

Pennsylvania Municipal Retirement System

Monthly Performance Report
As of September 30, 2021



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I. Marquette Update



Marquette Update

4Q 2021

\$338B

assets under advisement

99%

client retention rate

35th

year in business

125+

employees

23

full-time partners

11 years

avg. client tenure

Firm and client statistics as of June 30, 2021. Employees as of September 30, 2021. Client retention rate calculated 2011–2020.

UPCOMING SPEAKING ENGAGEMENTS

- ▶ Michael Shone and Pat Wing speaking at PA County Treasurer’s Association Conference 10/19
- ▶ Ben Mohr speaking at Markets Group Southeast Institutional Forum 10/20
- ▶ Brett Graffy speaking on “Managers’ Perspectives: Constructing a Granular Portfolio in Turbulent Times” panel at LPGP’s Private Debt Chicago Conference 10/27
- ▶ Linsey Schoemehl Payne hosting CIO Panel at Kayo Midwest Private Markets Forum 10/27
- ▶ Nichole Roman-Bhatty and Nicole Johnson-Barnes speaking on Racial Equity panel at RCRI Annual Conference 10/28
- ▶ David H. Smith moderating “529 & ABLE Investment Line-Up Trends and Outlook” panel at 529 Virtual Conference: Required market intelligence for 529 & ABLE 11/4

▶ Q3 2021 Market Insights Video: October 22nd on YouTube

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RECENT HIRES

Eva Kasarova
Senior Client Analyst
Kevin McDonnell, CPA
Asst. Vice President, OCIO Services

Carrie Casper
Associate Client Analyst,
OCIO Services

Colin Graeme
Private Client Analyst

Nic Solecki
Research Associate

Daniel Kim
Research Associate

Ayo Mefful
Performance Analyst

Joe Rohaly
Performance Analyst

Marc Morrison
Performance Analyst

Andrew Taylor
Performance Analyst

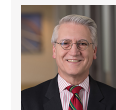
Kristine O’Brien
West Chester Office Manager



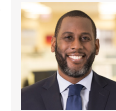
FIRM UPDATES

Institutional Investing Diversity Cooperative Update

The IIDC, of which Marquette is a founding member, announced in September that its 24 members will begin reporting individual firm diversity statistics using the same definitions and standards the IIDC set for traditional asset managers. Our goal is to help clients and the collective institutional investor industry understand diversity practices across all the critical vendors in their investment program using a consistent approach. Learn more and read the full press release at iidcoop.org.



Glenn Ross was named a 2021 Knowledge Broker by *CIO Magazine*



Kweku Obed joined CFA Society Chicago’s Board of Directors

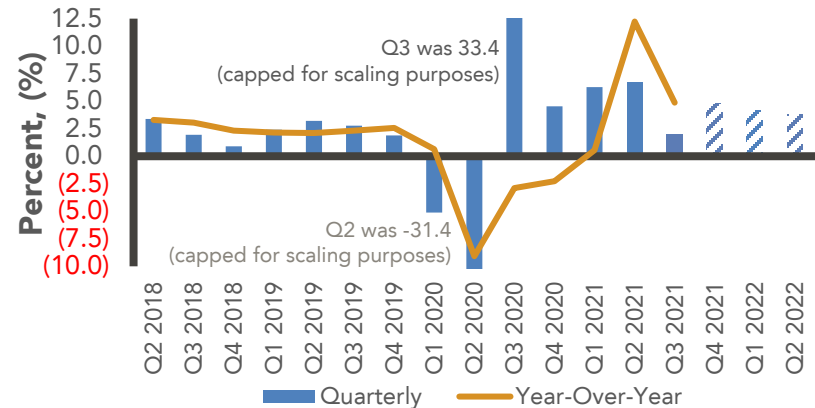
II. Market Environment



U.S. Economy

- Economic activity decelerated sharply in Q3, with real GDP growth of just 2.0%. The slowdown was largely driven by sluggish consumer spending, which increased at an annual rate of 1.6%—well below the 12.0% rate seen in Q2.
- Soft consumer spending was likely due in part to the expiration of expanded unemployment benefits in early September and supply bottlenecks. According to the ISM Manufacturers Survey, supplier deliveries slowed in Q3.
- Clearly, the economy is still grappling with persistent supply chain disruptions amid the pandemic. Many industries are operating with extremely low inventory-to-sales ratios relative to history.

U.S. Real GDP Growth



U.S. ISM Manufacturers Survey: Supplier Delivery Times

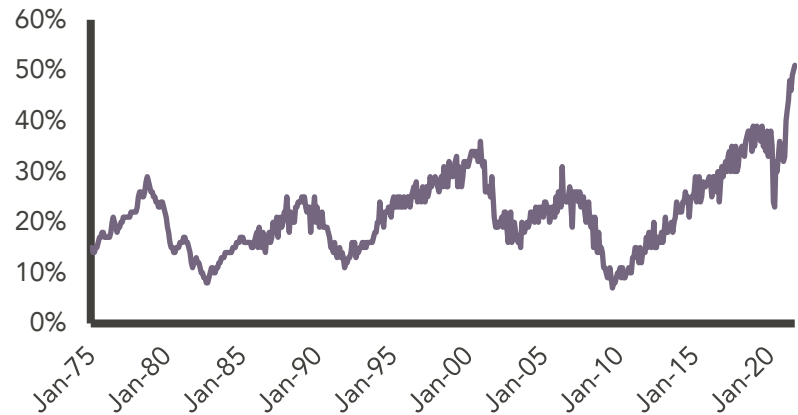


Sources: Refinitiv and The Wall Street Journal. Striped bars reflect estimates.

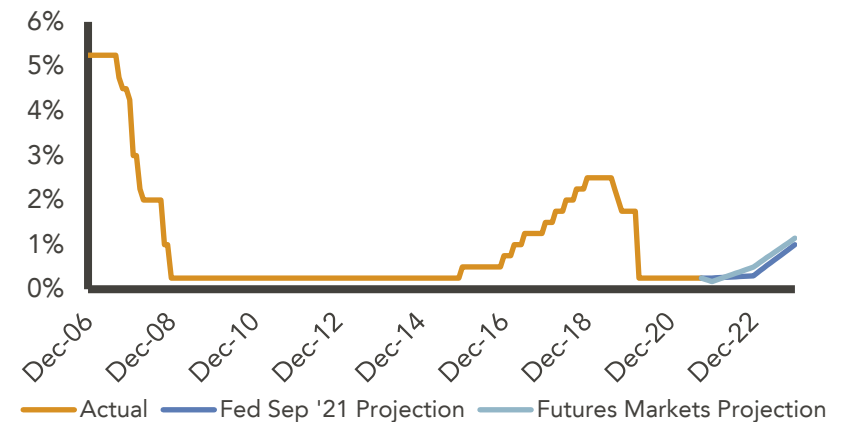
U.S. Economy

- Supply constraints also appear to be impacting the labor market. According to the NFIB Survey of small businesses, more than 50% of respondents indicated they have at least 1 or more hard to fill jobs—the highest level since at least the mid-1970s. This dynamic may lead to upward pressure on wages, as companies attempt to lure prospective employees with higher compensation.
- Supply-chain disruptions, a tight labor market, home price appreciation and recent commodity price gains will likely keep inflation elevated as the economy heads into 2022.
- Amid this backdrop, the Federal Reserve now anticipates raising rates at least once before the end of 2022 and multiple times in 2023 and 2024 to avoid the risk that recent price pressures lead to a meaningful increase in intermediate- and long-term inflation expectations.

U.S. NFIB Survey: % of Firms with 1 or More Hard to Fill Jobs



Short-Term Interest Rates



Sources: Refinitiv

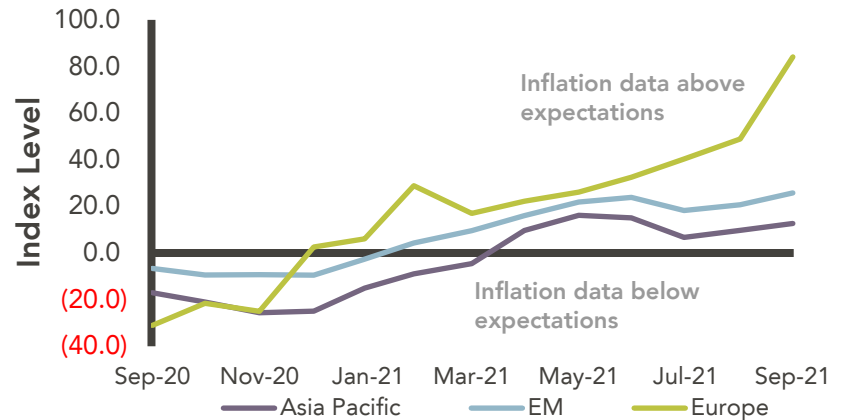
Global Economy

- Outside the U.S., similar dynamics are playing out across the global economy. Global economic growth slowed meaningfully, with data coming in below expectations, particularly in developed markets economies.
- According to the IMF, which recently released the October edition of its World Economic Outlook, the slowdown in developed market economies is due in part to supply disruptions, while developing market economies continue to grapple with worsening pandemic dynamics.
- Inflation is also coming in well above expectations outside the U.S., particularly in Europe. In most cases, rising inflation reflects supply chain issues and higher commodity prices.

Citigroup Economic Surprise Indices



Citigroup Inflation Surprise Indices

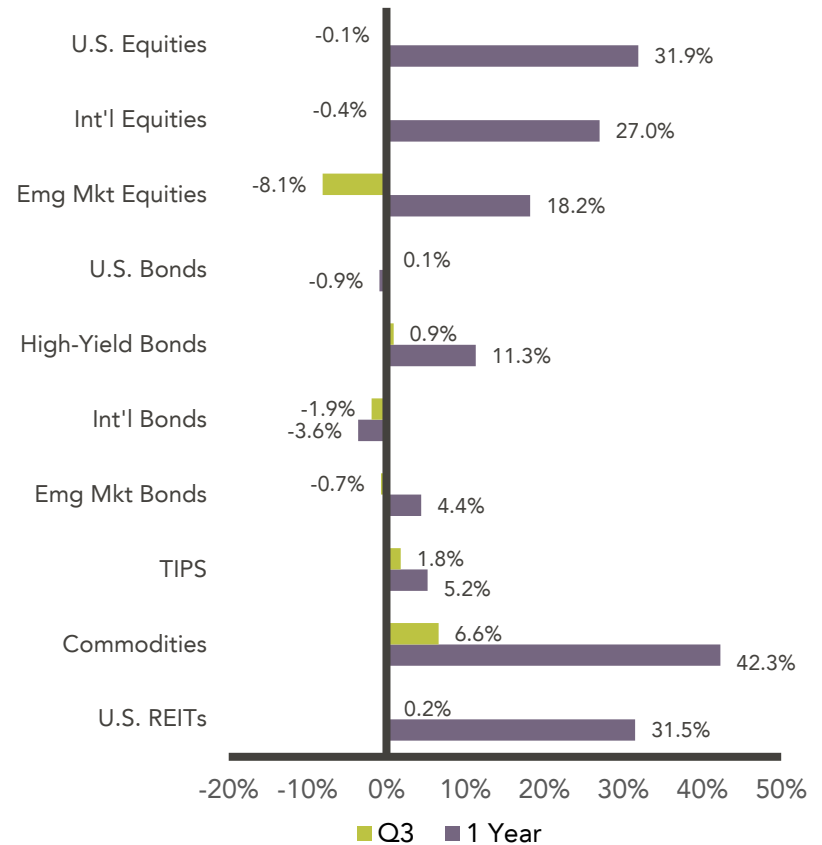


Source: Refinitiv

Global Asset Class Performance

- Global equities** ended Q3 slightly in the red. The headline numbers, however, mask a bit of intra-quarter volatility. More specifically, global equities returned 3.2% through August, before September saw those gains wiped out amid a slowing global economy. U.S. equities outperformed their international developed and emerging market counterparts. Emerging markets lagged, as Chinese equities declined sharply amid a regulatory crackdown on some of the largest tech-related companies and concerns over a potential default by a large property developer, Evergrande.
- Fixed income** returns were muted during Q3, with investment-grade bonds posting a return of 0.1%, as rates were little changed. Sub-investment grade debt outperformed, with high-yield bonds and bank loans both returning 0.9% and 1.1%, respectively, for the quarter.
- Inflation-sensitive assets** continued to outperform in Q3. TIPS outperformed nominal bonds amid rising inflation expectations, while commodities jumped 6.6%, despite the stronger dollar, amid surging energy prices. Finally, REITs finished just above the flat line, slightly outperforming broad equity markets.

Asset Class Returns: Select Asset Class Performance

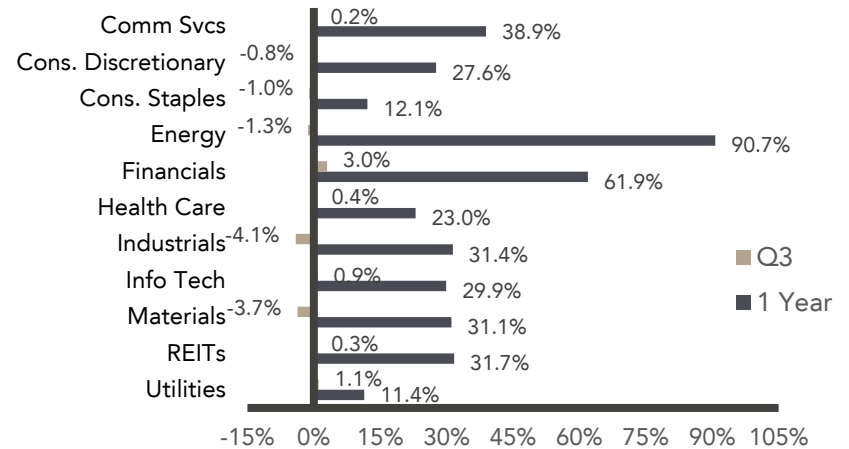


Source: Markov Processes International

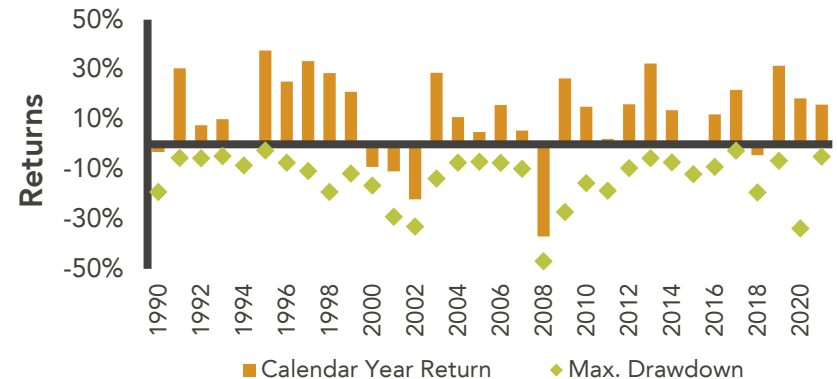
U.S. Equity Markets

- U.S. equity markets took a breather from their historic rally since the end of Q1 2020. Sector performance was mixed, with six sectors posting positive returns and five ending in the red. Financials (+3.0%) and Utilities (+1.1%) led the way, while Industrials (-4.1%) and Materials (-3.7%) lagged.
- Similar to Q2, growth stocks and large caps were best from a style and capitalization perspective, benefitting from the outperformance of Information Technology and Communications sectors. The two sectors, which account for approximately 35% of the broad equity market, are dominated by large-cap growth companies.
- While the end of Q3 saw market weakness, 2021 has experienced muted volatility. The largest drawdown for the S&P 500 Index this year is just 5%, which is about half the median calendar year drawdown over the last 30 years.

Sector Returns



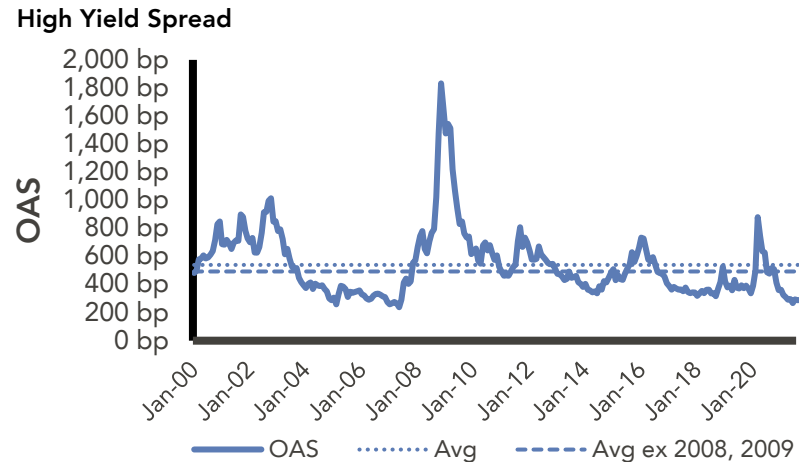
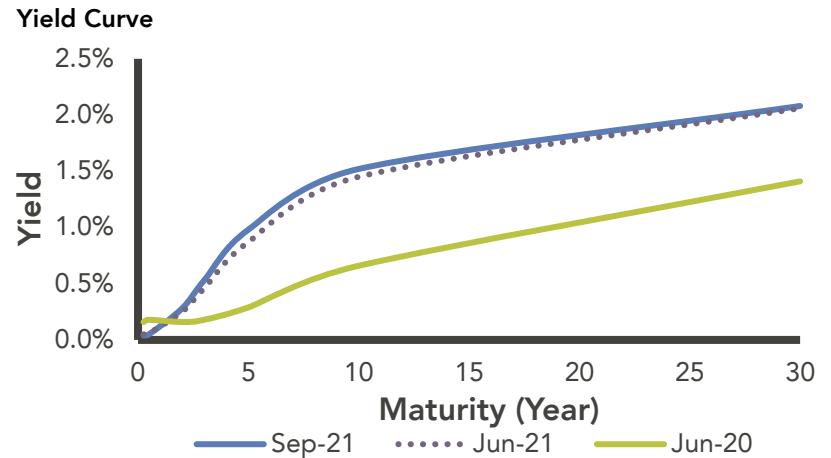
S&P 500 Calendar Year Returns and Drawdowns



Sources: FactSet and Refinitiv. SPY ETF used as a proxy for the S&P 500.

