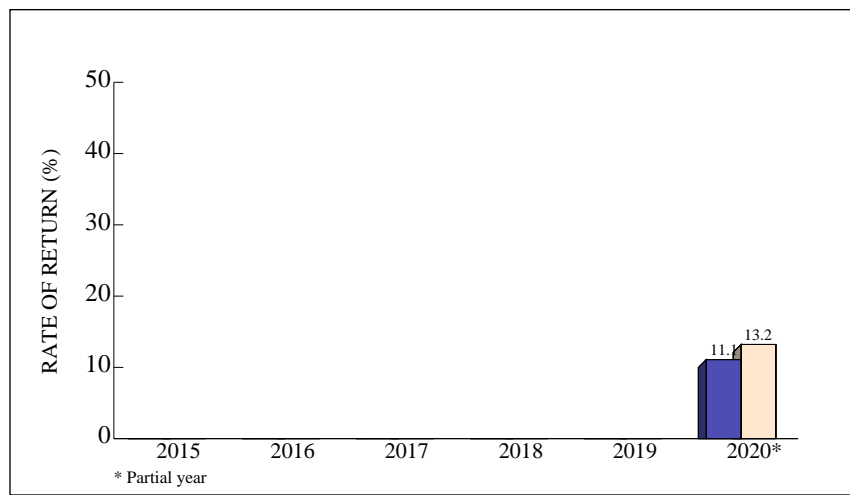
VALUE ASSUMING
 5.25% RETURN \$ 55,889,254

	LAST QUARTER	LAST QUARTER
BEGINNING VALUE	\$ 55,202,723	\$ 55,202,723
NET CONTRIBUTIONS	- 23,906	- 23,906
<u>INVESTMENT RETURN</u>	<u>6,121,636</u>	<u>6,121,636</u>
ENDING VALUE	\$ 61,300,453	\$ 61,300,453
INCOME	117,493	117,493
<u>CAPITAL GAINS (LOSSES)</u>	<u>6,004,143</u>	<u>6,004,143</u>
INVESTMENT RETURN	6,121,636	6,121,636

TOTAL RETURN COMPARISONS



Large Cap Growth Universe

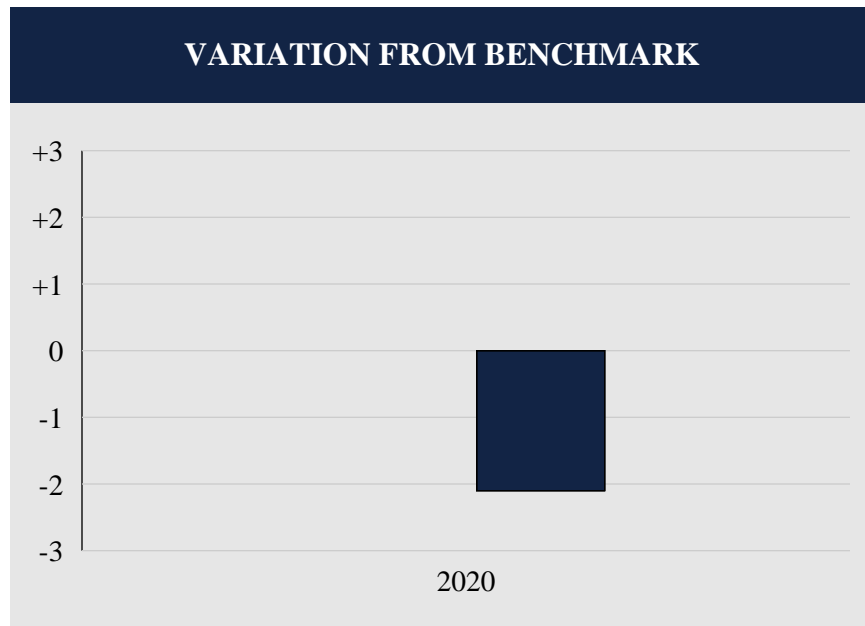


	QTR	2 QTRS	3 QTRS	YEAR	-----ANNUALIZED-----	
					3 YRS	5 YRS
RETURN	11.1	---	---	---	---	---
(RANK)	(50)	---	---	---	---	---
5TH %ILE	16.0	57.8	40.8	55.9	28.0	23.8
25TH %ILE	12.8	44.1	25.0	37.8	22.8	20.1
MEDIAN	11.1	40.6	21.2	32.6	19.6	17.9
75TH %ILE	9.7	34.9	12.6	22.5	16.1	15.7
95TH %ILE	7.0	26.6	1.0	8.7	8.6	11.5
Russ 1000G	13.2	44.7	24.3	37.5	21.7	20.1

Large Cap Growth Universe

TOTAL PORTFOLIO QUARTERLY PERFORMANCE SUMMARY

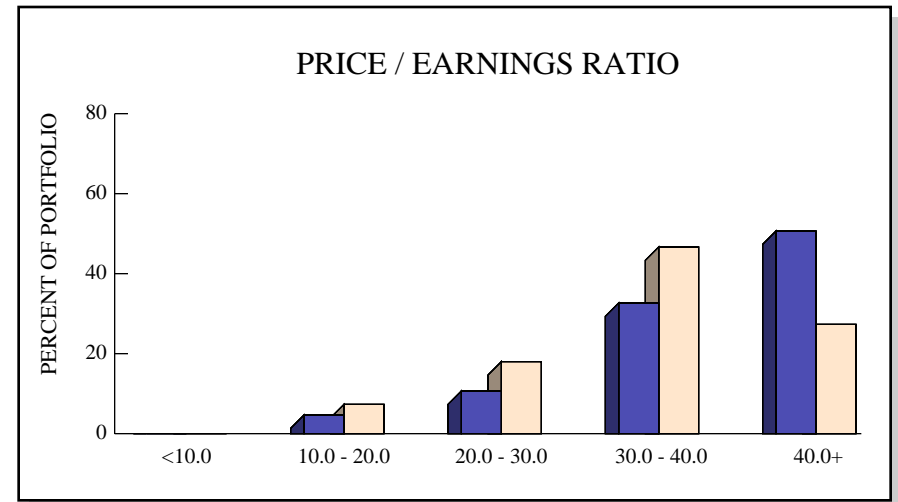
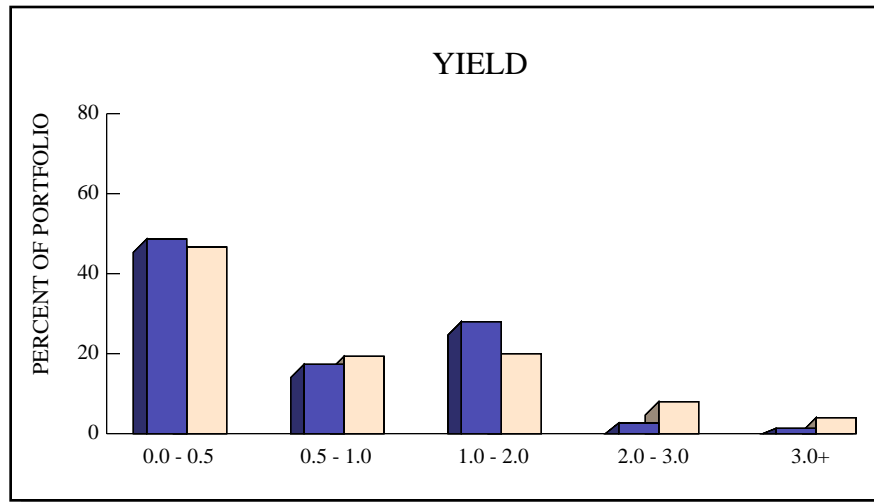
COMPARATIVE BENCHMARK: RUSSELL 1000 GROWTH



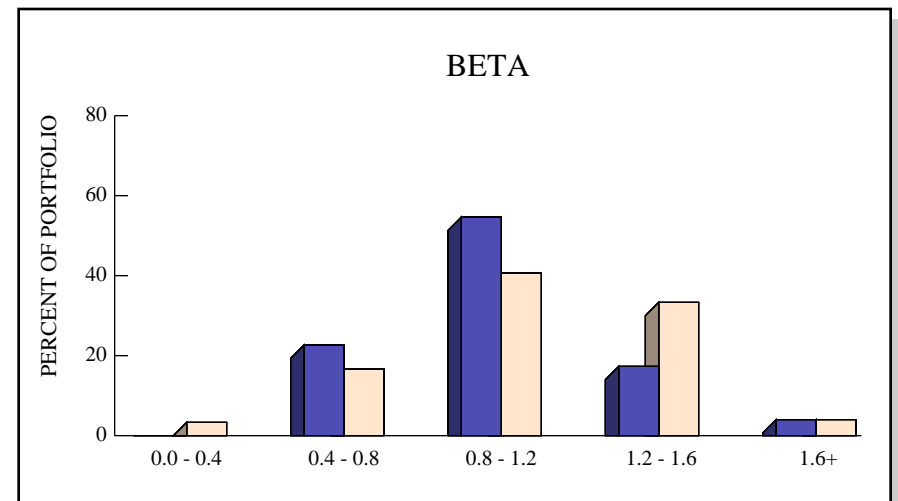
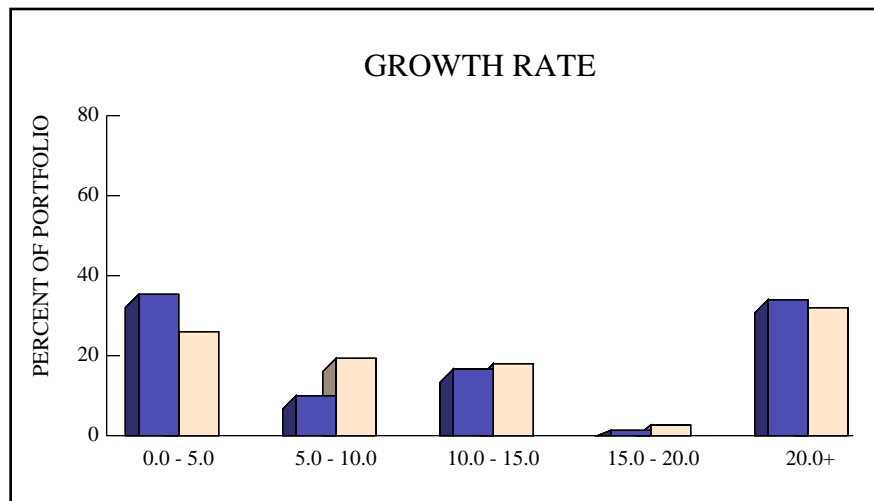
RATES OF RETURN			
Date	Portfolio	Benchmark	Difference
9/20	11.1	13.2	-2.1

Total Quarters Observed	1
Quarters At or Above the Benchmark	0
Quarters Below the Benchmark	1
Batting Average	.000

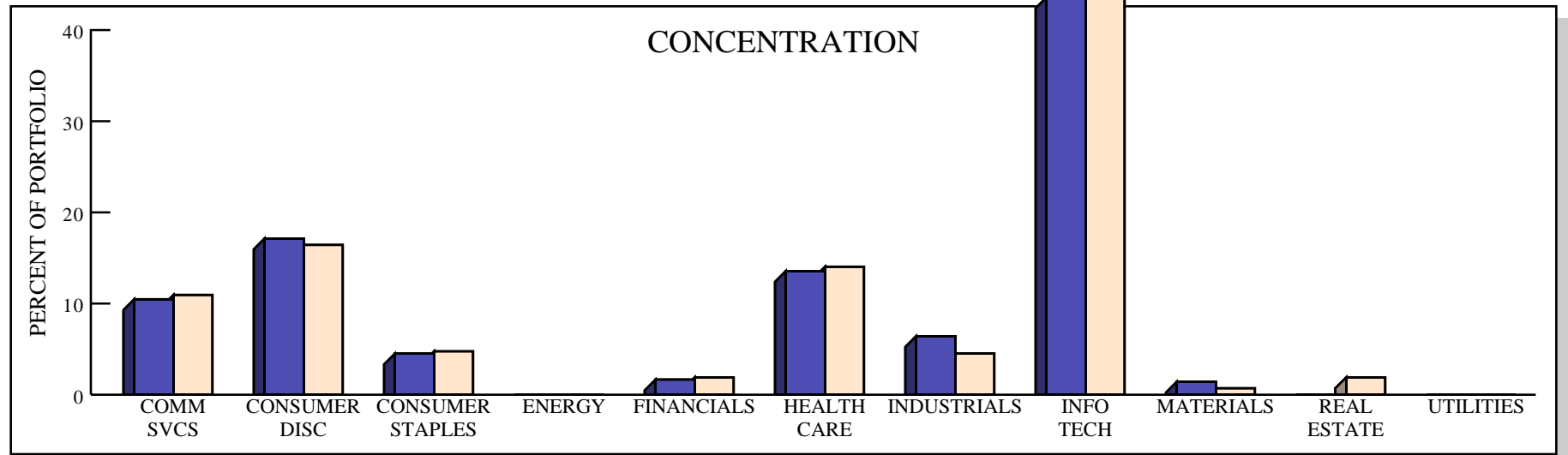
STOCK CHARACTERISTICS



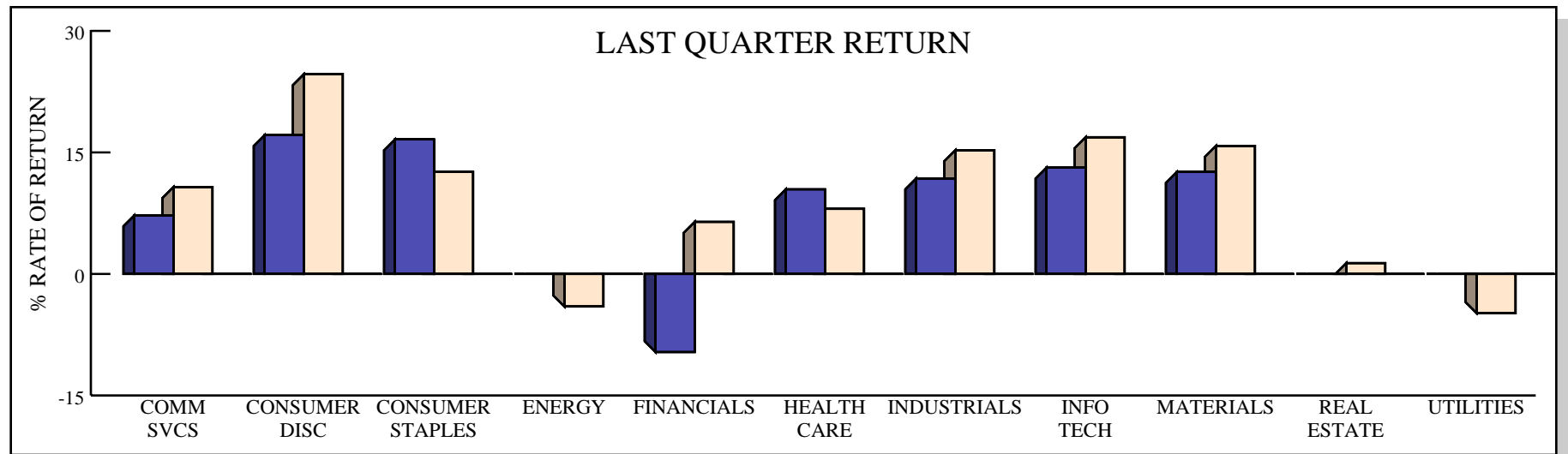
	# HOLDINGS	YIELD	GROWTH	P/E	BETA
PORTFOLIO	33	0.7%	14.3%	48.2	1.06
RUSSELL 1000G	447	0.8%	14.6%	40.9	1.06



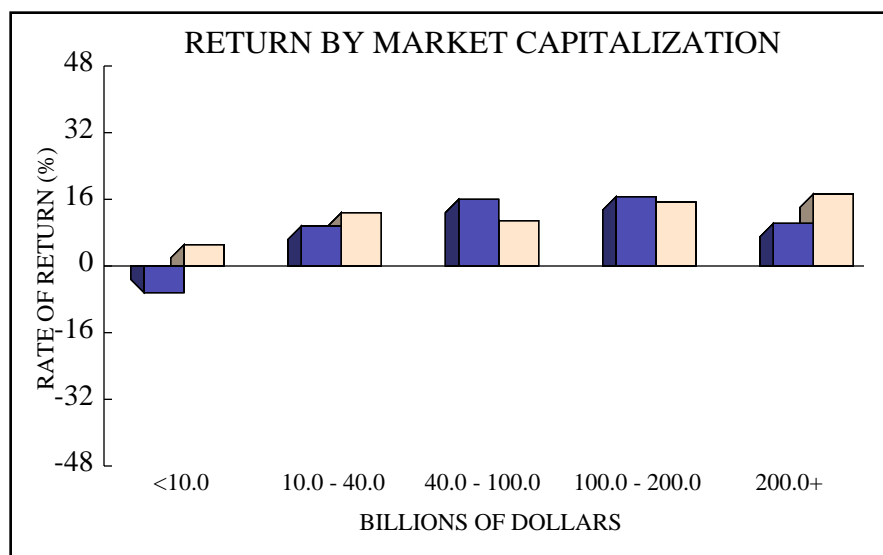
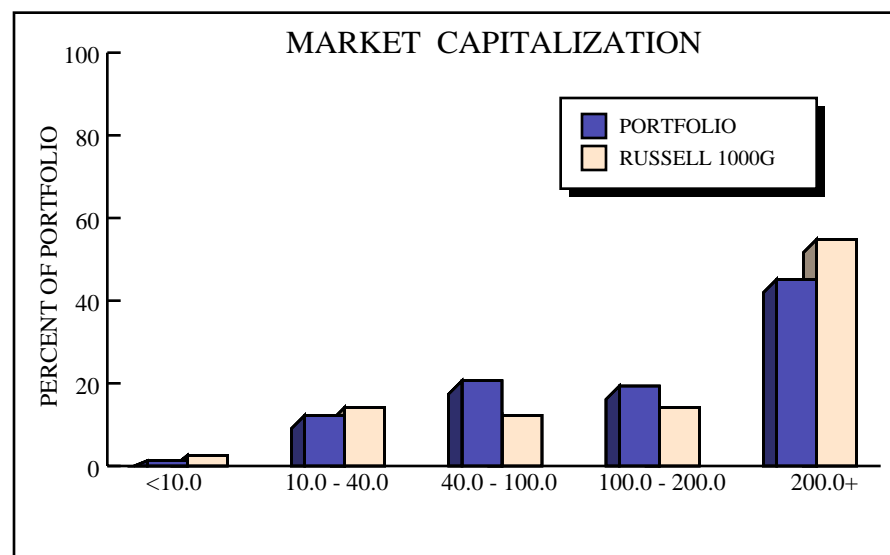
STOCK INDUSTRY ANALYSIS