U.S. Fixed Income

- Interest rates rose modestly across the Treasury yield curve in Q3. Intermediate-term rates, particularly the 5- and 7-year notes, saw the largest increases.
- With the Federal Reserve likely to begin scaling back, or “tapering”, their regular asset purchases in the coming months, market participants will be closely watching how yields react to the policy change. In 2013, yields rose dramatically when policymakers announced the potential for reduced purchases, catching investors off guard. During the actual taper, however, yields were relatively stable.
- Sub-investment grade debt continued to outperform their investment-grade counterparts. High yield (+0.9%) and bank loan (+1.1%) posted gains despite a slight uptick in spreads. High yield spreads, for example, ended the quarter at 289 basis points—up from 268 at the end of Q2, but well below the long-term average of about 539 basis points.



Sources: Bloomberg Barclays and Refinitiv

Global Index Returns

DOMESTIC EQUITY	QTR	YTD	1 Year	3 Year	5 Year	10 Year
S&P 500 Index	0.6	15.9	30.0	16.0	16.9	16.6
Russell 3000 Index	(0.1)	15.0	31.9	16.0	16.9	16.6
Russell 3000 Growth Index	0.7	13.5	27.6	21.3	22.3	19.4
Russell 3000 Value Index	(0.9)	16.6	36.6	9.9	10.9	13.5
Russell TOP 200 Index	0.6	15.2	28.6	17.3	18.2	17.2
Russell TOP 200 Growth Index	1.6	15.4	26.8	22.7	23.9	20.4
Russell TOP 200 Value Index	(0.7)	15.0	31.3	9.9	11.1	13.3
Russell 1000 Index	0.2	15.2	31.0	16.4	17.1	16.8
Russell 1000 Growth Index	1.2	14.3	27.3	22.0	22.8	19.7
Russell 1000 Value Index	(0.8)	16.1	35.0	10.1	10.9	13.5
Russell Mid-Cap Index	(0.9)	15.2	38.1	14.2	14.4	15.5
Russell Mid-Cap Growth Index	(0.8)	9.6	30.5	19.1	19.3	17.5
Russell Mid-Cap Value Index	(1.0)	18.2	42.4	10.3	10.6	13.9
Russell 2000 Index	(4.4)	12.4	47.7	10.5	13.5	14.6
Russell 2000 Growth Index	(5.7)	2.8	33.3	11.7	15.3	15.7
Russell 2000 Value Index	(3.0)	22.9	63.9	8.6	11.0	13.2
DOMESTIC EQUITY BY SECTOR (MSCI)						
Communication Services	0.2	19.9	38.9	23.8	14.4	13.6
Consumer Discretionary	(0.8)	11.1	27.6	21.1	21.4	20.5
Consumer Staples	(1.0)	4.6	12.1	11.7	8.5	11.9
Energy	(1.3)	47.0	90.7	(7.4)	(2.0)	1.4
Financials	3.0	29.2	61.9	12.9	15.9	16.6
Health Care	0.4	11.7	23.0	12.9	15.0	17.7
Industrials	(4.1)	11.5	31.4	10.2	13.1	15.5
Information Technology	0.9	14.2	29.9	26.9	28.1	22.9
Materials	(3.7)	11.6	31.1	12.0	12.3	12.8
Real Estate	0.3	21.7	31.7	11.8	8.4	11.9
Utilities	1.1	3.8	11.4	9.1	8.9	10.7

Source: Markov Processes International

Global Index Returns

INTERNATIONAL/GLOBAL EQUITY	QTR	YTD	1 Year	3 Year	5 Year	10 Year
MSCI EAFE (Net)	(0.4)	8.3	25.7	7.6	8.8	8.1
MSCI EAFE Growth (Net)	0.1	6.9	20.9	11.9	11.4	10.1
MSCI EAFE Value (Net)	(1.0)	9.6	30.7	3.0	6.0	6.0
MSCI EAFE Small Cap (Net)	0.9	10.0	29.0	9.0	10.4	10.7
MSCI AC World Index (Net)	(1.1)	11.1	27.4	12.6	13.2	11.9
MSCI AC World Index Growth (Net)	(0.7)	9.5	23.8	18.3	17.8	14.7
MSCI AC World Index Value (Net)	(1.4)	12.6	31.3	6.5	8.4	8.9
MSCI Europe ex UK (Net)	(1.9)	9.5	26.1	9.6	10.2	9.2
MSCI United Kingdom (Net)	(0.3)	12.2	31.2	2.4	4.8	5.4
MSCI Pacific ex Japan (Net)	(4.4)	4.8	25.8	6.7	7.7	7.4
MSCI Japan (Net)	4.6	5.9	22.1	7.5	9.4	8.4
MSCI Emerging Markets (Net)	(8.1)	(1.2)	18.2	8.6	9.2	6.1

Source: Markov Processes International

Global Index Returns

FIXED INCOME						
Merrill Lynch 3-month T-Bill	0.0	0.0	0.1	1.2	1.2	0.6
Barclays Intermediate Gov't./Credit	0.0	(0.9)	(0.4)	4.6	2.6	2.5
Barclays Aggregate Bond	0.1	(1.6)	(0.9)	5.4	2.9	3.0
Barclays Short Government	0.0	0.1	0.1	2.0	1.5	1.0
Barclays Intermediate Government	0.0	(1.1)	(1.3)	4.0	2.0	1.8
Barclays Long Government	0.5	(7.4)	(10.1)	9.2	3.3	4.4
Barclays Investment Grade Corp.	0.0	(1.3)	1.7	7.4	4.6	4.9
Barclays High Yield Corp. Bond	0.9	4.5	11.3	6.9	6.5	7.4
JPMorgan Global ex US Bond	(1.9)	(7.9)	(3.6)	2.9	0.6	0.4
JPMorgan Emerging Market Bond	(0.7)	(1.4)	4.4	5.7	3.9	5.8
INFLATION SENSITIVE						
Consumer Price Index	1.0	5.3	5.4	2.8	2.6	1.9
BC TIPS	1.8	3.5	5.2	7.4	4.3	3.1
Commodities	6.6	29.1	42.3	6.9	4.5	(2.7)
Gold	(1.0)	(7.9)	(8.2)	12.1	4.7	(0.1)
REITs	0.2	21.6	31.5	11.7	8.4	12.1
FTSE EPRA/NAREIT Global REITs	(0.3)	17.0	33.0	6.3	4.0	8.3
NCREIF ODCE*	6.4	12.4	13.7	6.1	6.6	8.9
NCREIF Farmland**	1.5	2.3	5.0	4.8	5.5	10.2
NCREIF Timberland**	1.7	2.5	3.1	2.1	2.7	4.7

*Data are preliminary.

**Data are as of June 30, 2021.

Source: Markov Processes International

III. Portfolio Overview



Observations

- Market Value as of September 30, 2021 was \$3.4 billion.
- Third Qtr. '21 Return: Total Fund -0.4% (net) vs. Policy Index -0.1%; investment loss \$12.4 million.
- Contributors to Third Quarter '21 Performance:
 - Growth Equity Managers
 - Active Non-U.S. Equity Managers
 - Private Real Estate
- Detractors from Third Quarter '21 Performance:
 - U.S. Small Cap Equity Overweight
 - Overweight/Performance of Emerging Markets Equity
- Year-to-date Return: Total Fund 9.7% (net) vs. Policy Index 9.2%; ranking in 23rd percentile of peers; investment gain \$315 million.
- 1 Year Return: Total Fund 24.2% (net) vs. Policy Index 22.6%; ranking in 5th percentile of peers; investment gain \$684 million.
- 5 Year Return: Total Fund 11.9% (net) vs. Policy Index 10.3%; ranking in 8th percentile of peers; investment gain of \$1.48 billion.
- 5 Year Statistics: Beta: 1.06; Standard Deviation: 13.11 vs. Benchmark: 12.29.
- Estimated Annual Plan Investment Management Expenses: 0.41%.

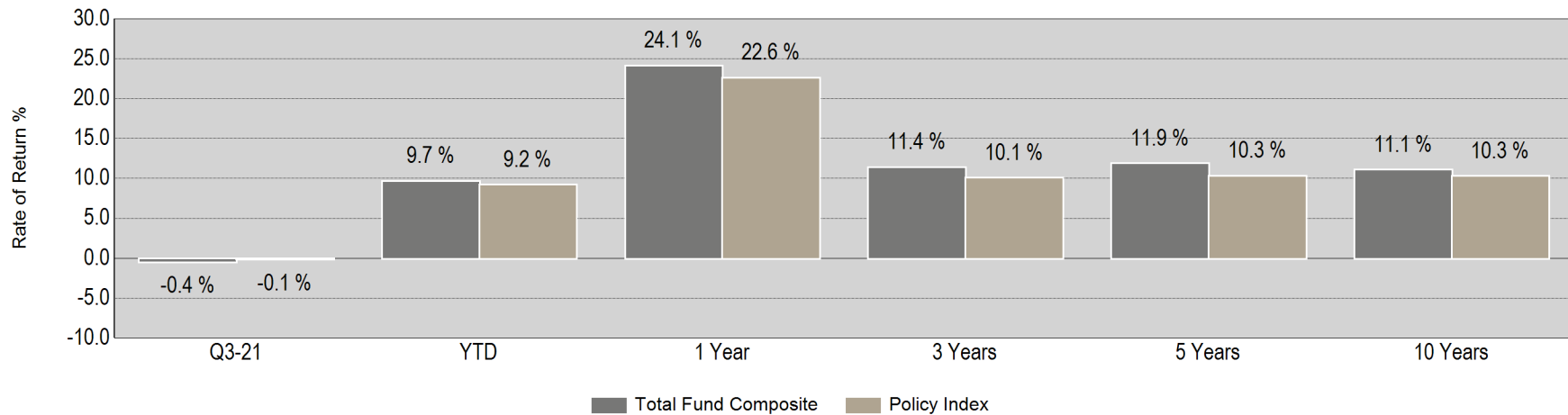
Looking Ahead

- Elect a Transition Manager for upcoming portfolio transition
- Outstanding Investment Manager Searches:
 - Fixed Income: Active Core Fixed Income (elect in 4Q 2021)
 - Opportunistic Credit (elect in 1Q 2022)

Summary of Cash Flows

	Third Quarter	Year-To-Date	One Year	Three Years	Five Years	Ten Years
Beginning Market Value	\$3,459,809,786	\$3,175,810,695	\$2,767,248,105	\$2,587,454,938	\$2,106,015,304	\$1,397,051,358
Net Cash Flow	-\$27,133,755	-\$70,132,919	-\$31,156,948	-\$107,939,494	-\$162,664,556	-\$267,664,576
Net Investment Change	-\$12,432,573	\$314,565,681	\$684,152,301	\$940,728,014	\$1,476,892,711	\$2,290,856,676
Ending Market Value	\$3,420,243,458	\$3,420,243,458	\$3,420,243,458	\$3,420,243,458	\$3,420,243,458	\$3,420,243,458

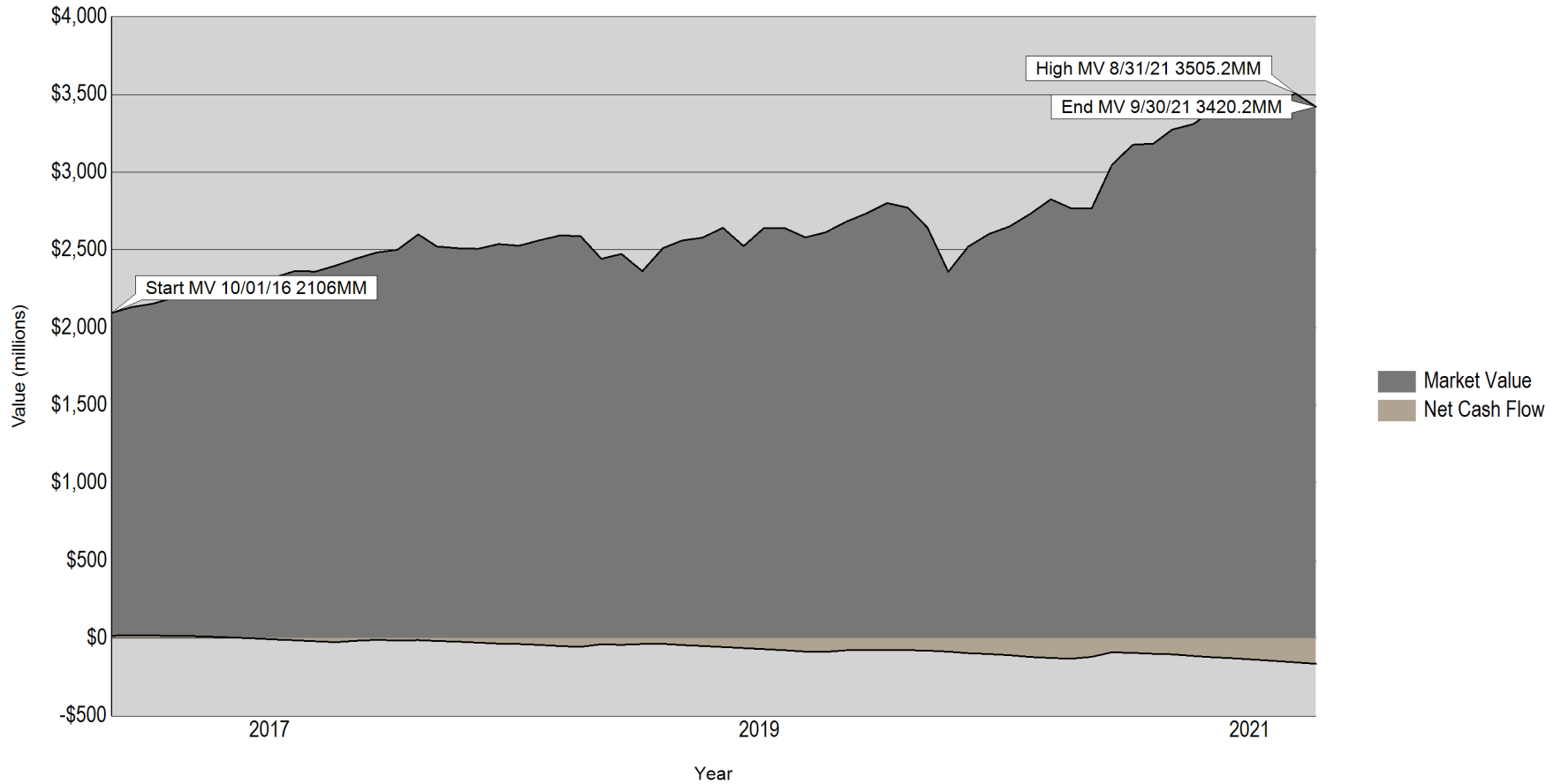
Return Summary (Net)



Asset Allocation vs. Target

	Current	Policy
U.S. Equity	42.0%	40.0%
Non-U.S. Equity	15.2%	15.0%
Emerging Markets	8.7%	10.0%
Real Assets	15.4%	20.0%
U.S. Fixed Income	18.6%	15.0%
Cash Equivalent	0.2%	0.0%
Total	100.0%	100.0%

Market Value History



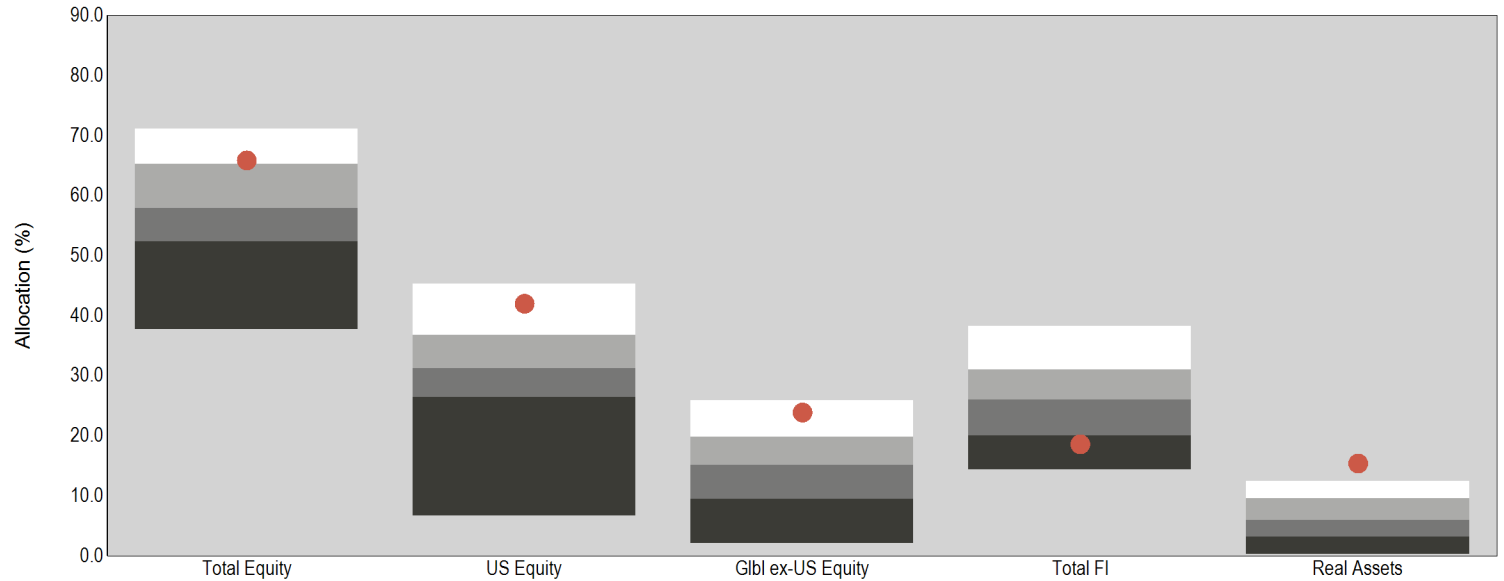
Pennsylvania Municipal Retirement System