■ PORTFOLIO ■ RUSSELL 1000G



TOP TEN HOLDINGS

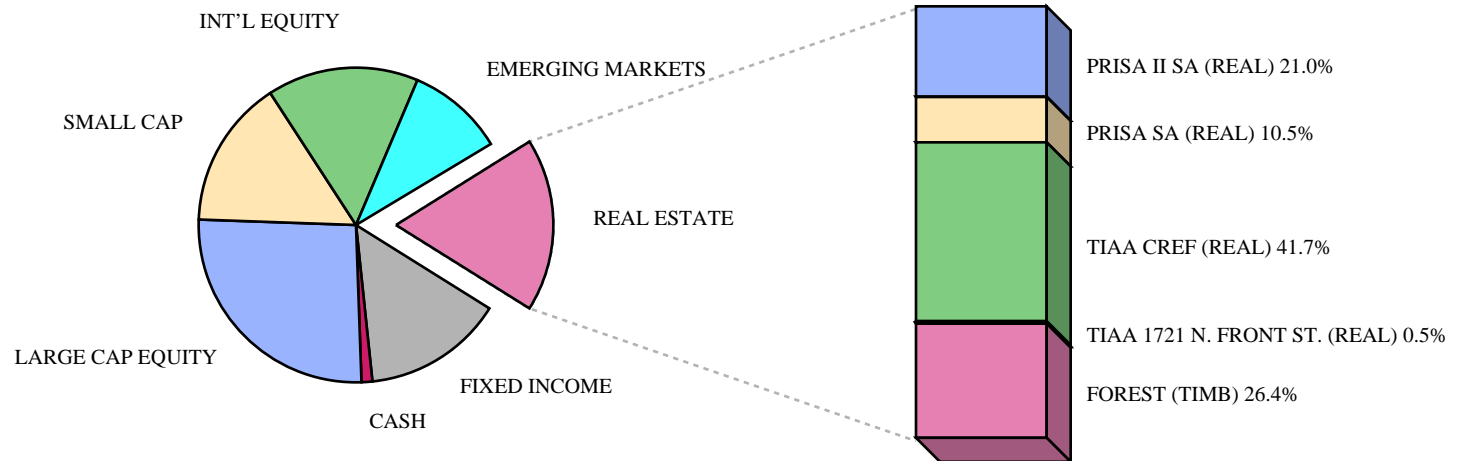


TOP TEN EQUITY HOLDINGS

RANK	NAME	VALUE	% EQUITY	RETURN	INDUSTRY SECTOR	MKT CAP
1	MICROSOFT CORP	\$ 6,490,994	10.63%	3.6%	Information Technology	\$ 1591.7 B
2	AMAZON.COM INC	6,108,536	10.01%	14.1%	Consumer Discretionary	1577.2 B
3	ALPHABET INC	2,983,962	4.89%	3.4%	Communication Services	507.9 B
4	PAYPAL HOLDINGS INC	2,971,409	4.87%	13.1%	Information Technology	231.3 B
5	MASTERCARD INC	2,836,908	4.65%	14.5%	Information Technology	338.5 B
6	NIKE INC	2,328,516	3.81%	28.3%	Consumer Discretionary	195.8 B
7	UNITEDHEALTH GROUP INC	2,214,814	3.63%	6.1%	Health Care	296.3 B
8	ADOBE INC	2,201,540	3.61%	12.7%	Information Technology	235.3 B
9	ADVANCED MICRO DEVICES INC	2,050,242	3.36%	55.8%	Information Technology	96.3 B
10	ACCENTURE PLC	1,940,124	3.18%	5.6%	Information Technology	143.8 B

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
REAL ESTATE
PERFORMANCE REVIEW
SEPTEMBER 2020

REAL ESTATE MANAGER SUMMARY

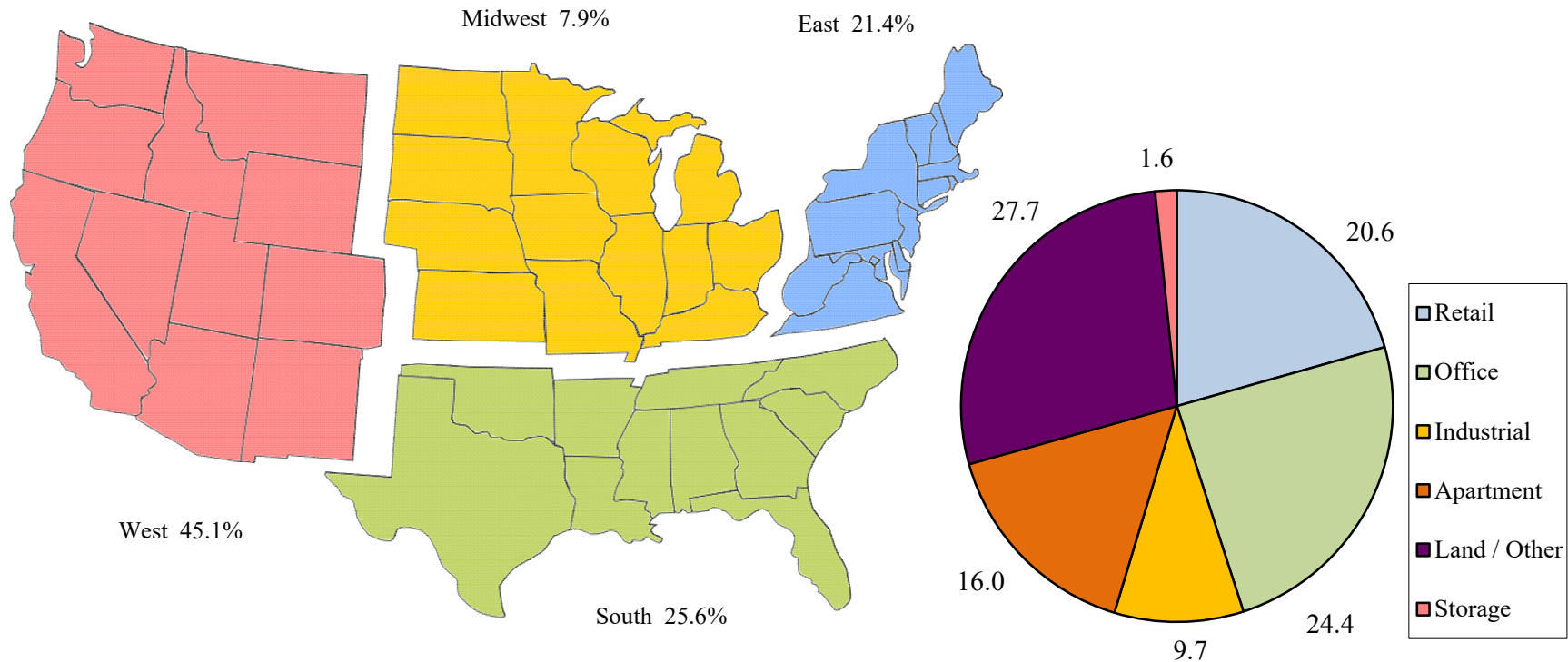


MANAGER	(UNIVERSE)	COMPONENT RETURNS AND RANKINGS					MARKET VALUE
		QTR	YTD	1 YEAR	3 YEARS	5 YEARS	
PRISA II SA		0.4 ---	-0.7 ---	1.4 ---	6.2 ---	7.9 ---	\$103,711,028
PRISA SA		0.5 ---	1.1 ---	2.4 ---	6.0 ---	7.1 ---	\$51,854,386
TIAA CREF		2.9 ---	1.9 ---	3.5 ---	7.0 ---	7.6 ---	\$206,119,761
<i>NCREIF NFI-ODCE Index</i>		<i>0.5 ---</i>	<i>-0.1 ---</i>	<i>1.4 ---</i>	<i>5.2 ---</i>	<i>6.6 ---</i>	---
TIAA 1721 N. FRONT ST.		1.3 ---	3.7 ---	5.9 ---	2.2 ---	---	\$2,329,743
<i>NCREIF Property Index</i>		<i>0.7 ---</i>	<i>0.5 ---</i>	<i>2.0 ---</i>	<i>5.1 ---</i>	<i>6.3 ---</i>	---
FOREST		0.3 ---	-0.6 ---	-2.0 ---	1.7 ---	3.3 ---	\$130,868,837
<i>NCREIF Timber Index</i>		<i>0.0 ---</i>	<i>0.2 ---</i>	<i>0.2 ---</i>	<i>2.1 ---</i>	<i>2.6 ---</i>	---
TOTAL		1.4 ---	0.6 ---	1.4 ---	5.2 ---	6.3 ---	\$494,883,755
<i>NCREIF Property Index</i>		<i>0.7 ---</i>	<i>0.5 ---</i>	<i>2.0 ---</i>	<i>5.1 ---</i>	<i>6.3 ---</i>	---

PMRS Real Estate Commitment

As of September 30th, the Pennsylvania Municipal Retirement System's aggregate real estate portfolio was valued at \$494,883,755, representing 17.9% of the total System's assets. TIAA distributed \$1,511,839 in July and FIA distributed 1,600,000 in September. For reference, the NCREIF Property Index returned 0.7 in the third quarter. Over the trailing year, that index returned 2.0%, and an annualized 6.3% for the last five years. Over the same time frames, the Bloomberg Barclays Aggregate Index returned 0.6%, 7.0%, and an annualized 4.2%, respectively.

Property Type/Geographical Distribution



PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM REAL ESTATE MANAGERS

PRISA SA

PRISA is an open-end, commingled, broadly diversified, core real estate equity fund invested in completed, income producing and well-leased properties.

Investment Return

On September 30th, 2020, the Pennsylvania Municipal Retirement System's Prudential PRISA SA portfolio was valued at \$51,854,386, representing an increase of \$132,649 from the June quarter's ending value of \$51,721,737. Last quarter, the Fund posted withdrawals totaling \$124,548, which offset the portfolio's net investment return of \$257,197. Since there were no income receipts for the third quarter, the portfolio's net investment return figure was the product of net realized and unrealized capital gains totaling \$257,197.

Property Type/Geographical Distribution

The office sector made up 33.6% of the PRISA SA portfolio. Industrial and retail properties made up 21.4% and 13.0% respectively. Apartments comprised 24.6% of the portfolio's value, storage was 6.0%, and the remaining 1.4% was in other sectors or vacant land.