Asset Allocation Summary

As of September 30, 2021

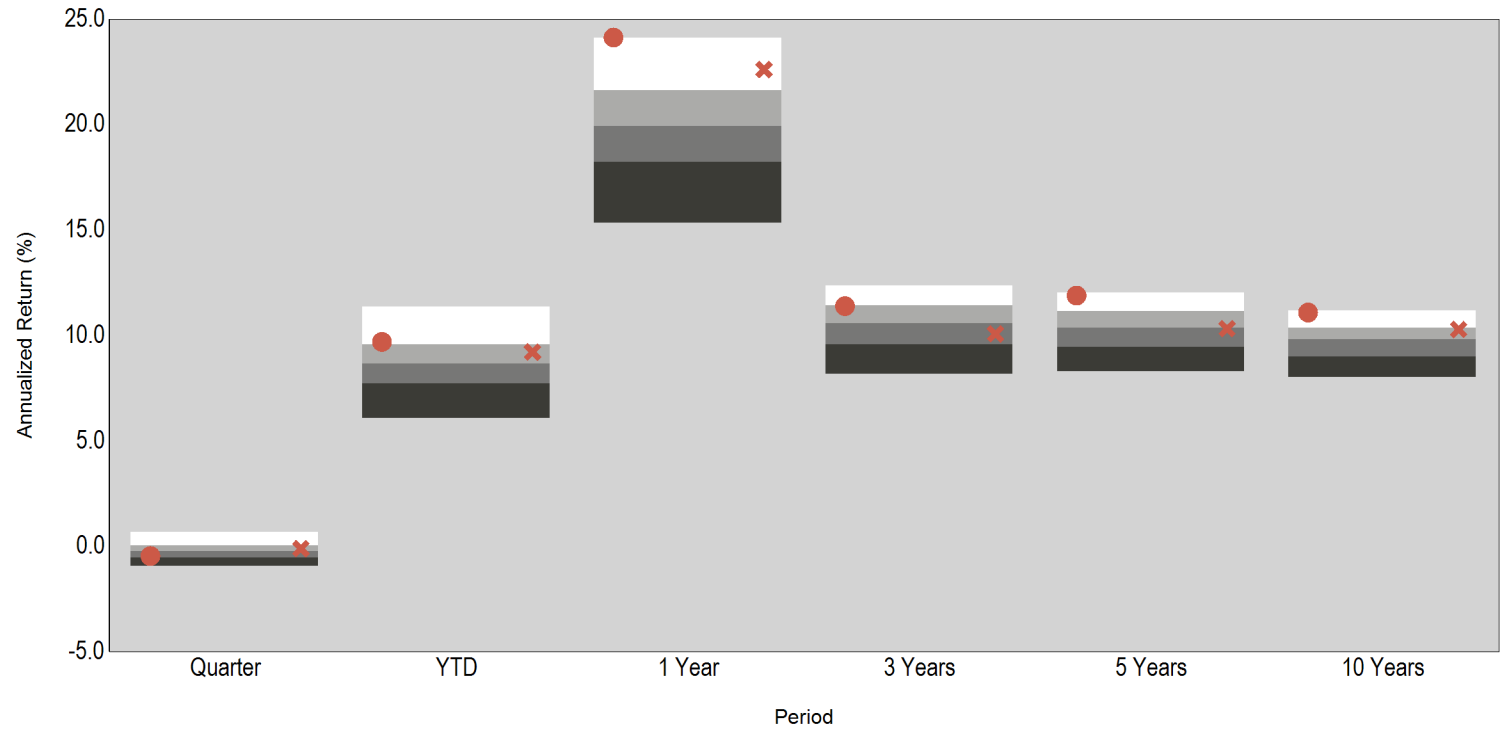
	Market Value	% of Portfolio	Policy %	Policy Difference
Total Fund Composite	3,420,243,458	100.0	100.0	0
Total Equity Composite	2,253,075,279	65.9	65.0	29,917,031
U.S. Equity Composite	1,436,441,019	42.0	40.0	68,343,636
Large Cap U.S. Equity Composite	925,980,761	27.1	25.0	70,919,897
Eagle Asset Mgmt	232,034,407	6.8		
LSV Large Cap Value	212,975,945	6.2		
SSGA S&P 500	116,743,448	3.4		
Polen Focus Growth	284,800,867	8.3		
William & Blair Large Cap Growth	79,426,093	2.3		
Small Cap U.S. Equity Composite	510,460,258	14.9	15.0	-2,576,261
LSV Small Cap Value	95,167,086	2.8		
Smith, Graham & Co Small Cap Value	96,392,522	2.8		
SSGA Russell 2000	113,641,830	3.3		
Copeland Small Cap Dividend Growth	59,653,908	1.7		
AMI Small Cap Growth	54,775,564	1.6		
Emerald Small Cap Growth	90,829,348	2.7		
Non-U.S. Equity Composite	816,634,260	23.9	25.0	-38,426,604
Developed Non-U.S. Equity Composite	519,705,691	15.2	15.0	6,669,173
SSGA MSCI World ex US	167,824,227	4.9		
Hardman Johnston Int'l Equity	181,761,090	5.3		
HGK Int'l Equity	169,784,372	5.0		
Emerging Markets Composite	296,928,569	8.7	10.0	-45,095,777
SSGA MSCI Emerging Markets Index	296,928,569	8.7		
Real Assets Composite	526,175,321	15.4	20.0	-157,873,371
Forest Investment Associates	135,428,835	4.0		
PRISA LP	59,619,890	1.7		
PRISA II	120,417,196	3.5		
PennMuni-Nuveen U.S. Real Estate Fund	208,608,924	6.1		
N. Front Street (Nuveen)	2,100,476	0.1		
Total Fixed Income Composite	635,539,355	18.6	15.0	122,502,836
SSGA US Aggregate Bond Index	635,539,355	18.6		
Cash Composite	5,453,504	0.2	0.0	5,453,504
Cash Management	5,453,504	0.2		

Total Plan Allocation vs. InvMetrics Public DB Net
As of September 30, 2021



	Allocation (Rank)									
5th Percentile	71.1		45.3		25.9		38.3		12.4	
25th Percentile	65.2		36.8		19.9		31.0		9.6	
Median	57.9		31.2		15.2		26.0		6.0	
75th Percentile	52.4		26.4		9.4		20.0		3.2	
95th Percentile	37.7		6.7		2.1		14.4		0.3	
# of Portfolios	197		116		151		194		53	
● Total Fund Composite	65.9	(19)	42.0	(10)	23.9	(8)	18.6	(84)	15.4	(1)

InvMetrics Public DB Net Return Comparison



Return (Rank)

5th Percentile	0.7	11.4	24.1	12.4	12.0	11.2
25th Percentile	0.1	9.6	21.6	11.4	11.1	10.4
Median	-0.2	8.7	19.9	10.6	10.4	9.8
75th Percentile	-0.5	7.7	18.2	9.6	9.5	9.0
95th Percentile	-0.9	6.1	15.4	8.2	8.3	8.0
# of Portfolios	488	484	483	471	454	381
● Total Fund Composite	-0.4 (68)	9.7 (23)	24.1 (5)	11.4 (26)	11.9 (8)	11.1 (8)
▲ Policy Index	-0.1 (39)	9.2 (33)	22.6 (17)	10.1 (62)	10.3 (51)	10.3 (28)

As of September 30, 2021

RISK RETURN STATISTICS
October 01, 2016 Through September 30, 2021

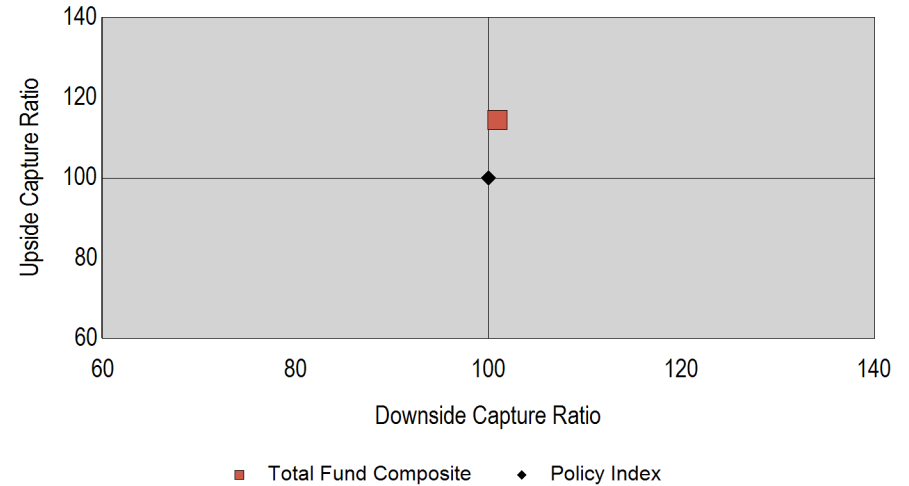
	Total Fund Composite	Policy Index
RETURN SUMMARY STATISTICS		
Number of Periods	20	20
Maximum Return	13.50	12.26
Minimum Return	-15.37	-14.88
Annualized Return	11.90	10.33
Total Return	75.43	63.46
Annualized Excess Return Over Risk Free	10.80	9.23
Annualized Excess Return	1.57	0.00

	Total Fund Composite	Policy Index
RISK SUMMARY STATISTICS		
Beta	1.06	1.00
Upside Deviation	7.57	7.04
Downside Deviation	14.70	14.33

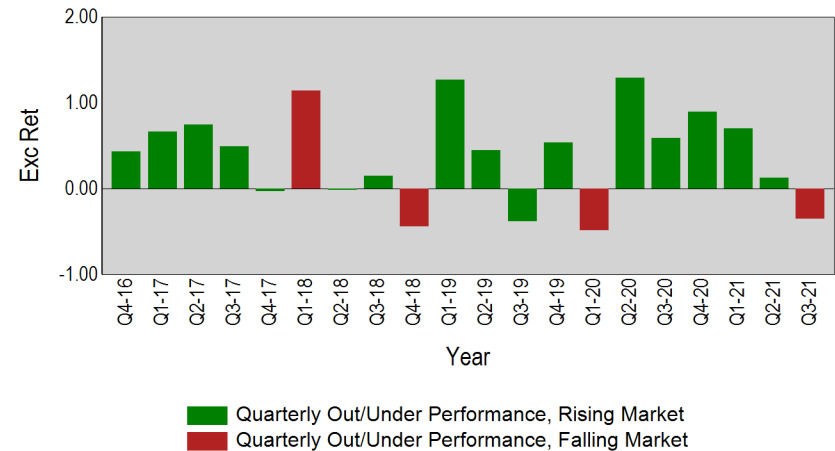
	Total Fund Composite	Policy Index
RISK/RETURN SUMMARY STATISTICS		
Annualized Standard Deviation	13.11	12.29
Alpha	0.21	0.00
Sharpe Ratio	0.82	0.75
Excess Return Over Market / Risk	0.12	0.00
Tracking Error	1.11	0.00
Information Ratio	1.42	--

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

Upside Capture Ratio vs. Downside Capture Ratio
5 Years Ending September 30, 2021



Quarterly Excess Performance
Total Fund Composite vs. Policy Index



Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	4,848	2,973
Weighted Avg. Market Cap. (\$B)	228.1	353.5
Median Market Cap. (\$B)	5.6	13.7
Price To Earnings	18.4	20.4
Price To Book	3.4	3.7
Price To Sales	2.0	2.3
Return on Equity (%)	16.6	19.5
Yield (%)	1.4	1.9

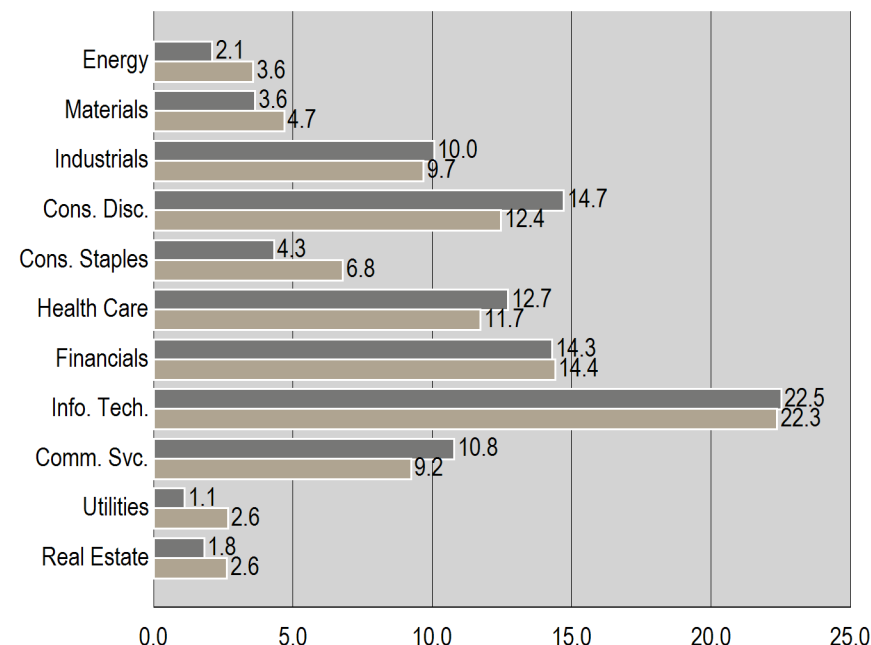
Top Holdings

MICROSOFT CORP	2.2%
AMAZON.COM INC	2.1%
META PLATFORMS INC	1.7%
ALPHABET INC	1.4%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.4%
TENCENT HOLDINGS LTD	1.1%
ADOBE INC	1.0%
NETFLIX INC	1.0%
UNITEDHEALTH GROUP INC	0.9%
SALESFORCE.COM INC	0.9%
Total	13.7%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
Total Equity Composite	28.1%	13.2%	55.0%	3.7%
MSCI ACWI	6.2%	16.0%	77.8%	0.0%
<i>Weight Over/Under</i>	21.9%	-2.8%	-22.9%	3.7%

Sector Allocation (%) vs MSCI ACWI



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	1.1%	2.9%	-1.8%
United States	62.8%	59.6%	3.2%
Europe Ex U.K.	9.3%	12.7%	-3.4%
United Kingdom	3.1%	3.7%	-0.6%
Pacific Basin Ex Japan	2.7%	2.9%	-0.2%
Japan	3.7%	6.2%	-2.5%
Emerging Markets	16.8%	11.8%	5.0%
Other	0.6%	0.3%	0.3%
Total	100.0%	100.0%	0.0%

Pennsylvania Municipal Retirement System

Performance Summary (Net)

As of September 30, 2021

	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception Date
Total Fund Composite	-0.4	9.7	24.1	11.4	11.9	11.1	9.1	Jan-86
<i>Policy Index</i>	-0.1	9.2	22.6	10.1	10.3	10.3	9.4	Jan-86
<i>InvMetrics Public DB Net Rank</i>	68	23	5	26	8	8	6	Jan-86
Total Equity Composite	-1.3	13.4	35.2	--	--	--	35.2	Oct-20
<i>MSCI ACWI IMI Net USD</i>	-1.1	11.4	28.9	--	--	--	28.9	Oct-20
U.S. Equity Composite	-0.4	18.7	42.0	16.1	17.9	16.8	10.0	Jan-06
<i>Russell 3000</i>	-0.1	15.0	31.9	16.0	16.9	16.6	10.5	Jan-06
<i>InvMetrics Public DB US Eq Net Rank</i>	67	3	3	4	3	5	43	Jan-06
Large Cap U.S. Equity Composite	1.1	19.4	36.5	18.4	19.6	17.8	11.6	Jan-86
<i>S&P 500</i>	0.6	15.9	30.0	16.0	16.9	16.6	11.3	Jan-86
<i>Eagle Asset Mgmt</i>	2.2	23.8	47.3	17.6	18.7	--	19.6	Feb-16
<i>Russell 1000 Value</i>	-0.8	16.1	35.0	10.1	10.9	--	12.5	Feb-16
<i>S&P 500</i>	0.6	15.9	30.0	16.0	16.9	--	17.4	Feb-16
<i>eV US Large Cap Value Equity Net Rank</i>	2	4	9	3	2	--	2	Feb-16
<i>LSV Large Cap Value</i>	-1.6	19.5	42.1	8.9	11.5	14.0	8.8	Apr-04
<i>Russell 1000 Value</i>	-0.8	16.1	35.0	10.1	10.9	13.5	8.3	Apr-04
<i>S&P 500</i>	0.6	15.9	30.0	16.0	16.9	16.6	10.2	Apr-04
<i>eV US Large Cap Value Equity Net Rank</i>	77	24	21	69	54	32	45	Apr-04
<i>SSGA S&P 500</i>	0.6	15.8	29.9	15.9	16.8	16.6	9.2	Feb-97
<i>S&P 500</i>	0.6	15.9	30.0	16.0	16.9	16.6	9.2	Feb-97
<i>eV US Large Cap Core Equity Net Rank</i>	32	39	41	26	19	15	67	Feb-97
<i>Polen Focus Growth</i>	2.7	18.1	30.0	24.3	24.7	20.2	19.1	Oct-10
<i>Russell 1000 Growth</i>	1.2	14.3	27.3	22.0	22.8	19.7	18.1	Oct-10
<i>eV US Large Cap Growth Equity Net Rank</i>	7	9	20	14	14	12	6	Oct-10
<i>William & Blair Large Cap Growth</i>	1.0	15.6	29.5	--	--	--	34.6	Jun-20
<i>Russell 1000 Growth</i>	1.2	14.3	27.3	--	--	--	35.8	Jun-20
<i>eV US Large Cap Growth Equity Net Rank</i>	36	22	23	--	--	--	33	Jun-20

Pennsylvania Municipal Retirement System

Performance Summary (Net)

As of September 30, 2021

	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception Date
Small Cap U.S. Equity Composite	-3.0	16.8	50.6	11.0	14.4	14.8	11.0	Jan-93
<i>Russell 2000</i>	-4.4	12.4	47.7	10.5	13.4	14.6	9.8	Jan-93
LSV Small Cap Value	-2.3	26.6	66.6	7.6	--	--	8.0	Dec-16
<i>Russell 2000 Value</i>	-3.0	22.9	63.9	8.6	--	--	9.3	Dec-16
<i>Russell 2000</i>	-4.4	12.4	47.7	10.5	--	--	12.6	Dec-16
<i>eV US Small Cap Value Equity Net Rank</i>	60	21	25	68	--	--	72	Dec-16
Smith, Graham & Co Small Cap Value	-6.1	17.6	52.3	11.4	--	--	9.9	Dec-16
<i>Russell 2000 Value</i>	-3.0	22.9	63.9	8.6	--	--	9.3	Dec-16
<i>eV US Small Cap Value Equity Net Rank</i>	95	76	68	20	--	--	39	Dec-16
SSGA Russell 2000	-4.4	12.4	47.7	10.5	13.4	14.6	9.0	Mar-97
<i>Russell 2000</i>	-4.4	12.4	47.7	10.5	13.4	14.6	9.1	Mar-97
<i>eV US Small Cap Equity Net Rank</i>	89	71	58	54	53	52	96	Mar-97
Copeland Small Cap Dividend Growth	-1.9	16.8	41.5	11.4	--	--	12.6	Sep-17
<i>Russell 2000</i>	-4.4	12.4	47.7	10.5	--	--	11.7	Sep-17
<i>eV US Small Cap Core Equity Net Rank</i>	62	51	85	44	--	--	41	Sep-17
AMI Small Cap Growth	1.2	12.8	44.7	6.5	--	--	11.6	Sep-17
<i>Russell 2000 Growth</i>	-5.7	2.8	33.3	11.7	--	--	15.1	Sep-17
<i>eV US Small Cap Growth Equity Net Rank</i>	17	28	27	98	--	--	94	Sep-17
Emerald Small Cap Growth	-1.8	4.4	32.3	13.8	17.6	18.3	11.8	Oct-98
<i>Russell 2000 Growth</i>	-5.7	2.8	33.3	11.7	15.3	15.7	9.0	Oct-98
<i>eV US Small Cap Growth Equity Net Rank</i>	45	82	77	68	66	41	56	Oct-98
Non-U.S. Equity Composite	-3.0	5.0	24.5	11.2	11.4	--	9.1	May-12
<i>MSCI ACWI ex USA</i>	-3.0	5.9	23.9	8.0	8.9	--	8.0	May-12
<i>InvMetrics Public DB ex-US Eq Net Rank</i>	61	81	51	9	9	--	30	May-12
Developed Non-U.S. Equity Composite	0.4	9.0	28.8	13.0	12.8	10.9	8.3	Jan-93
<i>MSCI EAFE</i>	-0.4	8.3	25.7	7.6	8.8	8.1	6.3	Jan-93
SSGA MSCI World ex US	-0.7	9.4	26.8	8.2	9.2	--	7.2	Apr-12
<i>MSCI World ex USA</i>	-0.7	9.2	26.5	7.9	8.9	--	6.8	Apr-12
<i>eV ACWI ex-US Core Equity Net Rank</i>	25	33	50	61	64	--	62	Apr-12
Hardman Johnston Int'l Equity	1.1	5.0	28.4	18.9	16.6	--	11.8	Apr-12
<i>MSCI EAFE</i>	-0.4	8.3	25.7	7.6	8.8	--	7.0	Apr-12
<i>eV EAFE All Cap Equity Net Rank</i>	6	77	28	2	1	--	1	Apr-12
HGK Int'l Equity	0.8	12.1	30.7	12.2	12.5	--	10.4	Feb-12
<i>MSCI EAFE</i>	-0.4	8.3	25.7	7.6	8.8	--	7.4	Feb-12
<i>eV EAFE All Cap Equity Net Rank</i>	6	12	19	11	9	--	15	Feb-12

Pennsylvania Municipal Retirement System

Performance Summary (Net)

As of September 30, 2021

	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception Date
Emerging Markets Composite								
SSGA MSCI Emerging Markets Index	-8.4	-1.6	17.2	8.4	9.1	6.1	8.6	Nov-08
MSCI Emerging Markets	-8.1	-1.2	18.2	8.6	9.2	6.1	8.8	Nov-08
eV Emg Mkts Equity Net Rank	70	69	71	65	55	72	67	Nov-08
Real Assets Composite								
NFI-ODCE	2.9	7.7	9.0	4.6	5.4	7.3	7.6	Apr-93
NFI-ODCE	6.4	12.5	13.7	6.2	6.6	8.9	--	Apr-93
Forest Investment Associates	2.0	6.8	7.0	0.5	2.5	4.3	3.8	Mar-99
NCREIF Timberland Property Index	1.9	4.4	5.0	2.4	2.9	4.9	5.9	Mar-99
PRISA LP	7.5	13.6	15.0	7.3	7.3	9.4	6.5	Jan-86
NFI-ODCE	6.4	12.5	13.7	6.2	6.6	8.9	--	Jan-86
PRISA II	7.3	14.5	16.1	7.1	7.6	10.4	4.3	Jul-07
NFI-ODCE	6.4	12.5	13.7	6.2	6.6	8.9	5.0	Jul-07
PennMuni-Nuveen U.S. Real Estate Fund	0.0	3.4	5.3	6.1	6.7	8.7	6.0	Dec-08
NFI-ODCE	6.4	12.5	13.7	6.2	6.6	8.9	6.0	Dec-08
NCREIF Property Index	5.2	10.9	12.2	6.7	6.8	9.0	7.3	Dec-08
N. Front Street (Nuveen)	0.0	1.9	-8.2	-3.3	-5.4	--	-5.4	Sep-16
Consumer Price Index	1.0	5.3	5.4	2.8	2.6	--	2.6	Sep-16
Total Fixed Income Composite								
SSGA US Aggregate Bond Index	0.1	-1.6	-0.9	5.4	2.9	3.0	5.1	Apr-97
Bloomberg US Aggregate TR	0.1	-1.6	-0.9	5.4	2.9	3.0	5.1	Apr-97
eV US Core Fixed Inc Net Rank	39	68	71	76	80	83	73	Apr-97
Cash Composite								
Cash Management								

IV. Composites



Characteristics

	Portfolio	Russell 3000
Number of Holdings	2,704	3,049
Weighted Avg. Market Cap. (\$B)	290.6	466.6
Median Market Cap. (\$B)	2.3	2.6
Price To Earnings	20.0	24.0
Price To Book	3.5	4.3
Price To Sales	2.1	3.2
Return on Equity (%)	19.1	20.9
Yield (%)	1.1	1.3

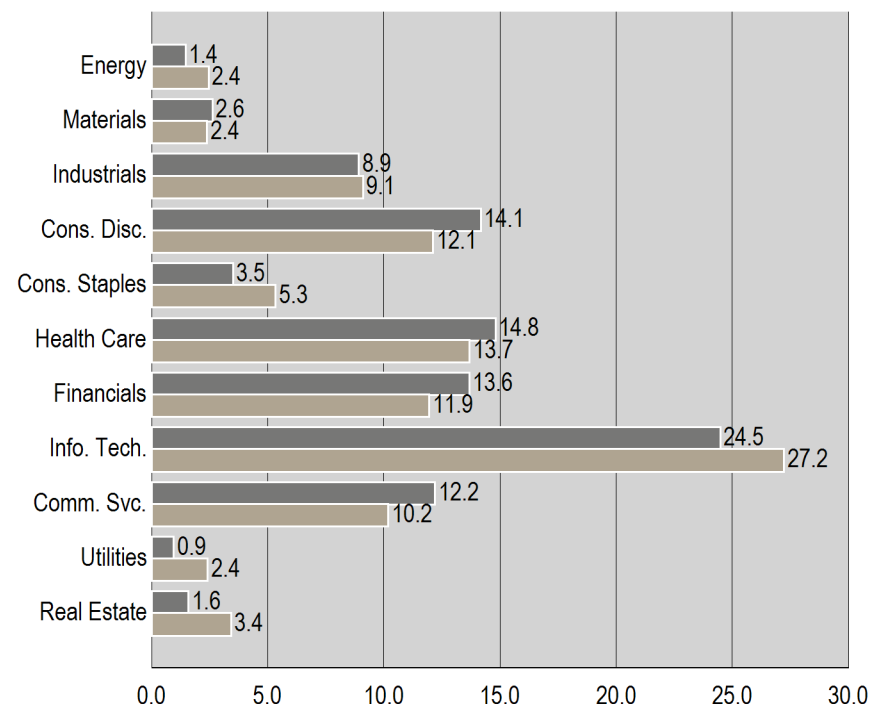
Top Holdings

MICROSOFT CORP	3.3%
AMAZON.COM INC	3.2%
META PLATFORMS INC	2.6%
ALPHABET INC	2.2%
ADOBE INC	1.6%
NETFLIX INC	1.5%
UNITEDHEALTH GROUP INC	1.4%
SALESFORCE.COM INC	1.4%
MASTERCARD INC	1.3%
ALPHABET INC	1.1%
Total	19.7%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
U.S. Equity Composite	23.7%	24.2%	48.7%	3.5%
Russell 3000	6.1%	23.8%	70.1%	0.0%
<i>Weight Over/Under</i>	<i>17.5%</i>	<i>0.4%</i>	<i>-21.4%</i>	<i>3.5%</i>

Sector Allocation (%) vs Russell 3000



Style Map
3 Years Ending September 30, 2021



Common Holdings Matrix

	<i>Eagle Asset Mgmt</i>		<i>LSV Large Cap Value</i>		<i>SSGA S&P 500</i>		<i>Polen Focus Growth</i>		<i>William & Blair Large Cap Growth</i>		<i>LSV Small Cap Value</i>		<i>Smith, Graham & Co Small Cap Value</i>		<i>SSGA Russell 2000</i>		<i>Copeland Small Cap Dividend Growth</i>		<i>AMI Small Cap Growth</i>		<i>Emerald Small Cap Growth</i>	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Eagle Asset Mgmt	--	--	6	6	24	22	6	29	5	25	0	0	0	0	0	0	0	0	0	0	0	0
LSV Large Cap Value	6	17	--	--	96	15	0	0	1	2	24	16	2	2	22	2	2	4	0	0	1	1
SSGA S&P 500	24	90	96	77	--	--	24	93	29	95	1	1	0	0	1	0	1	1	0	0	0	0
Polen Focus Growth	6	36	0	0	24	26	--	--	13	57	0	0	0	0	0	0	0	0	0	0	0	0
William & Blair Large Cap Growth	5	28	1	0	29	25	13	55	--	--	0	0	0	0	0	0	0	0	0	0	0	0
LSV Small Cap Value	0	0	24	11	1	0	0	0	0	0	--	--	13	21	167	10	5	10	0	0	4	4
Smith, Graham & Co Small Cap Value	0	0	2	1	0	0	0	0	0	0	13	7	--	--	57	4	1	2	3	8	3	3
SSGA Russell 2000	0	0	22	8	1	0	0	0	0	0	167	76	57	87	--	--	42	68	27	78	94	81
Copeland Small Cap Dividend Growth	0	0	2	1	1	0	0	0	0	0	5	3	1	2	42	4	--	--	0	0	2	2
AMI Small Cap Growth	0	0	0	0	0	0	0	0	0	0	0	0	3	4	27	3	0	0	--	--	4	6
Emerald Small Cap Growth	0	0	1	0	0	0	0	0	0	0	4	3	3	5	94	8	2	4	4	14	--	--

Characteristics

	Portfolio	S&P 500
Number of Holdings	589	505
Weighted Avg. Market Cap. (\$B)	444.7	558.7
Median Market Cap. (\$B)	30.8	30.7
Price To Earnings	22.8	25.5
Price To Book	4.3	4.5
Price To Sales	2.9	3.5
Return on Equity (%)	27.4	29.7
Yield (%)	1.1	1.4

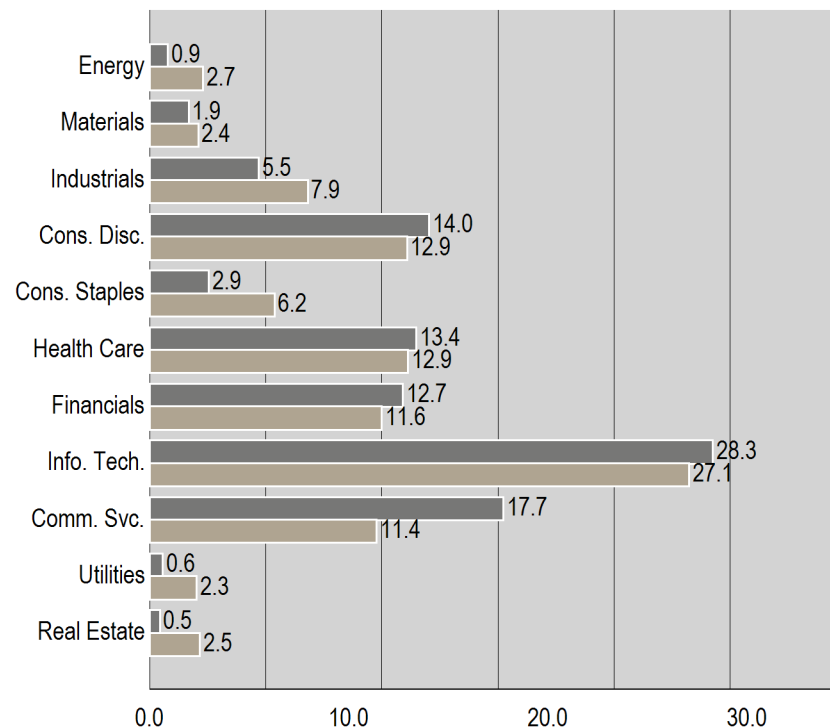
Top Holdings

MICROSOFT CORP	5.1%
AMAZON.COM INC	4.9%
META PLATFORMS INC	4.1%
ALPHABET INC	3.4%
ADOBE INC	2.4%
NETFLIX INC	2.4%
UNITEDHEALTH GROUP INC	2.2%
SALESFORCE.COM INC	2.1%
MASTERCARD INC	2.1%
ALPHABET INC	1.7%
Total	30.5%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
Large Cap U.S. Equity Composite	1.2%	20.8%	75.5%	2.6%
S&P 500	0.0%	16.5%	83.4%	0.0%
<i>Weight Over/Under</i>	1.1%	4.2%	-8.0%	2.6%

Sector Allocation (%) vs S&P 500



Characteristics

	Portfolio	Russell 2000
Number of Holdings	2,151	2,024
Weighted Avg. Market Cap. (\$B)	3.6	3.3
Median Market Cap. (\$B)	1.4	1.2
Price To Earnings	15.8	17.6
Price To Book	2.7	2.7
Price To Sales	1.5	1.9
Return on Equity (%)	8.9	1.3
Yield (%)	1.1	1.1