Geographically, PRISA's portfolio was mostly situated in the East and West, whose percentages were 37.8% and 36.5%. Another 18.5% of the portfolio was situated in the South, while the remaining 7.2% resided in the Midwest.

Account Performance

During the third quarter, the Prudential PRISA SA account returned 0.5%, which was equal to the NCREIF NFI-ODCE Index's return of 0.5%. Over the trailing year, the portfolio returned 2.4%, which was 1.0% above the benchmark's 1.4% return. Since December 1990, the Prudential PRISA SA portfolio returned 7.7% per annum, while the NCREIF NFI-ODCE Index returned an annualized 7.3% over the same time frame.

PRISA II

Investment Return

As of September 30th, 2020, the Pennsylvania Municipal Retirement System's Prudential PRISA II SA portfolio was valued at \$103,711,028, which represented an increase of \$158,296 from the June quarter's ending value of \$103,552,732. Last quarter, the portfolio recorded a net withdrawal of \$286,562, which offset the fund's net investment return of \$444,858. In the absence of income receipts for the quarter, the portfolio's net investment return was the product of \$444,858 in realized and unrealized capital gains.

Property Type/Geographical Distribution

Apartments made up the largest sector of the PRISA II portfolio last quarter, at 34.5%, with office coming in at a close second with 34.1%. Retail represented 17.1%, while storage made up 4.7%. Investment in land was 5.4%, and industrial properties represented 4.2%.

Geographically, 33.5% of this portfolio was situated in the West, 40.0% resided in the East, while 24.3% was in the South. The remaining 2.2% was located in the Midwest.

Account Performance

In the third quarter, the Prudential PRISA II SA account gained 0.4%, which was 0.1% less than the NCREIF NFI-ODCE Index's return of 0.5%. Over the trailing twelve-month period, the account returned 1.4%, which was equal to the benchmark's 1.4% performance. Since June 2007, the Prudential PRISA II SA portfolio returned 4.6% annualized, while the NCREIF NFI-ODCE Index returned an annualized 5.3% over the same time frame.

FOREST INVESTMENT ADVISORS

The Forest Investment Advisors account is a discretionary account invested in land holdings mostly in the South, with lesser representation in the East and West.

Investment Return

As of September 30th, 2020, the Pennsylvania Municipal Retirement System's Forest Investment Associates Keystone Forest Investments portfolio was valued at \$130,868,837, a decrease of \$1,149,645 relative to the June quarter's ending value of \$132,018,482. Last quarter, the Fund recorded withdrawals totaling \$1,600,000, which overshadowed the fund's net investment return of \$450,355. Since there were no income receipts during the quarter, the portfolio's net investment return was the product of \$450,355 in realized and unrealized capital gains.

Property Type/Geographical Distribution

The Forest fund held 47.2% of its assets in the South, 22.8% in the East, and 30.0% in the West. The Forest Investment Advisors account was solely invested in Timberland.

Forest held investments in Bear Island (Virginia), Fitz-Weller (New York), Carter-Pasture (Texas), Dupont (Georgia), Bennetts Creek (North Carolina), Black River (South Carolina), Coquille (Oregon), Bucktails (Pennsylvania), and North River (Washington).

Account Performance

During the third quarter, the Forest Investment Associates Keystone Forest Investments portfolio returned 0.3%, which was 0.3% above the NCREIF Timber Index's return of 0.0%. Over the trailing twelve-month period, the account returned -2.0%, which was 2.2% less than the benchmark's 0.2% return. Since March 1999, the Forest Investment Associates Keystone Forest Investments portfolio returned 4.6% annualized, while the NCREIF Timber Index returned an annualized 5.9% over the same period.

TIAA-CREF

TIAA CREF is a discretionary account with investments in office, retail, industrial, and multi-family properties. The account holds eight properties: The Shoppes at Monarch Lakes is a retail shopping center in Miramar, Florida, and Des Peres Corner, another retail shopping center, is located in Des Peres, Missouri. The SR Ranch Shopping Center and Copley Corporate Center are located in San Diego, California. Industrial properties include Republic Distribution Center in Pasadena, Texas and the 526 Rt. 46 property is located in Teterboro, New Jersey. Stream Uptown is an apartment building in Seattle, Washington. The portfolio's most recent acquisition, the Fairway Center, is located in Connecticut.

TIAA CREF is a non-leveraged investment, whereas portfolios in the NCREIF NFD-ODCE index do utilize leverage.

Investment Return

On September 30th, 2020, the Pennsylvania Municipal Retirement System's TIAA CREF portfolio was valued at \$206,119,761, representing an increase of \$3,841,052 from the June quarter's ending value of \$202,278,709. Last quarter, the Fund posted withdrawals totaling \$1,511,839, which offset the portfolio's net investment return of \$5,352,891. Income receipts totaling \$2,709,908 plus net realized and unrealized capital gains of \$2,642,983 combined to produce the portfolio's net investment return.

Property Type/Geographical Distribution

As of the quarter end, the TIAA CREF portfolio was situated mostly in the West, which comprised 63.1%. The Midwest represented 16.0%, while the South made up 14.6% and the remaining 6.2% was in the East.

Retail space was the largest sector, making up 37.5%. Offices comprised 31.9%, while 14.8% was in apartments and 15.7% was industrial.

Account Performance

For the third quarter, the TIAA CREF account gained 2.9%, which was 2.4% greater than the NCREIF NFI-ODCE Index's return of 0.5%. Over the trailing twelve-month period, the account returned 3.5%, which was 2.1% above the benchmark's 1.4% performance. Since June 2008, the portfolio returned 3.9% per annum, while the NCREIF NFI-ODCE Index returned an annualized 5.1% over the same period.

TIAA NORTH FRONT STREET

The office building at 1721 N. Front St. in Harrisburg, PA was purchased in 2016.

Investment Return

On September 30th, 2020, the Pennsylvania Municipal Retirement System's TIAA CREF 1721 North Front Street portfolio was valued at \$2,329,743, representing an \$18,627 increase from the June quarter's ending value of \$2,311,116. During the last three months, the account recorded no net contributions or withdrawals, making the entire increase in value the result of \$18,627 in net investment returns.

Account Performance

In the third quarter, the TIAA CREF 1721 North Front Street portfolio gained 1.3%, which was 0.6% greater than the NCREIF Property Index's return of 0.7%. Over the trailing twelve-month period, the account returned 5.9%, which was 3.9% greater than the benchmark's 2.0% return. Since June 2016, the TIAA CREF 1721 North Front Street portfolio returned 1.3% per annum, while the NCREIF Property Index returned an annualized 5.7% over the same time frame.

**Real Estate Investor Report
TIAA CREF (Excluding N. Front Street)**

Net IRR Since Inception **6.59%**
Market Value **\$** **206,119,761** **As of**
9/30/2020

<u>Year</u>	<u>Capital Calls</u>	<u>Distributions</u>	<u>Fees</u>
2008	\$ 34,330,250	\$ -	\$ 244,006
2009	\$ -	\$ 1,168,000	\$ 319,220
2010	\$ 50,300,736	\$ -	\$ 422,549
2011	\$ 23,903,720	\$ 406,336	\$ 690,494
2012	\$ -	\$ 3,600,000	\$ 892,330
2013	\$ 15,642,440	\$ 6,240,000	\$ 972,519
2014	\$ 47,594,800	\$ 28,000,000	\$ 1,210,923
2015	\$ -	\$ 24,000,000	\$ 1,493,589
2016	\$ 26,333,676	\$ 6,308,805	\$ 1,604,408
2017	\$ -	\$ 8,062,624	\$ 1,709,860
2018	\$ -	\$ 7,721,531	\$ 1,756,438
2019	\$ -	\$ 7,209,262	\$ 1,813,349
2020	\$ -	\$ 3,100,356	\$ 1,403,861
Total	\$ 198,105,622	\$ 95,816,914	\$ 14,533,546