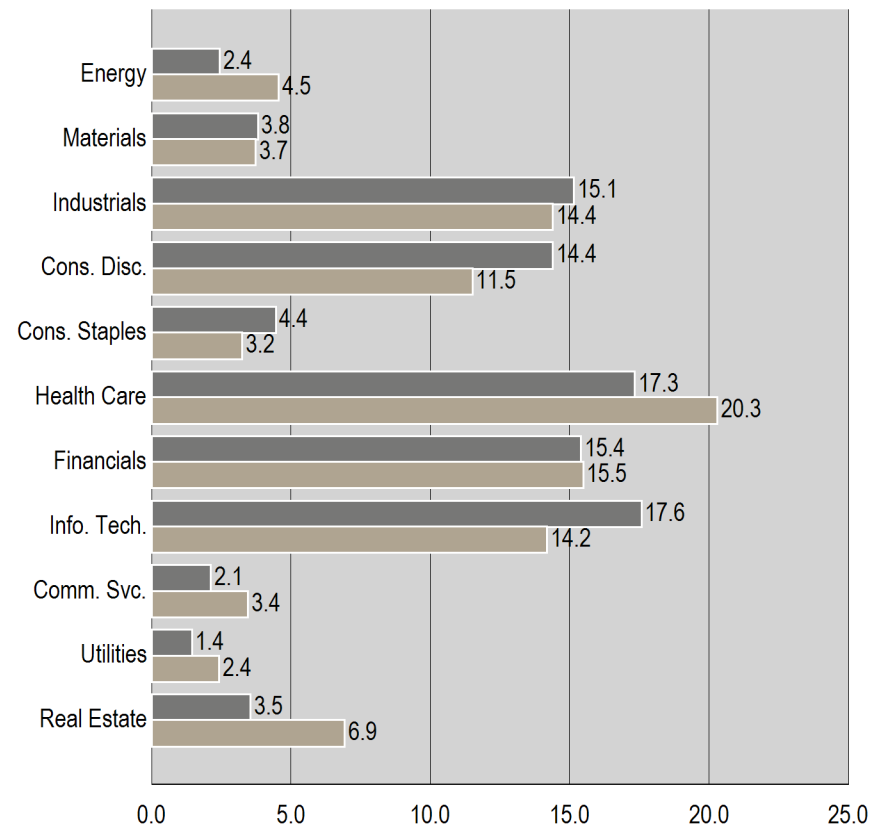
Top Holdings

TETRA TECH INC	0.9%
SELECT MEDICAL HOLDINGS CORP	0.8%
PERFICIENT INC	0.7%
MERIT MEDICAL SYSTEMS INC	0.7%
NATIONAL VISION HOLDINGS INC	0.7%
SIMPLY GOOD FOODS CO (THE)	0.7%
LIGAND PHARMACEUTICALS INC	0.6%
SYNAPTICS INC	0.6%
ATLAS AIR WORLDWIDE HOLDINGS INC.	0.6%
RAPID7 INC	0.5%
Total	6.7%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
Small Cap U.S. Equity Composite	64.5%	30.4%	0.0%	5.2%
Russell 2000	75.2%	24.8%	0.0%	0.0%
<i>Weight Over/Under</i>	<i>-10.7%</i>	<i>5.6%</i>	<i>0.0%</i>	<i>5.2%</i>

Sector Allocation (%) vs Russell 2000



Characteristics

	Portfolio	MSCI ACWI ex USA
Number of Holdings	2,151	2,348
Weighted Avg. Market Cap. (\$B)	111.3	94.6
Median Market Cap. (\$B)	9.6	10.3
Price To Earnings	15.8	15.8
Price To Book	3.2	2.7
Price To Sales	1.8	1.5
Return on Equity (%)	13.1	13.6
Yield (%)	2.0	2.6

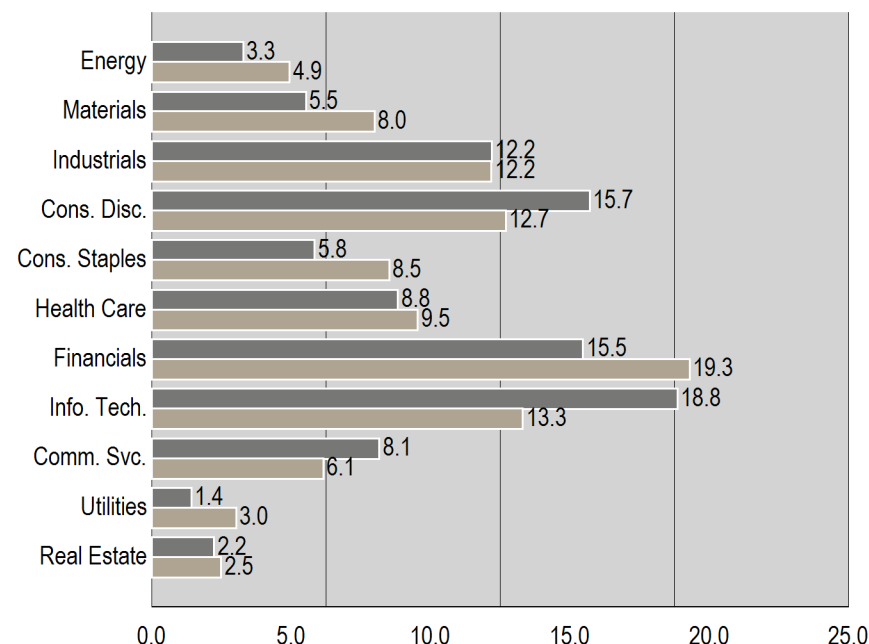
Top Holdings

TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	4.0%
TENCENT HOLDINGS LTD	3.1%
ALIBABA GROUP HOLDING LTD	2.1%
SAMSUNG ELECTRONICS CO LTD	1.9%
WUXI BIOLOGICS (CAYMAN) INC	1.5%
ASML HOLDING NV	1.4%
ASTRAZENECA PLC	1.4%
AIRBUS SE	1.3%
ICICI BANK LTD	1.3%
KEYENCE CORP	1.3%
Total	19.2%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
Non-U.S Equity Composite	13.0%	24.7%	58.4%	4.0%
MSCI ACWI ex USA	13.8%	23.6%	62.7%	0.0%
<i>Weight Over/Under</i>	<i>-0.8%</i>	<i>1.1%</i>	<i>-4.3%</i>	<i>4.0%</i>

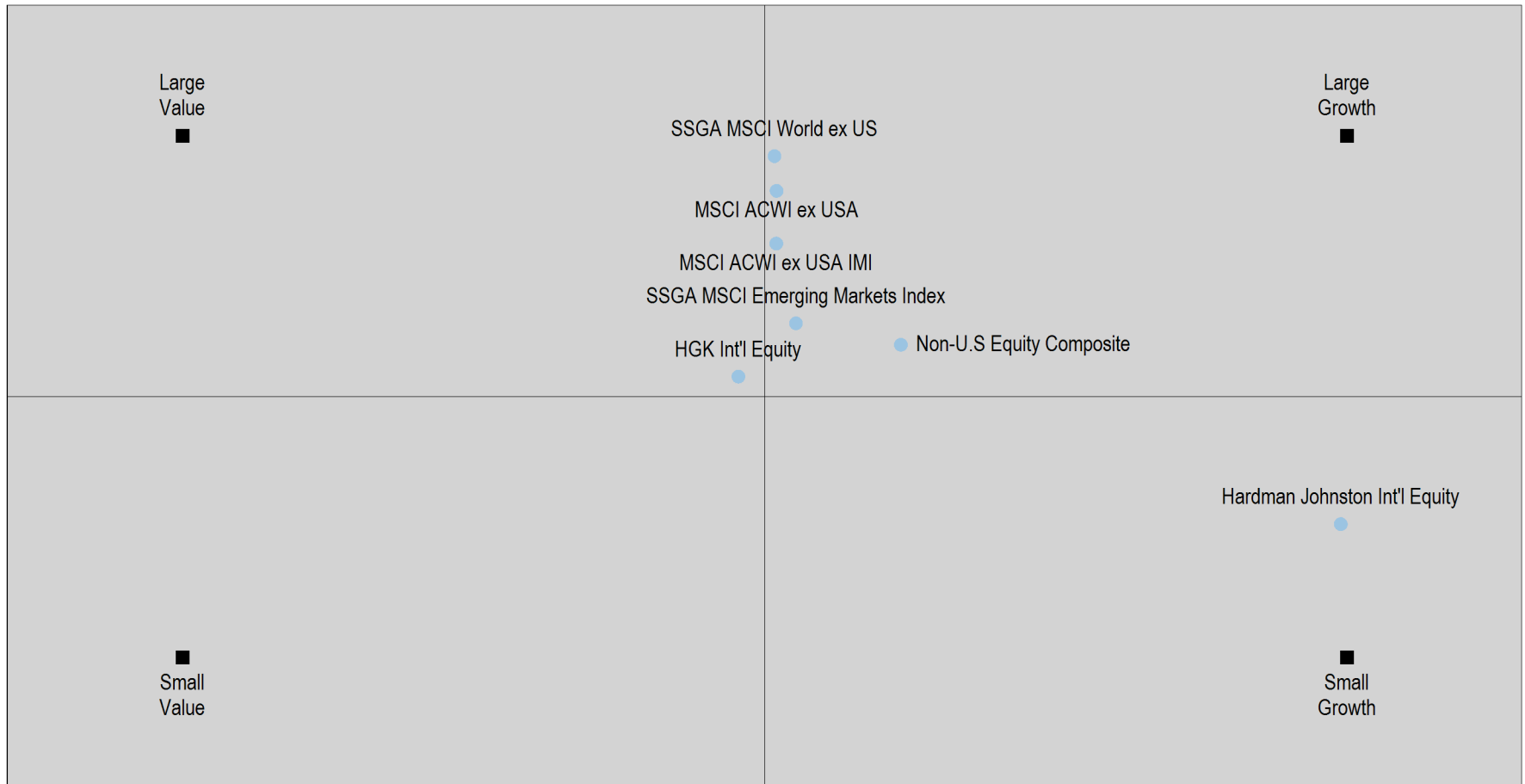
Sector Allocation (%) vs MSCI ACWI ex USA



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	2.9%	7.1%	-4.2%
United States	0.8%	0.0%	0.8%
Europe Ex U.K.	23.0%	31.4%	-8.5%
United Kingdom	6.3%	9.1%	-2.9%
Pacific Basin Ex Japan	7.5%	7.1%	0.4%
Japan	10.6%	15.4%	-4.7%
Emerging Markets	48.1%	29.3%	18.9%
Other	0.8%	0.6%	0.2%
Total	100.0%	100.0%	0.0%

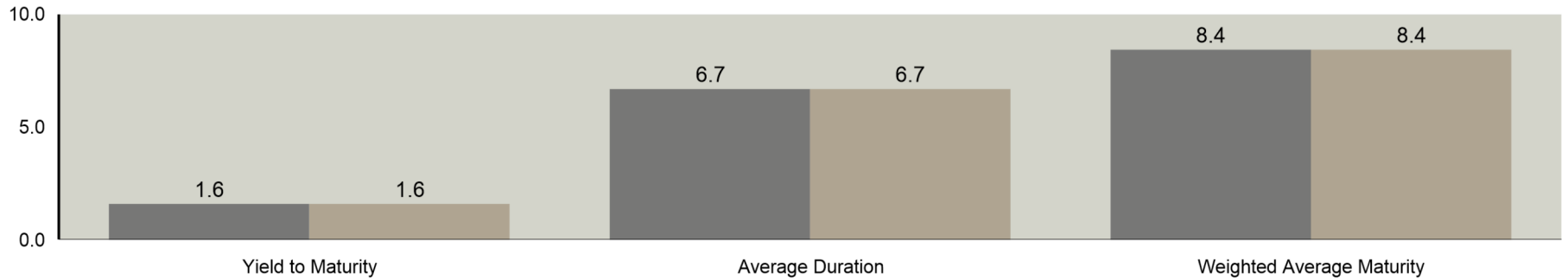
Style Map
3 Years Ending September 30, 2021



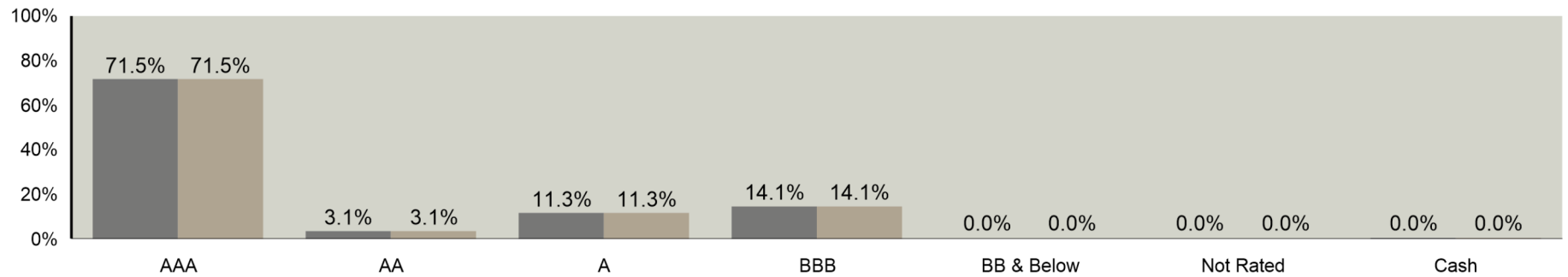
Common Holdings Matrix

	<i>SSGA MSCI World ex US</i>		<i>Hardman Johnston Int'l Equity</i>		<i>HGK Int'l Equity</i>		<i>SSGA MSCI Emerging Markets Index</i>	
	#	%	#	%	#	%	#	%
SSGA MSCI World ex US	--	--	20	74	21	76	908	91
Hardman Johnston Int'l Equity	20	8	--	--	1	3	4	13
HGK Int'l Equity	21	3	1	2	--	--	2	1
SSGA MSCI Emerging Markets Index	908	28	4	14	2	7	--	--

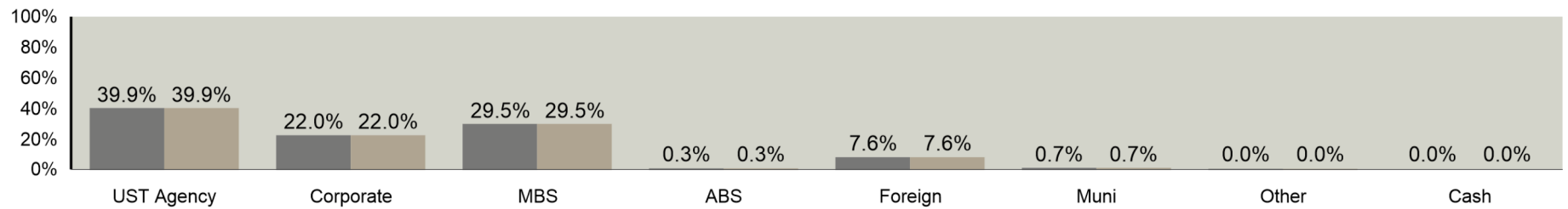
Summary Characteristics



Credibility Quality Allocation



US Sector Allocation



Fixed Income Composite

BBgBarc U.S. Aggregate Bond

V. Investment Managers



As of September 30, 2021

Manager Summary: Concentrated portfolio (25-35 names) focused on finding undervalued companies that have high growth potential yet low risk of significant downside loss. 8 member team performs bottom-up fundamental analysis, all generalists: 4 member committee that meets weekly to discuss the portfolio. Low portfolio turnover around 20%. Sectors cannot be above 35% of portfolio.

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	31	848
Weighted Avg. Market Cap. (\$B)	535.4	156.3
Median Market Cap. (\$B)	121.7	13.8
Price To Earnings	19.6	18.7
Price To Book	3.4	2.6
Price To Sales	3.2	2.4
Return on Equity (%)	21.8	14.9
Yield (%)	0.8	2.0

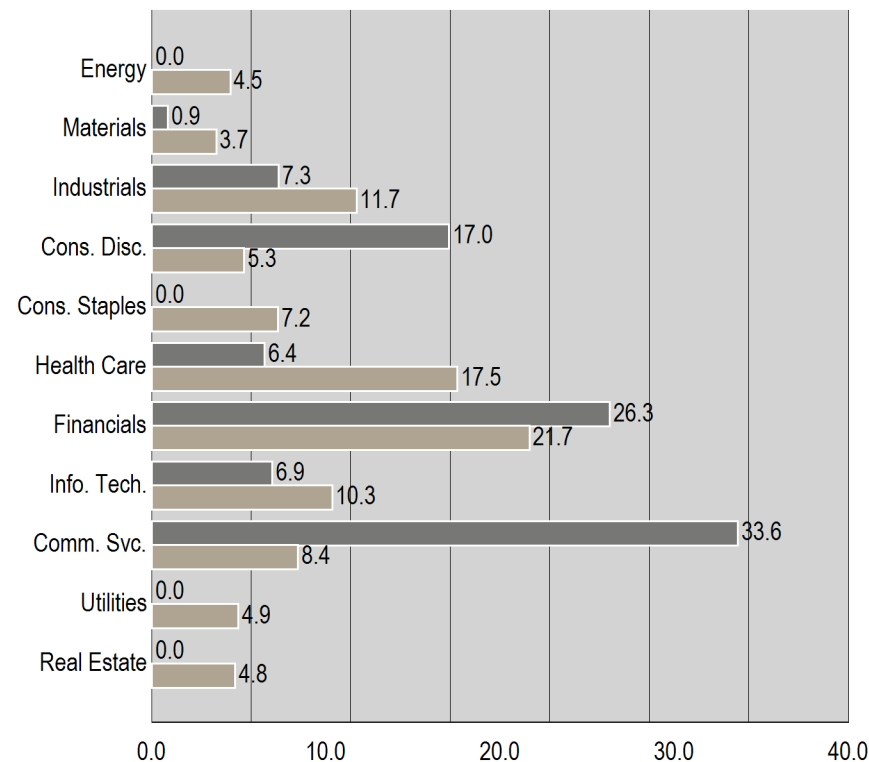
Top Holdings

MICROSOFT CORP	7.0%
ALPHABET INC	7.0%
AMAZON.COM INC	6.9%
META PLATFORMS INC	6.8%
AON PLC	5.5%
NETFLIX INC	5.2%
COMCAST CORP	5.0%
WELLS FARGO & CO	4.8%
GOLDMAN SACHS GROUP INC (THE)	4.5%
LIBERTY BROADBAND CORP	4.5%
Total	57.2%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
Eagle Asset Mgmt	0.0%	14.2%	85.8%
Russell 1000 Value	1.3%	33.6%	65.1%
<i>Weight Over/Under</i>	-1.3%	-19.4%	20.7%

Sector Allocation (%) vs Russell 1000 Value



Manager Summary: Quantitative model that selects deep value stocks. Model ranks stocks based on fundamental measures of value and indicators of price recovery. The model contains three basic blocks of variables: 1) Cheapness/Fundamentals (60%), 2) Past Long-Term Performance/Contrarian (15%) and 3) Momentum (25%). The top 15% of stocks are ranked by expected return and then optimized for risk control. The resulting portfolio consists of approximately 100-160 stocks.