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM
PRELIMINARY GROSS OF FEES PERFORMANCE AS OF NOVEMBER 2020

Portfolio	QTD	YTD	Market Value
Total Portfolio	8.5	10.0	\$3,047,462,787
<i>Total Portfolio Shadow Index</i>	<i>8.2</i>	<i>8.3</i>	----
State Street Global Advisors	8.1	10.2	\$1,185,482,056
<i>SSgA Shadow Index</i>	<i>8.2</i>	<i>9.5</i>	----
State Street Global Advisors S&P Conservative Index	8.0	14.0	\$133,051,646
<i>S&P 500</i>	<i>8.0</i>	<i>14.0</i>	----
Polen Capital Management Focus Growth	6.7	30.6	\$260,476,754
<i>Russell 1000 Growth</i>	<i>6.5</i>	<i>32.4</i>	----
William Blair Large Cap Growth	7.2	----	\$65,629,779
<i>Russell 1000 Growth</i>	<i>6.5</i>	<i>32.4</i>	----
Eagle Capital Management Equity	14.3	10.8	\$179,702,296
<i>Russell 1000 Value</i>	<i>12.0</i>	<i>-1.0</i>	----
<i>Russell 1000</i>	<i>9.1</i>	<i>16.1</i>	----
LSV Asset Management US Large Cap Value	13.9	-2.2	\$170,239,363
<i>Russell 1000 Value</i>	<i>12.0</i>	<i>-1.0</i>	----
State Street Global Advisors Russell 2000 Index Fund	20.9	10.4	\$168,089,950
<i>Russell 2000</i>	<i>20.9</i>	<i>10.4</i>	----
AMI Asset Management Small Cap Growth Equity	15.7	17.5	\$43,721,001
<i>Russell 2000 Growth</i>	<i>18.5</i>	<i>23.1</i>	----
Copeland Small Cap Dividend Growth	14.6	1.4	\$48,315,430
<i>Russell 2000 Growth</i>	<i>18.5</i>	<i>23.1</i>	----
Emerald Advisors Diversified Small Cap Growth	15.3	26.2	\$88,037,968
<i>Russell 2000 Growth</i>	<i>18.5</i>	<i>23.1</i>	----
LSV Asset Management US Small Cap Value Equity	22.3	-7.6	\$71,896,873
<i>Russell 2000 Value</i>	<i>23.6</i>	<i>-3.1</i>	----
Smith, Graham & Company Small Cap Value	20.5	6.5	\$84,002,957
<i>Russell 2000 Value</i>	<i>23.6</i>	<i>-3.1</i>	----
HGK Asset Management HGK International Equity	10.7	6.5	\$143,447,573
<i>S&P BMI Developed Ex US Index</i>	<i>11.2</i>	<i>5.3</i>	----
Hardman Johnston International Equity	14.5	27.8	\$161,588,395
<i>S&P BMI Developed Ex US Index</i>	<i>11.2</i>	<i>5.3</i>	----
State Street Global Advisors World Ex-US	10.8	3.4	\$180,170,959
<i>MSCI World Ex US</i>	<i>10.8</i>	<i>1.2</i>	----
State Street Global Advisors Emerging Markets Index	11.0	10.2	\$304,818,013
<i>Blended Emerging Markets Index</i>	<i>11.5</i>	<i>10.5</i>	----
Prudential PRISA SA	----	1.1	\$51,854,386
<i>NCREIF NFI-ODCE Index</i>	----	<i>-0.1</i>	----
Prudential PRISA II SA	----	-0.7	\$103,711,028
<i>NCREIF NFI-ODCE Index</i>	----	<i>-0.1</i>	----
TIAA CREF	----	1.9	\$203,630,435
<i>NCREIF NFI-ODCE Index</i>	----	<i>-0.1</i>	----
TIAA CREF 1721 North Front Street	----	3.7	\$2,329,743
<i>NCREIF Property Index</i>	----	<i>0.5</i>	----
Forest Investment Associates	----	-0.6	\$130,868,837
<i>NCREIF Timber Index</i>	----	<i>0.2</i>	----
State Street Global Advisors Bond Market	0.5	7.4	\$399,351,488
<i>Bloomberg Barclays Aggregate Index</i>	<i>0.5</i>	<i>7.4</i>	----
BNY Cash	----	----	\$4,581,343
STIP Cash	----	----	\$47,600,467

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM

ALLOCATIONS & TARGETS AS OF NOVEMBER 2020

Manager	Target	Market Value	%	+ / -	Market Value Ex-cash	%	+ / -
Total Portfolio		\$3,047,462,787	100%		\$3,047,462,787	100%	
Large Cap	25	809,099,839	26.5	1.5	797,196,994	26.2	1.2
Eagle		179,702,296	5.9		172,626,844	5.7	
Federated		1	0.0		0	0.0	
LSV Large Cap		170,239,363	5.6		169,719,799	5.6	
Polen		260,476,754	8.5		256,423,600	8.4	
SSgA S&P 500		133,051,646	4.4		133,051,646	4.4	
William Blair		65,629,779	2.2		65,375,105	2.1	
Small Cap	15	504,064,179	16.5	1.5	499,077,612	16.4	1.4
AMI		43,721,001	1.4		43,264,837	1.4	
Copeland		48,315,430	1.6		47,734,706	1.6	
Emerald		88,037,968	2.9		86,251,155	2.8	
LSV Small Cap		71,896,873	2.4		71,429,366	2.3	
Smith, Graham & Co		84,002,957	2.8		82,307,598	2.7	
SSgA Russell 2000		168,089,950	5.5		168,089,950	5.5	
International Equity	15	485,553,029	15.9	0.9	479,674,482	15.7	0.7
GlobeFlex		2,907	0.0		2,907	0.0	
HGK		143,447,573	4.7		138,660,205	4.6	
Jarislowsky Fraser		320,666	0.0		320,666	0.0	
Johnston		161,588,395	5.3		160,497,216	5.3	
Mercator		19,331	0.0		19,331	0.0	
SSgA International		180,170,959	5.9		180,170,959	5.9	
WHV		3,198	0.0		3,198	0.0	
Emerging Markets	10	304,818,013	10.0	0.0	304,818,013	10.0	0.0
SSgA Emerging Mkts		304,818,013	10.0		304,818,013	10.0	
Real Assets	20	492,394,429	16.2	-3.8	492,394,429	16.2	-3.8
Forest		130,868,837	4.3		130,868,837	4.3	
PRISA I		51,854,386	1.7		51,854,386	1.7	
PRISA II		103,711,028	3.4		103,711,028	3.4	
TIAA N. Front St.		2,329,743	0.1		2,329,743	0.1	
TIAA CREF		203,630,435	6.7		203,630,435	6.7	
Fixed Income	15	399,351,488	13.1	-1.9	399,351,488	13.1	-1.9
SSgA BC Aggregate		399,351,488	13.1		399,351,488	13.1	
Cash & Equivalents	0	52,181,810	1.7	1.7	74,949,769	2.5	2.5
BNY Cash		4,581,343	0.2		4,581,343	0.2	
STIP Cash		47,600,467	1.6		47,600,467	1.6	
Manager Cash		<i>n/a</i>	-		22,767,959	0.7	



Pennsylvania Municipal Retirement System

Monthly Performance Report

As of

December 31, 2020

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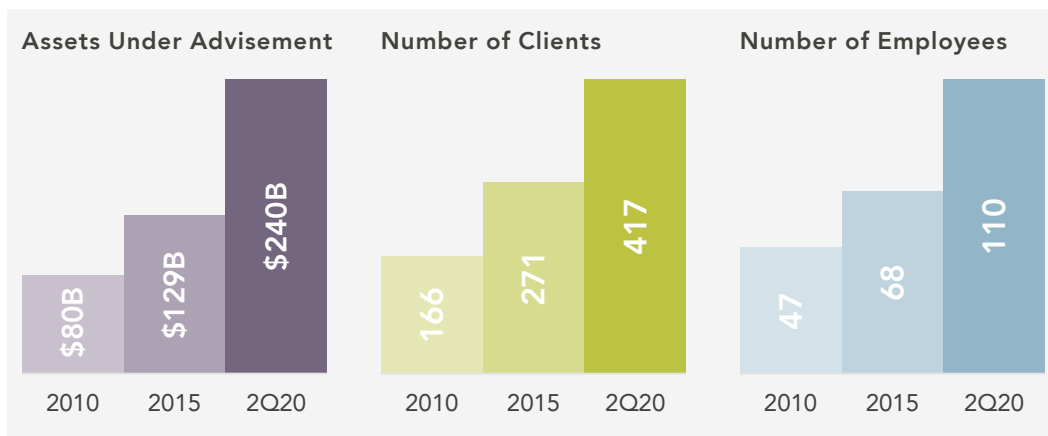
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I. Marquette Update



Marquette Update

4Q 2020



▶ Q3 Market Insights Video: October 22nd on YouTube

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RECENT HIRES

Patrick McDowell, CPA, CAIA
Senior Vice President,
OCIO Services

Will DuPree
Senior Research Analyst,
Real Assets

Lauren Ward
Client Analyst



RECENT NEW CLIENTS



Upcoming Videos



October 2020



4Q 2020

10 Years of OCIO Services

We are pleased to have reached an important milestone with our OCIO services, as we now have a ten-year performance track record. Marquette began providing outsourced chief investment officer (OCIO) services at the request of clients who wished to delegate decision-making authority for their investment program. Our firm's philosophy and approach are consistent across all of our clients, but OCIO clients enjoy efficient execution of investment decisions.

As a 100% independent investment consulting firm, we offer an open architecture investment program to all of our OCIO clients. In June 2020, Marquette was independently verified by ACA Performance Services that the OCIO composites created meet the constitution requirements of the Global Investment Performance Standards (GIPS®) on a firm-wide basis for the periods from July 1, 2013 through December 31, 2019.²



OCIO CLIENTS¹

56



OCIO AUA

\$8.9b

Marquette's Ongoing Response to the Pandemic

Excerpt from our recent [client update letter](#) from Brian Wrubel, President & CEO

Our world and daily routines have been turned upside-down by COVID-19, but Marquette has adapted well. We have been working remotely since the middle of March, and I am immensely proud of the smooth transition we have made to remote work. Marquette has made sure all our employees have resources they need to effectively work from home, and I have been pleasantly surprised by just how productive we can be in this environment. Despite all these changes, our commitment to client service, consistent performance, and meaningful research is unwavering.

All of our clients have been impacted by the pandemic in various ways. We understand and appreciate the challenges you all face and are deeply grateful for the trust you have shown in us. I look forward to the day when we can conduct client meetings in person, welcome you all back to our annual client symposium, and simply grab lunch. In the meantime, we continue to work diligently to help support our clients and their mission through this difficult time.

SPEAKING ENGAGEMENTS

- ▶ Chris Caparelli joining "Styles and Strategies to Mitigate Portfolio Risk" panel at Opal Group Endowment & Foundation Forum 2020 10/1
- ▶ Glenn Ross and Nat Kellogg presenting "Enterprise Risk Management Within Healthcare Systems" at HFMA Maryland Fall Conference 10/1
- ▶ Nichole Roman-Bhatty presenting "How Does Diversity Equal Better Performance?" at MAPS Conference 10/7
- ▶ Samantha Grant joining "Building Brand Awareness through Institutional Databases – Are Consultants Searching for Your Firm?" panel at NASP Manager & Consultant Retreat 10/8
- ▶ Samantha Grant joining "Diversity in Family Wealth: Hiring the Future Advisor" panel at Family Wealth Alliance Virtual 2020 Alliance Fall Forum 10/22
- ▶ Amy Miller hosting private equity discussion at GCM Grosvenor Small & Emerging Managers Conference 10/22
- ▶ Ben Mohr moderating "Re-thinking Asset Allocation in an Ultra-Low Yield Environment" panel at Institutional Investor's Redefining Fixed Income Forum 10/23
- ▶ Lee H. Martin joining "Assessing New Asset Classes in a Post COVID World" panel at Florida Public Pension Trustees Association's PIVOT 2020: Challenge & Change Virtual Summit 10/26
- ▶ Nat Kellogg joining "Benefits of Controlling Volatility for Equity Factor Strategies" panel at Midwest Institutional Forum hosted by MarketsGroup 11/3
- ▶ Ben Mohr joining "Fixed Income Risks" panel at Ohio Institutional Forum hosted by Markets Group 12/3

¹ Firm and client statistics as of June 30, 2020.

² Marquette claims compliance with the Global Investment Performance Standards (GIPS®). For more information on obtaining Marquette's composite presentations, please email marquettemarketing@marquetteassociates.com. GIPS® is a registered trademark owned by CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

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Marquette is an independent investment adviser registered under the Investment Advisers Act of 1940, as amended. Registration does not imply a certain level of skill or training. More information about Marquette including our investment strategies, fees and objectives can be found in our ADV Part 2, which is available upon request.

II. Market Environment



U.S. Equity Returns

	Qtr	YTD	1 Yr
S&P 500	12.1%	18.4%	18.4%
Russell 3000	14.7%	20.9%	20.9%
NASDAQ	15.6%	44.9%	44.9%
Dow Jones	10.7%	9.7%	9.7%

Non-U.S. Equity Returns

	Qtr	YTD	1 Yr
ACWI	14.7%	16.3%	16.3%
ACWI ex. US	17.0%	10.7%	10.7%
EAFE Index	16.0%	7.8%	7.8%
EAFE Local	11.4%	0.8%	0.8%
EAFE Growth	13.1%	18.3%	18.3%
EAFE Value	19.2%	-2.6%	-2.6%
EAFE Small Cap	17.3%	12.3%	12.3%
Emerging Markets	19.7%	18.3%	18.3%
EM Small Cap	22.2%	19.3%	19.3%

Regional Returns

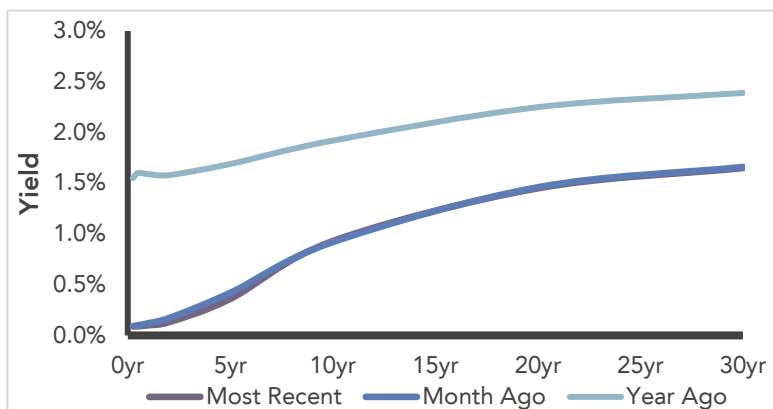
	Qtr	YTD	1 Yr
Europe	15.8%	4.7%	4.7%
Asia ex-Japan	18.6%	25.0%	25.0%
EM Latin America	34.8%	-13.8%	-13.8%
U.K.	16.9%	-10.5%	-10.5%
Germany	11.5%	11.5%	11.5%
France	20.4%	4.1%	4.1%
Japan	15.3%	14.5%	14.5%
China	11.2%	29.5%	29.5%
Brazil	37.0%	-19.0%	-19.0%
India	21.0%	15.6%	15.6%

Real Estate Returns*

	Qtr	YTD	1 Yr
NCREIF NPI National	0.7%	0.5%	2.0%
FTSE NAREIT	1.5%	-13.8%	-13.3%

*Returns as of September 2020

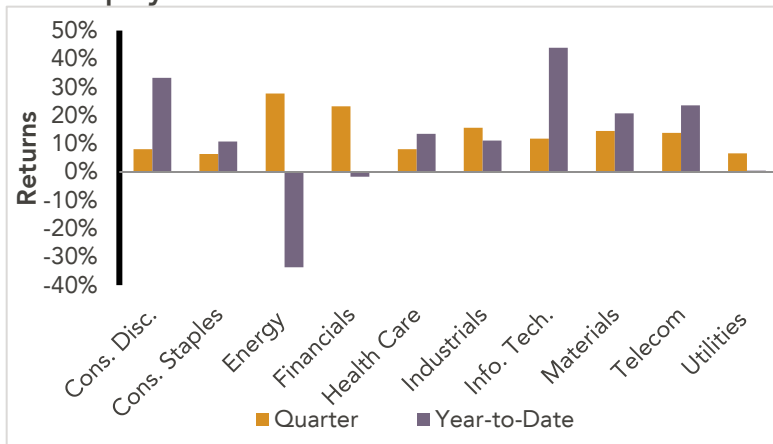
Yield Curve



Style Index Returns

	Quarter			Year-to-Date		
	Value	Core	Growth	Value	Core	Growth
Large	16.3%	13.7%	11.4%	2.8%	21.0%	38.5%
Mid	20.4%	19.9%	19.0%	5.0%	17.1%	35.6%
Small	33.4%	31.4%	29.6%	4.6%	20.0%	34.6%

U.S. Equity Sector Returns



Fixed Income Returns

	Qtr	YTD	1 Yr
Aggregate	0.7%	7.5%	7.5%
Universal	1.3%	7.6%	7.6%
Government	-0.8%	7.9%	7.9%
Treasury	-0.8%	8.0%	8.0%
Long Gov/Credit	1.7%	16.1%	16.1%
TIPS	1.6%	11.0%	11.0%
Municipal 5 Year	0.8%	4.3%	4.3%
High Yield	6.5%	7.1%	7.1%
Bank Loans	3.6%	2.8%	2.8%
Global Hedged	0.9%	5.6%	5.6%
EM Debt Hard Currency	5.8%	5.3%	5.3%

Hedge Fund Returns

	Qtr	YTD	1 Yr
HFRX Fund Weighted	4.9%	6.6%	6.6%
Hedged Equity	7.3%	4.2%	4.2%
Event Driven	4.0%	8.7%	8.7%
Macro	4.1%	4.2%	4.2%
Relative Value	3.6%	7.5%	7.5%
CBOE PutWrite	8.0%	2.1%	2.1%

Commodity Returns

	Qtr	YTD	1 Yr
GSCI Total	14.5%	-23.7%	-23.7%
Precious Metals	2.4%	25.6%	25.6%
Livestock	2.4%	-23.4%	-23.4%
Industrial Metals	14.2%	16.3%	16.3%
Energy	2.2%	-42.7%	-42.7%
Agriculture	21.4%	16.5%	16.5%
WTI Crude Oil	18.2%	-50.7%	-50.7%
Gold	-0.4%	20.9%	20.9%

III. Portfolio Review



Observations

- Market Value as of December 31, 2020 was \$3.2 billion
- Q4-20 Return: Total Fund 12.9% (net) vs. Policy Index 12.0%; investment gain of \$418 million
- 1 Year Return: Total Fund 14.4% (net) vs. Policy Index 12.2%; investment gain of \$448 million
- 5 Year Return: Total Fund 11.3% (net) vs. Policy Index 9.9%; investment gain of \$1.4 billion
- Contributors Q4-20 Performance:
 - Overweight to Equities
 - Higher Beta portfolio
 - Value positions in U.S. Large Cap Equities
 - Developed Non-U.S. Equities
- Detractors Q4-20 Performance
 - U.S. Large Cap Growth
 - U.S. Small Cap positions
- Estimated Annual Investment Management Expenses: 0.38%

Looking Ahead

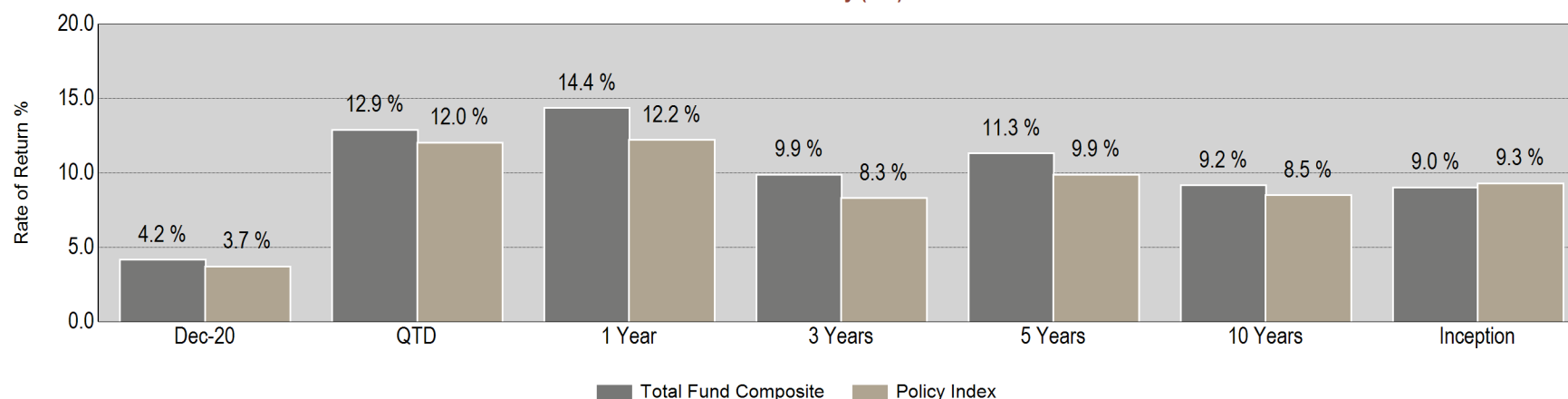
- Rebalance back to Asset Class Targets
- Investment Policy Statement Rewrite
- Asset Allocation Study Review (two stage)
- Fiduciary Education for potential new Asset Classes
- Upcoming Investment Manager Searches