Characteristics

	Portfolio	S&P 500
Number of Holdings	156	505
Weighted Avg. Market Cap. (\$B)	66.9	558.7
Median Market Cap. (\$B)	13.8	30.7
Price To Earnings	13.1	25.5
Price To Book	2.4	4.5
Price To Sales	1.2	3.5
Return on Equity (%)	20.8	29.7
Yield (%)	2.3	1.4

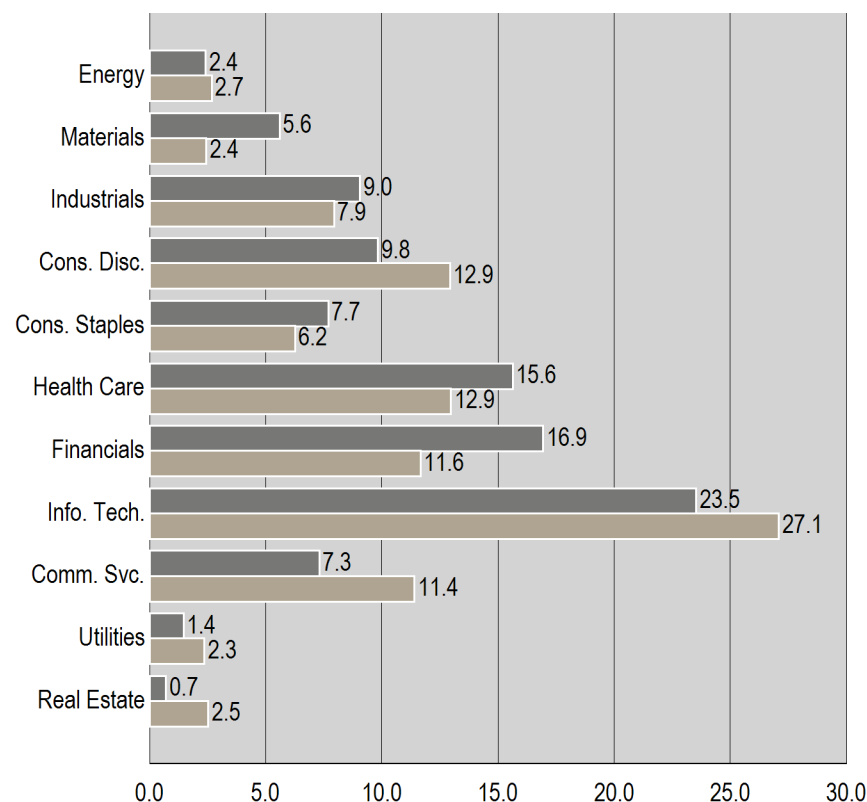
Top Holdings

ORACLE CORP	2.2%
MERCK & CO INC	2.2%
CISCO SYSTEMS INC	1.9%
INTEL CORP	1.9%
PFIZER INC	1.9%
EBAY INC.	1.6%
VERIZON COMMUNICATIONS INC	1.5%
APPLIED MATERIALS INC	1.5%
AT&T INC	1.4%
AMGEN INC	1.4%
Total	17.5%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
LSV Large Cap Value	5.0%	56.5%	38.5%
S&P 500	0.0%	16.5%	83.4%
Weight Over/Under	5.0%	40.0%	-45.0%

Sector Allocation (%) vs S&P 500



Manager Summary: Passive strategy that seeks to replicate the return of the Standard & Poor's 500 index. This strategy is a low-cost option to gain diversified exposure to U.S. domiciled companies by owning the 500 largest companies by market capitalization in the U.S.

Characteristics

	Portfolio	S&P 500
Number of Holdings	507	505
Weighted Avg. Market Cap. (\$B)	553.8	558.7
Median Market Cap. (\$B)	30.7	30.7
Price To Earnings	25.5	25.5
Price To Book	4.5	4.5
Price To Sales	3.5	3.5
Return on Equity (%)	29.8	29.7
Yield (%)	1.4	1.4

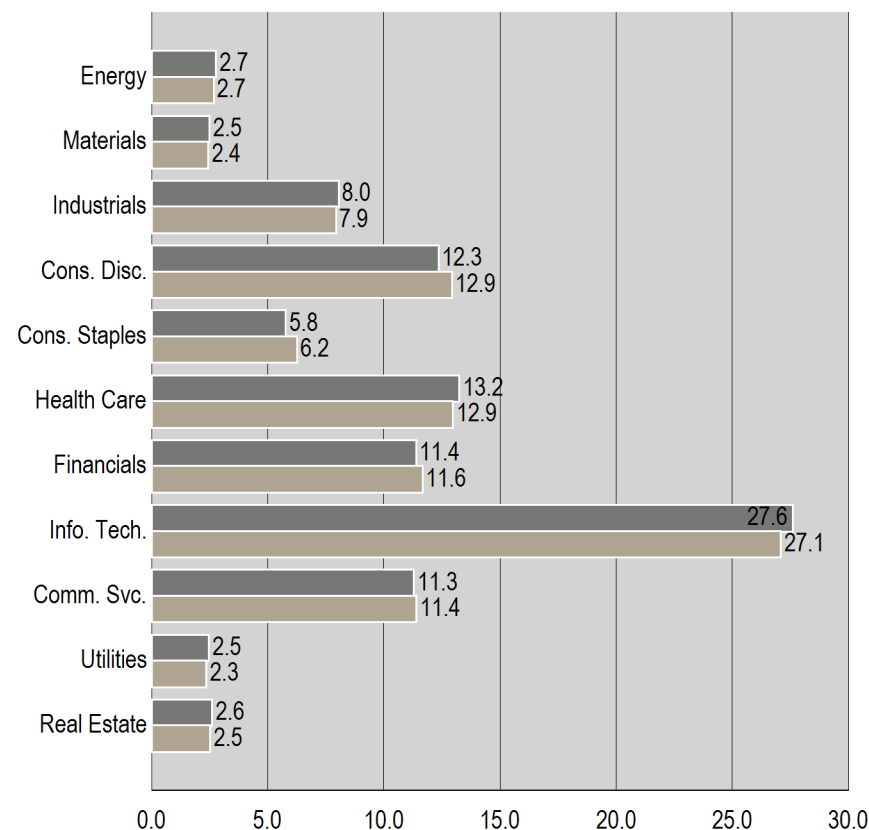
Top Holdings

APPLE INC	6.1%
MICROSOFT CORP	5.8%
AMAZON.COM INC	3.9%
META PLATFORMS INC	2.2%
ALPHABET INC	2.2%
ALPHABET INC	2.1%
TESLA INC	1.7%
NVIDIA CORPORATION	1.4%
BERKSHIRE HATHAWAY INC	1.4%
JPMORGAN CHASE & CO	1.3%
Total	28.1%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
SSGA S&P 500	0.1%	16.7%	83.3%
S&P 500	0.0%	16.5%	83.4%
<i>Weight Over/Under</i>	<i>0.0%</i>	<i>0.1%</i>	<i>-0.2%</i>

Sector Allocation (%) vs S&P 500



As of September 30, 2021

Manager Summary: Concentrated U.S. large cap growth portfolio with 20-30 names. Investment process begins with negative screening, only including names with robust financials, strong management and attractive earnings growth potential. Then team of generalists perform bottom-up fundamental analysis reviewing industry dynamics, competitive advantage, free cash flow modeling, meet with mgmt. and perform worst case scenarios. High active share. Position limit: 50% limit on sector exposure. Low portfolio turnover (30%).

Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	26	500
Weighted Avg. Market Cap. (\$B)	574.3	815.3
Median Market Cap. (\$B)	237.6	19.5
Price To Earnings	44.0	34.6
Price To Book	11.5	12.8
Price To Sales	9.6	6.2
Return on Equity (%)	36.3	43.1
Yield (%)	0.4	0.7

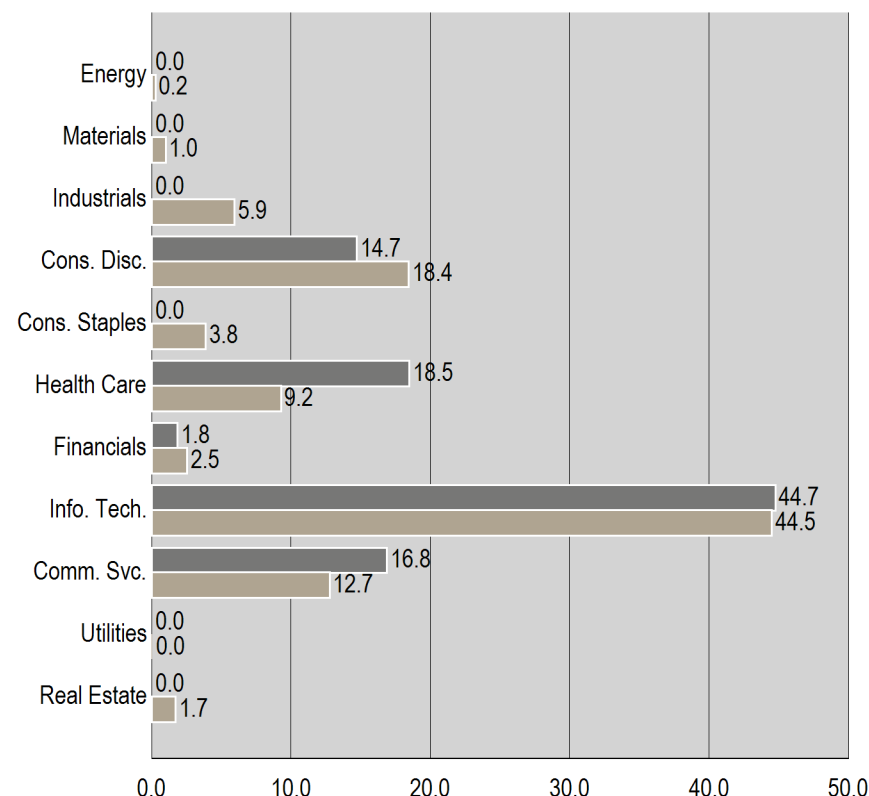
Top Holdings

AMAZON.COM INC	6.9%
META PLATFORMS INC	6.9%
ADOBE INC	6.7%
SALESFORCE.COM INC	5.7%
MICROSOFT CORP	5.6%
ABBOTT LABORATORIES	5.3%
MASTERCARD INC	5.0%
VISA INC	4.6%
ALPHABET INC	4.5%
SERVICENOW INC	4.1%
Total	55.3%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
Polen Focus Growth	0.0%	3.3%	96.7%
Russell 1000 Growth	1.2%	14.6%	84.2%
<i>Weight Over/Under</i>	-1.2%	-11.3%	12.5%

Sector Allocation (%) vs Russell 1000 Growth



Manager Summary: U.S. large cap growth strategy with concentrated portfolio of 30-40 names. Invest in companies with long term earnings growth over a 3-5 year time horizon. Approximately 90% of their portfolio is based on quality growth and 10% fallen quality which may have some short term event which has caused undervaluation. The strategy is market and sector neutral to the Russell 1000 Growth. Names must have a market cap \$5bn<.

Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	33	500
Weighted Avg. Market Cap. (\$B)	600.3	815.3
Median Market Cap. (\$B)	147.3	19.5
Price To Earnings	37.9	34.6
Price To Book	10.3	12.8
Price To Sales	6.4	6.2
Return on Equity (%)	37.8	43.1
Yield (%)	0.6	0.7

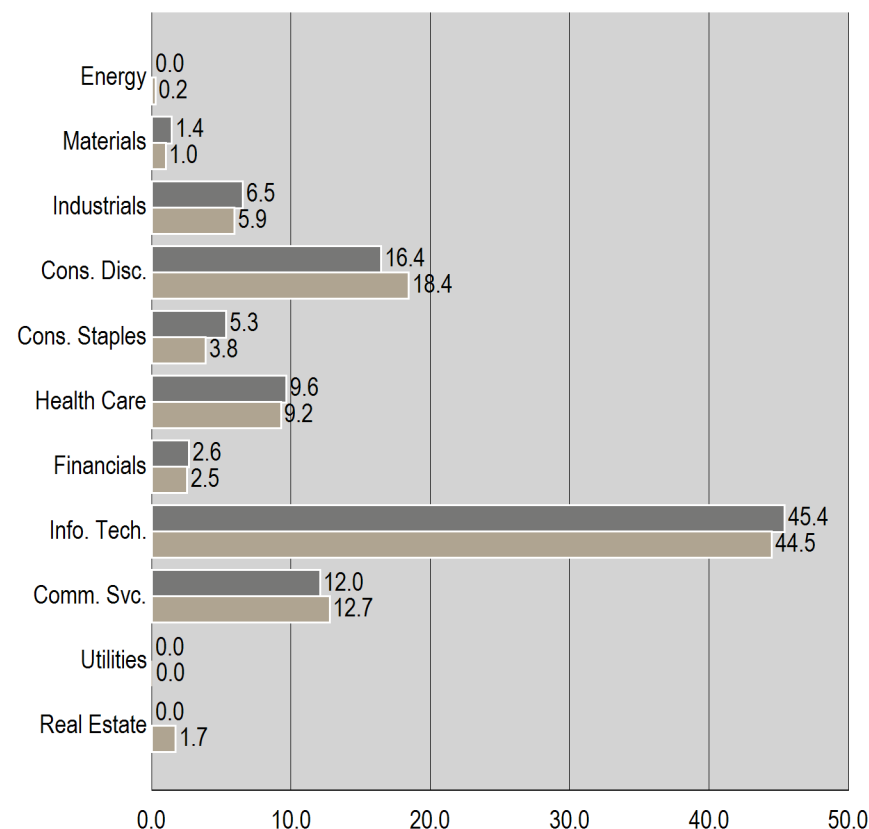
Top Holdings

MICROSOFT CORP	10.9%
AMAZON.COM INC	7.3%
ALPHABET INC	6.4%
MASTERCARD INC	5.3%
PAYPAL HOLDINGS INC	4.3%
NIKE INC	3.5%
ADVANCED MICRO DEVICES INC	3.4%
ADOBE INC	3.3%
ACCENTURE PLC	3.3%
SALESFORCE.COM INC	3.3%
Total	51.1%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
William & Blair Large Cap Growth	0.0%	15.1%	84.9%
Russell 1000 Growth	1.2%	14.6%	84.2%
<i>Weight Over/Under</i>	<i>-1.2%</i>	<i>0.5%</i>	<i>0.7%</i>

Sector Allocation (%) vs Russell 1000 Growth



Manager Summary: Quantitative model focuses on maximizing returns for given level of tracking error. The model ranks stocks based on fundamental measures of value and indicators of a recent recovery. Same model approach as LCV. The top 15% of stocks are ranked by expected return and then optimized for risk control. The resulting portfolio consists of approximately 175-225 stocks.

Characteristics

	Portfolio	Russell 2000
Number of Holdings	220	2,024
Weighted Avg. Market Cap. (\$B)	3.3	3.3
Median Market Cap. (\$B)	2.2	1.2
Price To Earnings	10.4	17.6
Price To Book	2.0	2.7
Price To Sales	0.9	1.9
Return on Equity (%)	17.0	1.3
Yield (%)	1.8	1.1

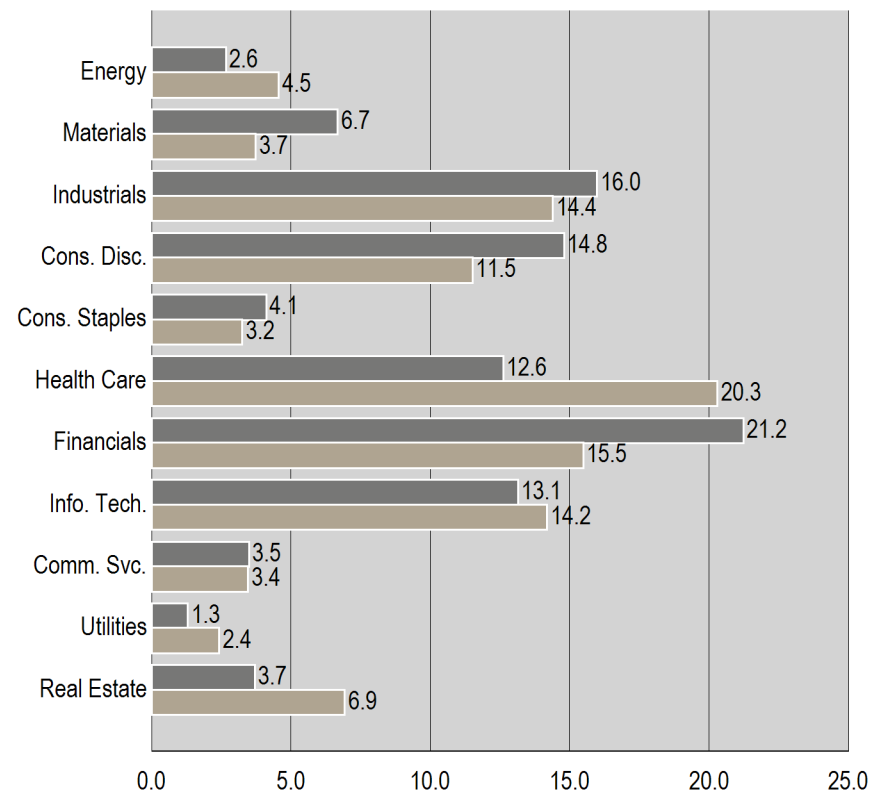
Top Holdings

SELECT MEDICAL HOLDINGS CORP	1.4%
ATKORE INC	1.3%
UNITED THERAPEUTICS CORP	1.3%
AMKOR TECHNOLOGY INC	1.2%
CNO FINANCIAL GROUP INC	1.1%
DICK'S SPORTING GOODS INC.	1.1%
GREIF INC.	1.1%
IRONWOOD PHARMACEUTICALS INC	1.1%
RELIANCE STEEL & ALUMINUM CO	1.1%
KB HOME	1.1%
Total	11.9%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
LSV Small Cap Value	71.3%	28.7%	0.0%
Russell 2000	75.2%	24.8%	0.0%
<i>Weight Over/Under</i>	<i>-3.9%</i>	<i>3.9%</i>	<i>0.0%</i>

Sector Allocation (%) vs Russell 2000



Manager Summary: Minority-owned investment management firm with fundamental bottom-up process. Stocks are first screened based on earnings, book value, and cash flow criteria with fundamental analysis performed on the top 20% within each respective sector. Sell candidates are companies that have dropped to the bottom 40% of their screen. The strategy holds 50-75 positions and is typically within plus/minus 5% of index sector weightings.

Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	67	1,426
Weighted Avg. Market Cap. (\$B)	2.9	2.9
Median Market Cap. (\$B)	2.2	1.1
Price To Earnings	12.5	13.8
Price To Book	2.0	1.8
Price To Sales	0.8	1.4
Return on Equity (%)	11.2	3.8
Yield (%)	1.2	1.7

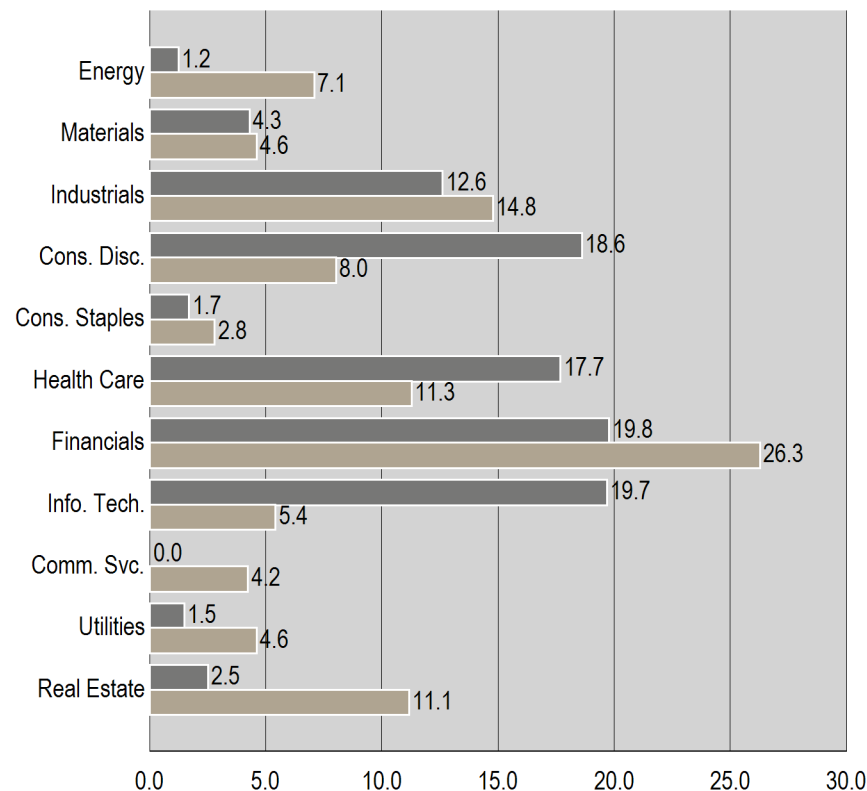
Top Holdings

SYNAPTICS INC	2.8%
GROUP 1 AUTOMOTIVE INC.	2.5%
HIBBETT INC	2.4%
SELECT MEDICAL HOLDINGS CORP	2.4%
LITHIA MOTORS INC.	2.4%
ATLAS AIR WORLDWIDE HOLDINGS INC.	2.2%
EAGLE PHARMACEUTICALS INC	2.2%
ULTRA CLEAN HOLDINGS INC	2.2%
DECKERS OUTDOOR CORP	2.2%
OWENS & MINOR INC.	2.1%
Total	23.4%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
Smith, Graham & Co Small Cap Value	79.1%	20.9%	0.0%
Russell 2000 Value	85.2%	14.8%	0.0%
<i>Weight Over/Under</i>	<i>-6.1%</i>	<i>6.1%</i>	<i>0.0%</i>

Sector Allocation (%) vs Russell 2000 Value



Manager Summary: Passive strategy that seeks to replicate the return of the Russell 2000 index. This strategy is a low-cost option to gain diversified exposure to U.S. domiciled companies through owning the 2,000 smallest American companies by market capitalization in the Russell 3000 index.

Characteristics

	Portfolio	Russell 2000
Number of Holdings	2,049	2,024
Weighted Avg. Market Cap. (\$B)	3.3	3.3
Median Market Cap. (\$B)	1.2	1.2
Price To Earnings	17.6	17.6
Price To Book	2.7	2.7
Price To Sales	1.9	1.9
Return on Equity (%)	1.3	1.3
Yield (%)	1.1	1.1

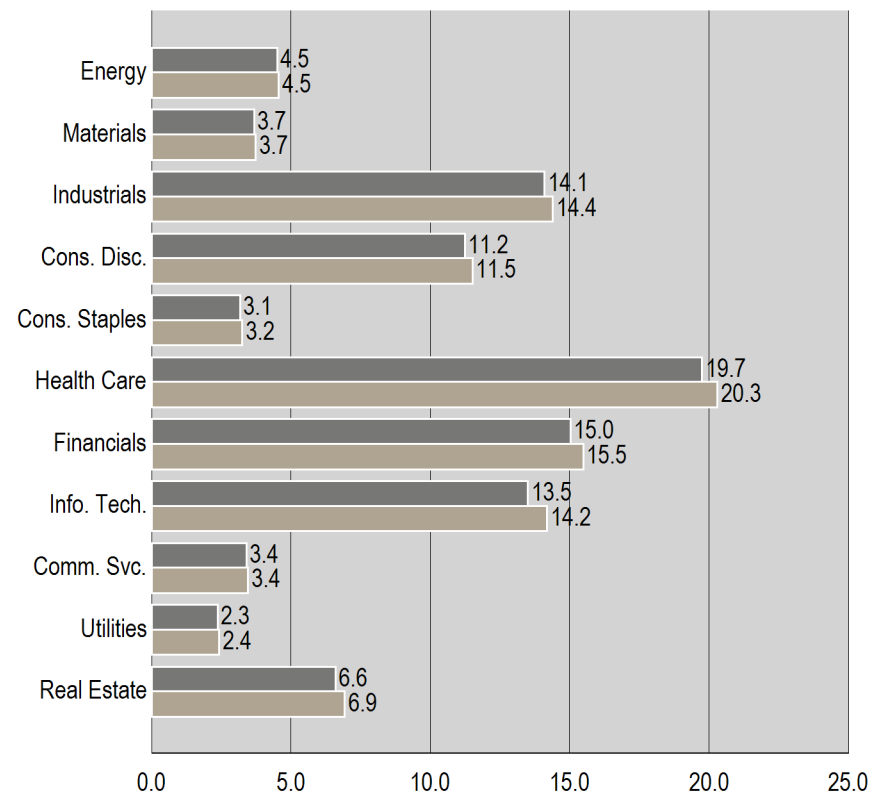
Top Holdings

AMC ENTERTAINMENT HOLDINGS INC	0.7%
INTELLIA THERAPEUTICS INC	0.3%
CROCS INC	0.3%
LATTICE SEMICONDUCTOR CORP	0.3%
OVINTIV INC	0.3%
TETRA TECH INC	0.3%
SCIENTIFIC GAMES CORP	0.3%
ZURN WATER SOLUTIONS CORPORATION	0.3%
BIOHAVEN PHARMACEUTICAL HOLDING CO LTD	0.3%
ASANA INC	0.3%
Total	3.2%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
SSGA Russell 2000	73.8%	26.2%	0.0%
Russell 2000	75.2%	24.8%	0.0%
<i>Weight Over/Under</i>	<i>-1.4%</i>	<i>1.4%</i>	<i>0.0%</i>

Sector Allocation (%) vs Russell 2000



Manager Summary: A bottom-up fundamental manager who views dividend growth as a litmus test for earnings quality and focuses on attributes such as dividend coverage, cash flow strength, earnings growth, and return on capital. Fundamental research is focused on identifying companies with strong competitive positions that support steadily rising dividends. Strategy invests in larger, more established small cap firms while tending to underweight the lower market cap ranges. The strategy seeks sector diversification with 45-60 holdings.

Characteristics

	Portfolio	Russell 2000
Number of Holdings	62	2,024
Weighted Avg. Market Cap. (\$B)	4.0	3.3
Median Market Cap. (\$B)	3.6	1.2
Price To Earnings	19.7	17.6
Price To Book	3.0	2.7
Price To Sales	2.2	1.9
Return on Equity (%)	17.7	1.3
Yield (%)	1.6	1.1

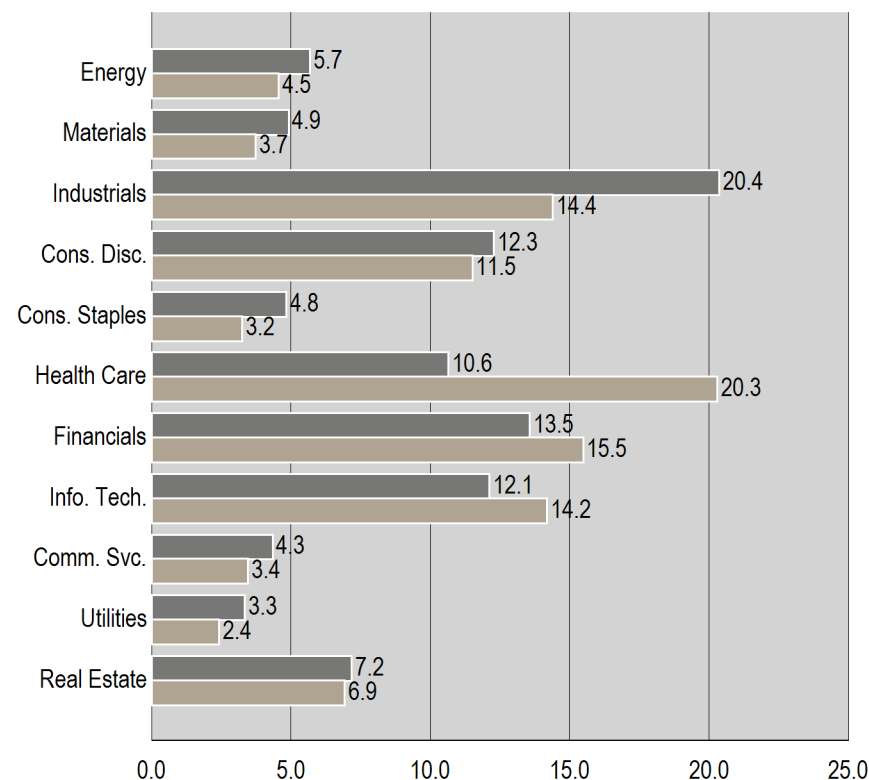
Top Holdings

NEXSTAR MEDIA GROUP INC.	2.6%
ENSIGN GROUP INC (THE)	2.4%
BANK OZK	2.3%
LEMAITRE VASCULAR INC	2.3%
STANDEX INTERNATIONAL CORP	2.2%
NORTHERN OIL AND GAS INC	2.2%
ENCOMPASS HEALTH CORP	2.1%
EVERCORE INC	2.0%
HOME BANCSHARES INC	2.0%
BRUNSWICK CORP	2.0%
Total	22.2%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
Copeland Small Cap Dividend Growth	63.8%	36.2%	0.0%
Russell 2000	75.2%	24.8%	0.0%
<i>Weight Over/Under</i>	<i>-11.4%</i>	<i>11.4%</i>	<i>0.0%</i>

Sector Allocation (%) vs Russell 2000



Manager Summary: Strategy invests in companies with recurring revenues. Considered a Growth at a Reasonable Price "GARP" strategy, owning companies at attractive valuations and temporary mispricing. Portfolio will traditionally hold 30-40 names in the portfolio. Turnover of the portfolio is 40-50%.

Characteristics

	Portfolio	Russell 2000 Growth
Number of Holdings	36	1,224
Weighted Avg. Market Cap. (\$B)	4.8	3.8
Median Market Cap. (\$B)	4.3	1.4
Price To Earnings	41.4	26.1
Price To Book	4.5	5.1
Price To Sales	3.0	2.8
Return on Equity (%)	15.1	-2.2
Yield (%)	0.2	0.4

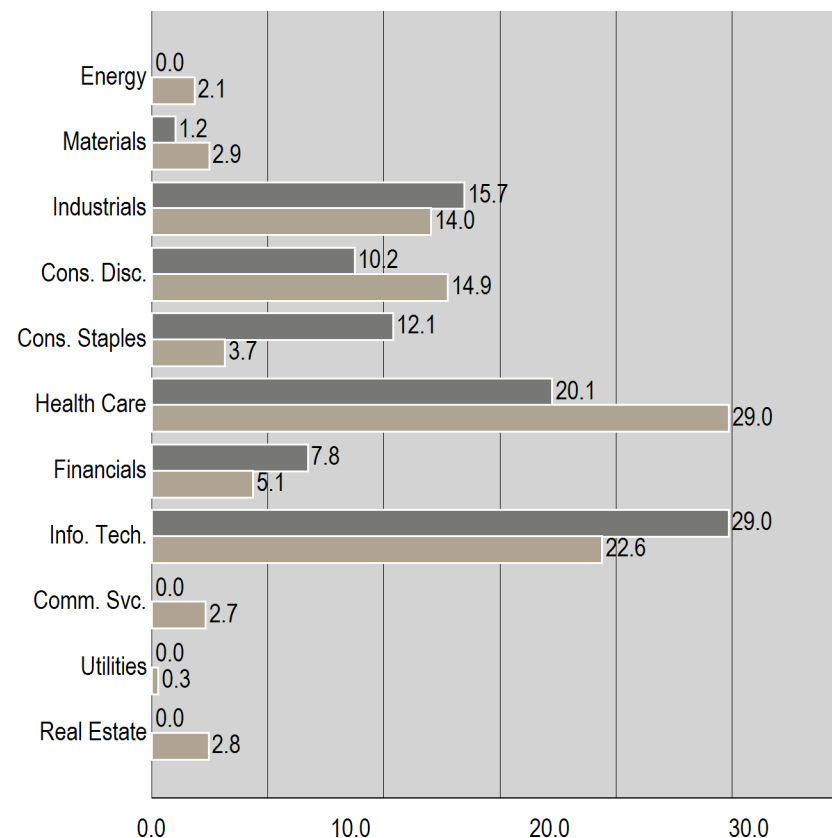
Top Holdings

MERIT MEDICAL SYSTEMS INC	4.4%
UPWORK INC	4.2%
WILLSCOT MOBILE MINI HOLDINGS CORP	4.1%
INSPERITY INC.	4.0%
EXLSERVICE HOLDINGS INC	3.7%
ASGN INC	3.6%
NATIONAL VISION HOLDINGS INC	3.5%
HALOZYME THERAPEUTICS INC	3.5%
TENABLE HOLDINGS INC	3.5%
SIMPLY GOOD FOODS CO (THE)	3.2%
Total	37.6%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
AMI Small Cap Growth	50.1%	49.9%	0.0%
Russell 2000 Growth	65.6%	34.4%	0.0%
<i>Weight Over/Under</i>	<i>-15.5%</i>	<i>15.5%</i>	<i>0.0%</i>

Sector Allocation (%) vs Russell 2000 Growth



As of September 30, 2021

Manager Summary: Core growth strategy, fundamental, bottom-up process seeking companies with a competitive advantage, market leadership, growth rates exceeding peers, differentiated growth drivers, and low research coverage. Analysts work across the market cap spectrum supporting small, mid, and all-cap strategies with coverage of dynamic sectors. The strategy holds 110-125 companies and portfolio construction limits of no more than 15% in any one industry group.