As of December 31, 2020

Summary of Cash Flows

	Last Month	Quarter-To-Date	One Year	Three Years	Five Years	Ten Years
Beginning Market Value	\$3,069,399,740	\$2,767,435,444	\$2,800,814,336	\$2,500,352,133	\$1,996,572,502	\$1,537,565,751
Net Cash Flow	-\$62	\$12,216,014	-\$51,011,771	-\$138,547,861	-\$195,629,901	-\$333,767,313
Net Investment Change	\$128,483,478	\$418,231,698	\$448,080,591	\$836,078,884	\$1,396,940,556	\$1,994,084,718
Ending Market Value	\$3,197,883,156	\$3,197,883,156	\$3,197,883,156	\$3,197,883,156	\$3,197,883,156	\$3,197,883,156

Return Summary (Net)



Asset Allocation vs. Target

	Current	Policy	Difference*
U.S. Equity	43.4%	40.0%	\$108,918,455
Non-U.S. Equity	16.0%	15.0%	\$32,884,047
Emerging Markets	10.2%	10.0%	\$7,350,005
Real Assets	17.7%	20.0%	-\$74,779,425
U.S. Fixed Income	12.5%	15.0%	-\$79,740,883
Cash Equivalent	0.2%	0.0%	\$5,367,800
Total	100.0%	100.0%	

*Difference between Policy and Current Allocation

RISK RETURN STATISTICS
January 01, 2016 Through December 31, 2020

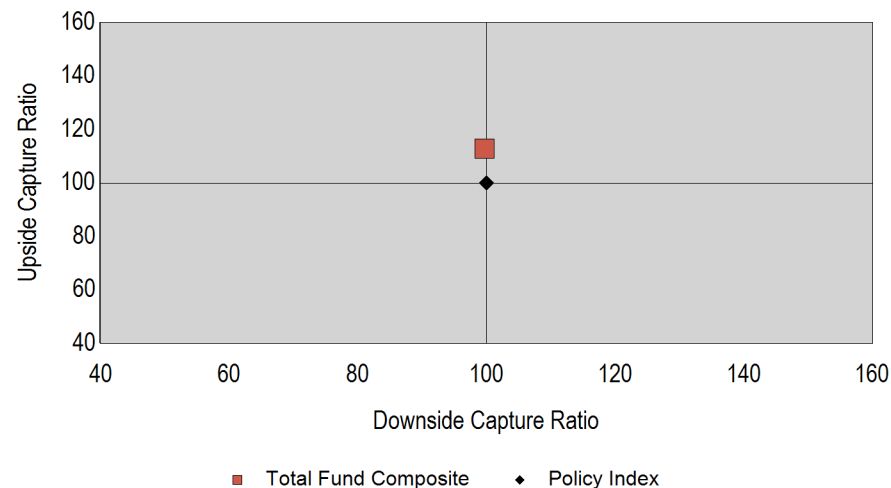
	Total Fund Composite	Policy Index
RETURN SUMMARY STATISTICS		
Number of Periods	20	20
Maximum Return	13.50	12.21
Minimum Return	-15.37	-14.88
Annualized Return	11.31	9.89
Total Return	70.91	60.21
Annualized Excess Return Over Risk Free	10.18	8.75
Annualized Excess Return	1.43	0.00

	Total Fund Composite	Policy Index
RISK SUMMARY STATISTICS		
Beta	1.07	1.00
Upside Deviation	7.85	7.13
Downside Deviation	15.25	14.65

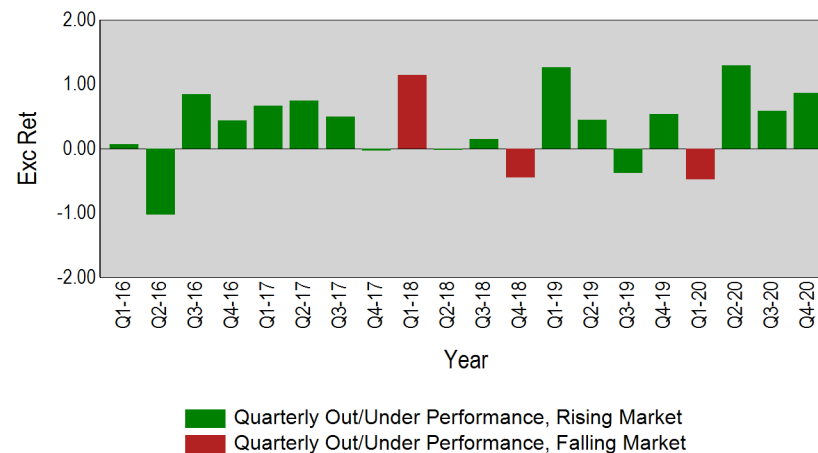
	Total Fund Composite	Policy Index
RISK/RETURN SUMMARY STATISTICS		
Annualized Standard Deviation	13.01	12.17
Alpha	0.19	0.00
Sharpe Ratio	0.78	0.72
Excess Return Over Market / Risk	0.11	0.00
Tracking Error	1.25	0.00
Information Ratio	1.15	--

	Total Fund Composite	Policy Index
CORRELATION STATISTICS		
R-Squared	0.99	1.00
Correlation	1.00	1.00

Upside Capture Ratio vs. Downside Capture Ratio
5 Years Ending December 31, 2020



Quarterly Excess Performance
Total Fund Composite vs. Policy Index



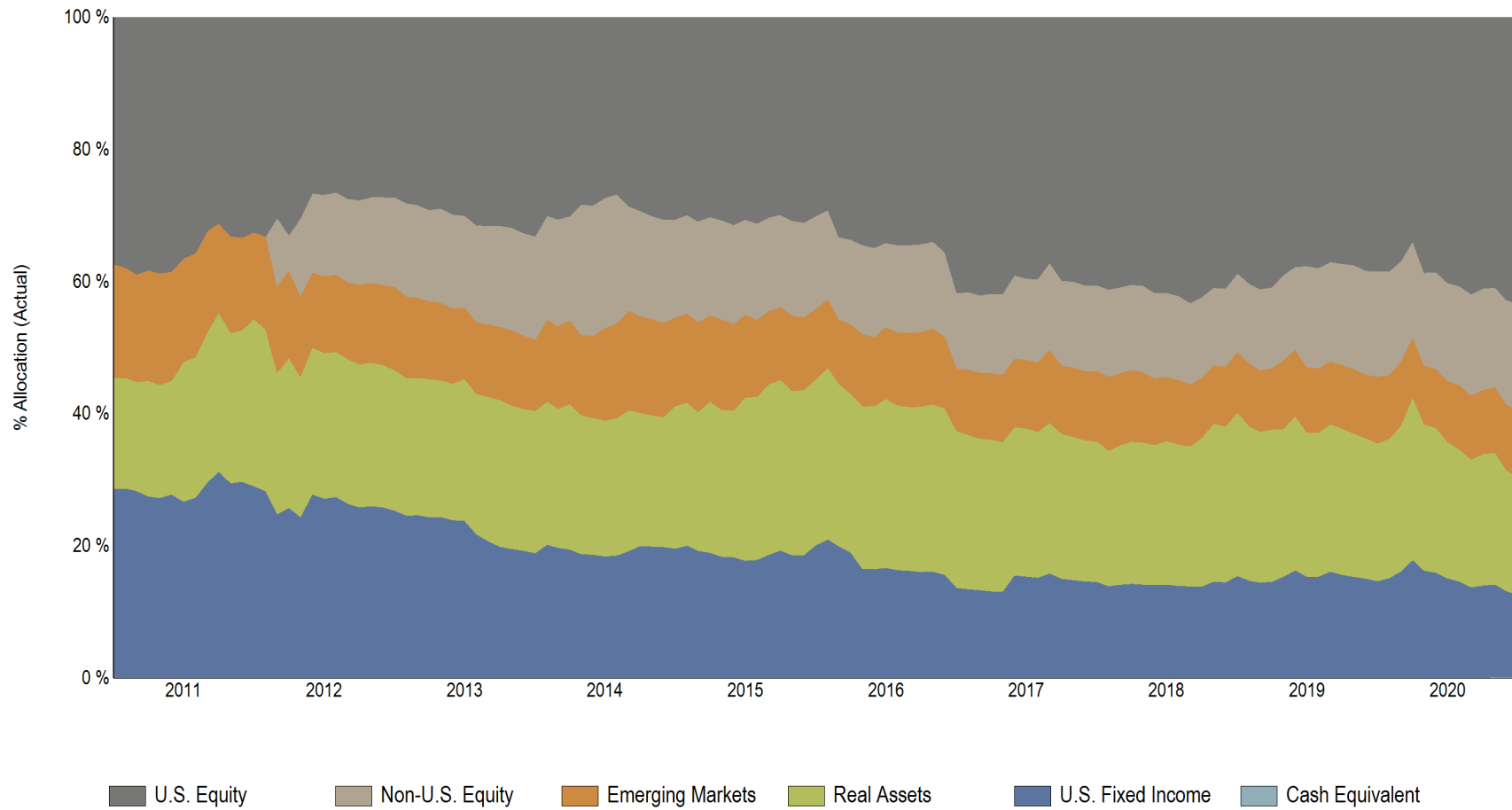
Pennsylvania Municipal Retirement System

Asset Allocation Summary

As of December 31, 2020

	Market Value	% of Portfolio	Policy %	Policy Difference
Total Fund Composite	3,197,883,156	100.0	100.0	0.0
Total Equity Composite	2,227,776,559	69.7	65.0	4.7
U.S. Equity Composite	1,388,071,718	43.4	40.0	3.4
Large Cap U.S. Equity Composite	841,199,603	26.3	25.0	1.3
Eagle Asset Mgmt	187,492,599	5.9		
LSV Large Cap Value	177,886,570	5.6		
SSGA S&P 500	138,153,423	4.3		
Polen Focus Growth	268,937,017	8.4		
William & Blair Large Cap Growth	68,729,994	2.1		
Small Cap U.S. Equity Composite	546,872,115	17.1	15.0	2.1
LSV Small Cap Value	77,491,991	2.4		
Smith, Graham & Co Small Cap Value	90,353,847	2.8		
SSGA Russell 2000	182,632,053	5.7		
Copeland Small Cap Dividend Growth	51,068,311	1.6		
AMI Small Cap Growth	48,579,801	1.5		
Emerald Small Cap Growth	96,746,112	3.0		
Non-U.S. Equity Composite	839,704,842	26.3	25.0	1.3
Developed Non-U.S. Equity Composite	512,566,521	16.0	15.0	1.0
SSGA MSCI World ex US	188,392,327	5.9		
Hardman Johnston Int'l Equity	172,918,927	5.4		
HGK Int'l Equity	151,255,266	4.7		
Emerging Markets Composite	327,138,321	10.2	10.0	0.2
SSGA MSCI Emerging Markets Index	327,138,321	10.2		
Real Assets Composite	564,797,206	17.7	20.0	-2.3
Forest Investment Associates	130,626,418	4.1		
PRISA LP	52,632,202	1.6		
PRISA II	105,308,178	3.3		
PennMuni-Nuveen U.S. Real Estate Fund	274,011,000	8.6		
N. Front Street (Nuveen)	2,219,409	0.1		
Total Fixed Income Composite	399,941,590	12.5	15.0	-2.5
SSGA US Aggregate Bond Index	399,941,590	12.5		
Cash Composite	5,367,800	0.2	0.0	0.2
Cash Management	5,367,800	0.2		

Asset Allocation History
10 Years Ending December 31, 2020



Pennsylvania Municipal Retirement System

Annualized Performance (Net)

As of December 31, 2020

	1 Mo	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception Date
Total Fund Composite	4.2	12.9	14.4	9.9	11.3	9.2	9.0	Jan-86
<i>Policy Index</i>	3.7	12.0	12.2	8.3	9.9	8.5	9.3	Jan-86
Total Equity Composite	5.9	19.2	--	--	--	--	19.2	Oct-20
<i>MSCI ACWI IMI Net USD</i>	5.0	15.7	--	--	--	--	15.7	Oct-20
U.S. Equity Composite	5.7	19.7	19.9	14.4	15.3	12.9	9.3	Jan-06
<i>Russell 3000</i>	4.5	14.7	20.9	14.5	15.4	13.8	10.0	Jan-06
Large Cap U.S. Equity Composite	3.9	14.3	20.5	16.9	16.6	14.7	11.3	Jan-86
<i>S&P 500</i>	3.8	12.1	18.4	14.2	15.2	13.9	11.1	Jan-86
Eagle Asset Mgmt	4.3	18.9	14.5	13.1	--	--	17.7	Feb-16
<i>Russell 1000 Value</i>	3.8	16.3	2.8	6.1	--	--	11.1	Feb-16
LSV Large Cap Value	4.5	18.9	1.7	4.0	9.2	10.6	8.1	Apr-04
<i>Russell 1000 Value</i>	3.8	16.3	2.8	6.1	9.7	10.5	7.8	Apr-04
SSGA S&P 500	3.8	12.1	18.3	14.1	15.1	13.8	8.8	Feb-97
<i>S&P 500</i>	3.8	12.1	18.4	14.2	15.2	13.9	8.8	Feb-97
Polen Focus Growth	3.2	10.0	34.3	26.4	21.1	18.0	18.7	Oct-10
<i>Russell 1000 Growth</i>	4.6	11.4	38.5	23.0	21.0	17.2	18.0	Oct-10
William & Blair Large Cap Growth	4.7	12.1	--	--	--	--	28.6	Jun-20
<i>Russell 1000 Growth</i>	4.6	11.4	--	--	--	--	31.6	Jun-20
Small Cap U.S. Equity Composite	8.5	28.9	16.6	9.0	12.6	10.9	10.7	Jan-93
<i>Russell 2000</i>	8.7	31.4	20.0	10.2	13.3	11.2	9.6	Jan-93
LSV Small Cap Value	7.7	31.6	-1.0	1.0	--	--	3.4	Dec-16
<i>Russell 2000 Value</i>	7.9	33.4	4.6	3.7	--	--	5.7	Dec-16
Smith, Graham & Co Small Cap Value	7.5	29.4	13.7	6.7	--	--	7.5	Dec-16
<i>Russell 2000 Value</i>	7.9	33.4	4.6	3.7	--	--	5.7	Dec-16
SSGA Russell 2000	8.6	31.3	19.9	10.2	13.3	11.2	8.8	Mar-97
<i>Russell 2000</i>	8.7	31.4	20.0	10.2	13.3	11.2	8.8	Mar-97
Copeland Small Cap Dividend Growth	6.0	21.1	6.8	9.7	--	--	10.3	Sep-17
<i>Russell 2000</i>	8.7	31.4	20.0	10.2	--	--	10.5	Sep-17
AMI Small Cap Growth	11.1	28.3	29.5	8.7	--	--	10.3	Sep-17
<i>Russell 2000 Growth</i>	9.3	29.6	34.6	16.2	--	--	17.9	Sep-17
Emerald Small Cap Growth	9.9	26.7	38.0	17.3	17.7	16.0	12.0	Oct-98
<i>Russell 2000 Growth</i>	9.3	29.6	34.6	16.2	16.4	13.5	9.2	Oct-98

*Policy Index: 25% S&P 500, 15% Russell 2000, 15% MSCI EAFE, 10% MSCI Em Mrks, 20% NFI ODCE, 15% BBG Barc Agg

Pennsylvania Municipal Retirement System

Annualized Performance (Net)

As of December 31, 2020

	1 Mo	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception Date
Non-U.S Equity Composite	6.3	18.5	17.7	7.6	12.2	--	9.3	May-12
<i>MSCI ACWI ex USA IMI</i>	5.6	17.2	11.1	4.8	9.0	--	8.2	May-12
Developed Non-U.S. Equity Composite	5.6	18.2	17.5	8.8	11.7	7.7	8.2	Jan-93
<i>MSCI EAFE</i>	4.6	16.0	7.8	4.3	7.4	5.5	6.2	Jan-93
SSGA MSCI World ex US	4.6	15.9	8.0	4.6	8.0	--	6.7	Apr-12
<i>MSCI World ex USA</i>	4.5	15.8	7.6	4.2	7.6	--	6.3	Apr-12
Hardman Johnston Int'l Equity	7.0	22.2	35.8	16.0	17.1	--	12.3	Apr-12
<i>MSCI EAFE</i>	4.6	16.0	7.8	4.3	7.4	--	6.6	Apr-12
HGK Int'l Equity	5.4	16.5	11.4	6.6	10.1	--	9.9	Feb-12
<i>MSCI EAFE</i>	4.6	16.0	7.8	4.3	7.4	--	7.1	Feb-12
Emerging Markets Composite	7.3	19.1	18.2	6.0	12.8	3.5	9.4	Jan-09
<i>MSCI Emerging Markets</i>	7.4	19.7	18.3	6.2	12.8	3.6	9.7	Jan-09
SSGA MSCI Emerging Markets Index	7.3	19.1	18.2	6.1	12.8	3.5	9.3	Nov-08
<i>MSCI Emerging Markets</i>	7.4	19.7	18.3	6.2	12.8	3.6	9.5	Nov-08
Real Assets Composite	0.6	0.5	0.4	4.0	5.1	7.1	7.5	Apr-93
<i>NFI</i>	0.0	0.0	-0.7	3.6	5.0	8.8	--	Apr-93
Forest Investment Associates	0.6	0.4	-0.7	1.3	2.5	3.3	3.7	Mar-99
<i>NCREIF Timberland Property Index</i>	0.0	0.0	0.2	1.6	2.2	4.5	5.8	Mar-99
PRISA LP	1.5	1.5	1.8	4.9	5.8	9.5	6.2	Jan-86
<i>NFI</i>	0.0	0.0	-0.7	3.6	5.0	8.8	--	Jan-86
PRISA II	1.5	1.5	0.0	4.8	6.2	10.6	3.5	Jul-07
<i>NFI</i>	0.0	0.0	-0.7	3.6	5.0	8.8	4.2	Jul-07
PennMuni-Nuveen U.S. Real Estate Fund	0.0	0.0	1.9	6.2	7.3	9.9	5.1	Dec-08
<i>NFI</i>	0.0	0.0	-0.7	3.6	5.0	8.8	4.9	Dec-08
N. Front Street (Nuveen)	0.0	0.0	0.0	-0.8	--	--	-3.4	Mar-17
<i>Consumer Price Index</i>	0.1	0.1	1.4	1.9	--	--	1.8	Mar-17
Total Fixed Income Composite	0.1	0.7	7.6	5.4	4.5	3.9	6.4	Jan-86
<i>BBgBarc US Aggregate TR</i>	0.1	0.7	7.5	5.3	4.4	3.8	6.4	Jan-86
SSGA US Aggregate Bond Index	0.1	0.7	7.6	5.4	4.4	3.8	5.3	Apr-97
<i>BBgBarc US Aggregate TR</i>	0.1	0.7	7.5	5.3	4.4	3.8	5.3	Apr-97
Cash Composite								
Cash Management								

*PRISA LP & II estimated as of 12-31-20; Forest & PennMuni Nuveen RE valued as of 9-30-20; N. Front Street valued as of 12-31-19