Characteristics

	Portfolio	Russell 2000 Growth
Number of Holdings	115	1,224
Weighted Avg. Market Cap. (\$B)	4.3	3.8
Median Market Cap. (\$B)	3.2	1.4
Price To Earnings	28.3	26.1
Price To Book	4.4	5.1
Price To Sales	3.9	2.8
Return on Equity (%)	5.0	-2.2
Yield (%)	0.4	0.4

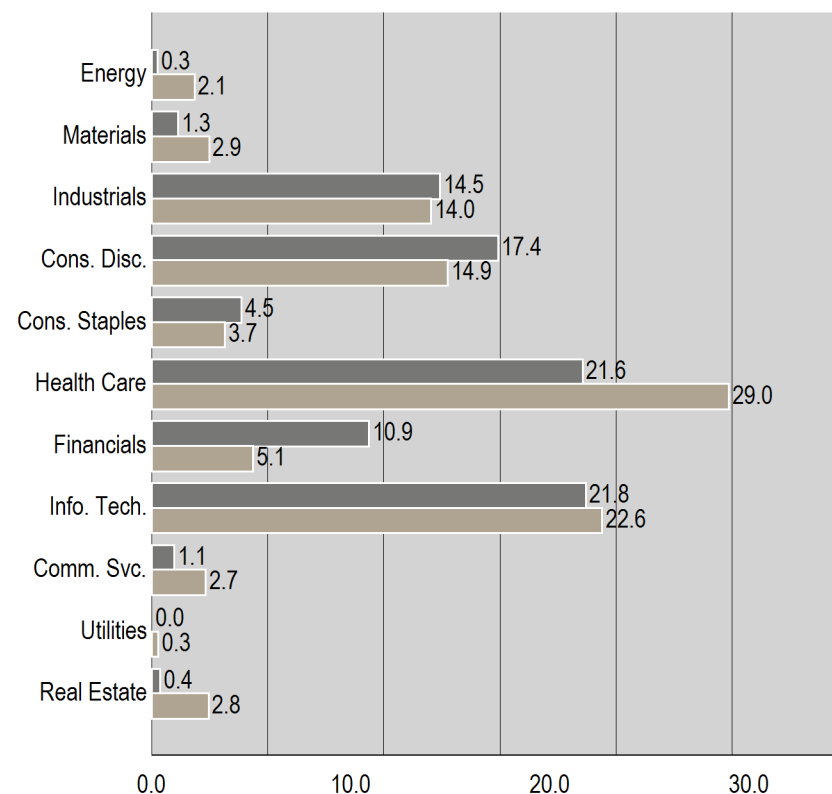
Top Holdings

RAPID7 INC	2.8%
CHART INDUSTRIES INC	2.6%
MACOM TECHNOLOGY SOLUTIONS HOLDINGS INC	2.1%
PERFICIENT INC	2.1%
VARONIS SYSTEMS INC	2.0%
FRESHPET INC	2.0%
CHURCHILL DOWNS INC	2.0%
MOELIS & CO	2.0%
TETRA TECH INC	1.9%
NEOGENOMICS INC	1.7%
Total	21.2%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
Emerald Small Cap Growth	57.5%	42.5%	0.0%
Russell 2000 Growth	65.6%	34.4%	0.0%
<i>Weight Over/Under</i>	<i>-8.2%</i>	<i>8.2%</i>	<i>0.0%</i>

Sector Allocation (%) vs Russell 2000 Growth



Pennsylvania Municipal Retirement System

SSGA MSCI World ex US

As of September 30, 2021

Manager Summary: Passive strategy that seeks to replicate the returns of the MSCI ACWI ex US index. This strategy is a low-cost option to gain diversified exposure to internationally based companies.

Characteristics

	Portfolio	MSCI ACWI ex USA
Number of Holdings	1,866	2,348
Weighted Avg. Market Cap. (\$B)	94.8	94.6
Median Market Cap. (\$B)	10.8	10.3
Price To Earnings	15.9	15.8
Price To Book	2.7	2.7
Price To Sales	1.5	1.5
Return on Equity (%)	14.0	13.6
Yield (%)	2.6	2.6

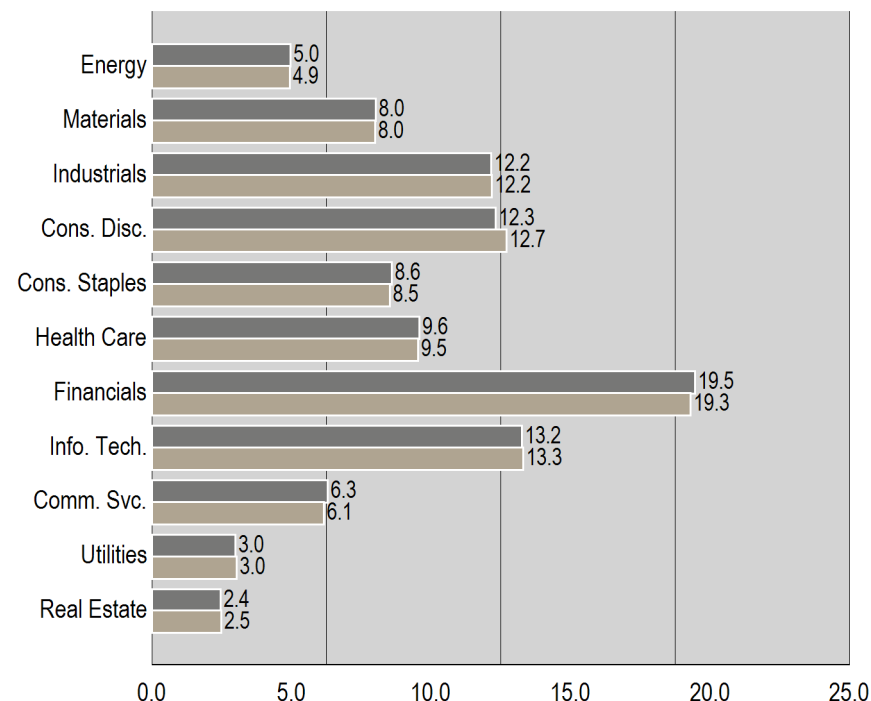
Top Holdings

TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.9%
NESTLE SA, CHAM UND VEVEY	1.3%
TENCENT HOLDINGS LTD	1.3%
ASML HOLDING NV	1.2%
SAMSUNG ELECTRONICS CO LTD	1.1%
ALIBABA GROUP HOLDING LTD	1.1%
ROCHE HOLDING AG	1.0%
LVMH MOET HENNESSY LOUIS VUITTON SE	0.8%
TOYOTA MOTOR CORP	0.7%
ASTRAZENECA PLC	0.7%
Total	11.1%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
SSGA MSCI World ex US	11.5%	23.3%	62.1%	3.0%
MSCI ACWI ex USA	13.8%	23.6%	62.7%	0.0%
<i>Weight Over/Under</i>	-2.2%	-0.3%	-0.5%	3.0%

Sector Allocation (%) vs MSCI ACWI ex USA



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	7.1%	7.1%	0.0%
United States	0.3%	0.0%	0.3%
Europe Ex U.K.	32.7%	31.4%	1.3%
United Kingdom	7.7%	9.1%	-1.4%
Pacific Basin Ex Japan	8.9%	7.1%	1.7%
Japan	15.4%	15.4%	0.0%
Emerging Markets	26.8%	29.3%	-2.4%
Other	1.1%	0.6%	0.5%
Total	100.0%	100.0%	0.0%

Manager Summary: Concentrated portfolio (20-30 names). Utilizes fundamental research invests in quality companies with 10% EPS growth and market leaders, invest at attractive valuation. Turnover is between 20-30%. Maximum position is 5%. Given the concentrated nature of the portfolio, high idiosyncratic risk in the portfolio and sizable tracking error. High active share (around 90-95%). No currency hedge.

Characteristics

	Portfolio	MSCI EAFE
Number of Holdings	26	842
Weighted Avg. Market Cap. (\$B)	113.4	79.8
Median Market Cap. (\$B)	60.3	14.4
Price To Earnings	37.6	17.8
Price To Book	6.2	2.8
Price To Sales	4.9	1.5
Return on Equity (%)	0.8	13.6
Yield (%)	0.5	2.7

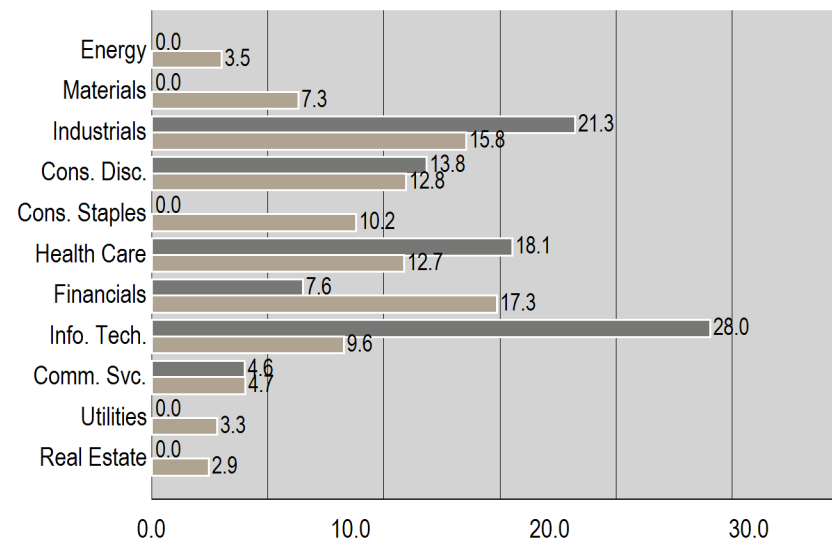
Top Holdings

ICICI BANK LTD	5.7%
AIRBUS SE	5.6%
WUXI BIOLOGICS (CAYMAN) INC	5.5%
APTIV PLC	5.4%
ASTRAZENECA PLC	5.4%
ATLISSIAN CORP PLC	5.3%
GENMAB A/S	5.3%
KEYENCE CORP	5.1%
PUMA SE	5.0%
MURATA MANUFACTURING CO LTD	5.0%
Total	53.2%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
Hardman Johnston Int'l Equity	6.1%	16.0%	71.2%	6.6%
MSCI EAFE	8.5%	24.5%	66.9%	0.0%
<i>Weight Over/Under</i>	-2.4%	-8.5%	4.3%	6.6%

Sector Allocation (%) vs MSCI EAFE



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	0.0%	0.0%	0.0%
United States	0.0%	0.0%	0.0%
Europe Ex U.K.	35.4%	49.5%	-14.1%
United Kingdom	10.8%	14.4%	-3.6%
Pacific Basin Ex Japan	16.8%	11.3%	5.6%
Japan	18.3%	24.2%	-5.9%
Emerging Markets	18.6%	0.0%	18.6%
Other	0.0%	0.6%	-0.6%
Total	100.0%	100.0%	0.0%

Manager Summary: Bottom-up fundamental manager looking for businesses that are undergoing structural change. Analysts are generalists who are unconstrained in their candidates. Looking for upside over a time horizon of 2-3 years through assessing and predicting earnings estimates. Concentrated portfolio: 25-35 names equally weighted with a max of 5% initial allocation. Sector and countries limits of 30%. Turnover is roughly 30-40%.

Characteristics

	Portfolio	MSCI EAFE
Number of Holdings	28	842
Weighted Avg. Market Cap. (\$B)	45.6	79.8
Median Market Cap. (\$B)	22.3	14.4
Price To Earnings	8.8	17.8
Price To Book	3.1	2.8
Price To Sales	2.3	1.5
Return on Equity (%)	9.4	13.6
Yield (%)	1.8	2.7

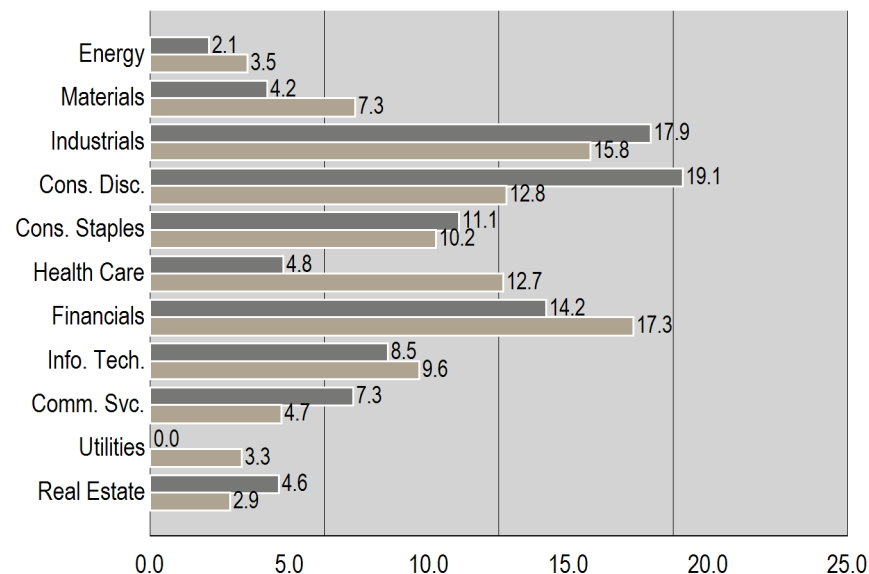
Top Holdings

ICON PLC	5.1%
CAPGEMINI SE	5.0%
DEUTSCHE WOHNEN SE	4.9%
SHIMANO INC	4.9%
TOYOTA MOTOR CORP	4.8%
DAIKIN INDUSTRIES LTD	4.7%
LIBERTY GLOBAL PLC	4.7%
NEXT PLC	4.2%
COMPASS GROUP PLC	4.2%
ALIMENTATION COUCHE-TARD INC	4.2%
Total	46.9%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
HGK Int'l Equity	4.1%	46.8%	40.0%	9.2%
MSCI EAFE	8.5%	24.5%	66.9%	0.0%
<i>Weight Over/Under</i>	<i>-4.4%</i>	<i>22.3%</i>	<i>-27.0%</i>	<i>9.2%</i>

Sector Allocation (%) vs MSCI EAFE



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	7.9%	0.0%	7.9%
United States	3.4%	0.0%	3.4%
Europe Ex U.K.	46.0%	49.5%	-3.6%
United Kingdom	12.7%	14.4%	-1.7%
Pacific Basin Ex Japan	3.5%	11.3%	-7.8%
Japan	19.0%	24.2%	-5.2%
Emerging Markets	7.5%	0.0%	7.5%
Other	0.0%	0.6%	-0.6%
Total	100.0%	100.0%	0.0%

Manager Summary: Passive strategy that seeks to replicate the return of the MSCI Emerging Markets index. This strategy is a low-cost option to gain diversified exposure to emerging market based companies.

Characteristics

	Portfolio	MSCI Emerging Markets
Number of Holdings	1,184	1,415
Weighted Avg. Market Cap. (\$B)	145.5	136.2
Median Market Cap. (\$B)	7.4	7.1
Price To Earnings	13.0	13.3
Price To Book	2.7	2.8
Price To Sales	1.4	1.5
Return on Equity (%)	13.5	13.4
Yield (%)	2.5	2.5

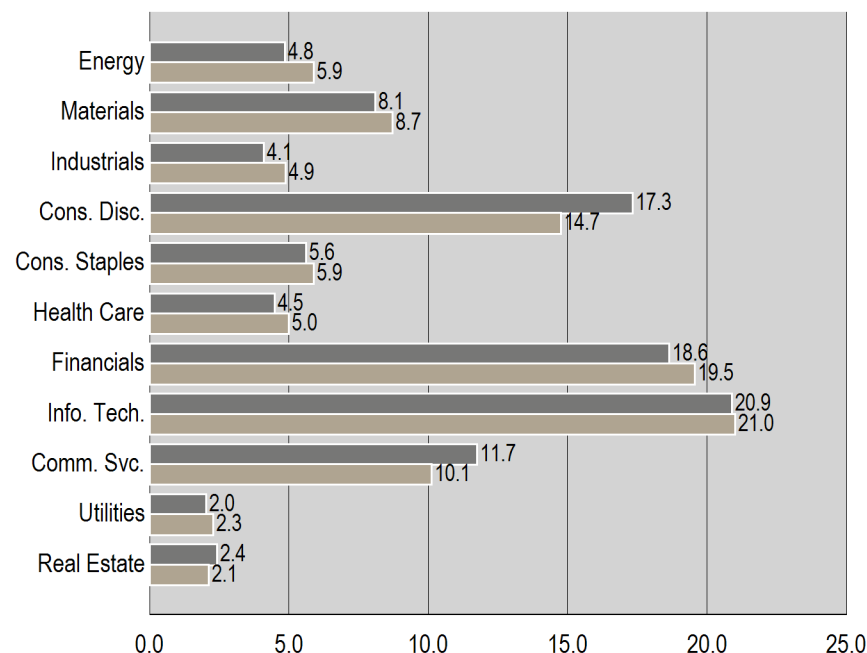
Top Holdings

TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	6.3%
TENCENT HOLDINGS LTD	5.6%
ALIBABA GROUP HOLDING LTD	5.3%
SAMSUNG ELECTRONICS CO LTD	4.3%
MEITUAN DIANPING USD0.00001 A B CLASS ISIN KYG596691041	1.7%
NASPERS LTD	1.3%
CHINA CONSTRUCTION BANK CORP	1.0%
RELIANCE INDUSTRIES LTD	1.0%
JD.COM INC	0.9%
PING AN INSURANCE GROUP	0.9%
Total	28.3%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
SSGA MSCI Emerging Markets Index	8.2%	20.4%	70.7%	0.6%
MSCI Emerging Markets	12.2%	20.2%	67.5%	0.0%
<i>Weight Over/Under</i>	-4.0%	0.2%	3.2%	0.6%

Sector Allocation (%) vs MSCI Emerging Markets



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	0.0%	0.0%	0.0%
United States	0.5%	0.0%	0.5%
Europe Ex U.K.	0.5%	0.2%	0.3%
United Kingdom	0.1%	0.0%	0.1%
Pacific Basin Ex Japan	3.1%	0.0%	3.1%
Japan	0.0%	0.0%	0.0%
Emerging Markets	94.3%	99.0%	-4.7%
Other	1.4%	0.8%	0.7%
Total	100.0%	100.0%	0.0%

Characteristics

Fund GAV (\$MM)	\$28,864.0
Fund NAV (\$MM)	\$22,809.0
Cash (% of NAV)	4.0%
# of Investments	267
% in Top 10 by NAV	18.1%
Leverage %	20.8%
Occupancy	91.1%
# of MSAs	42
1-Year Dividend Yield	
As of Date	30-Jun-21

Strategy Breakdown

	% of Portfolio
Pre-Development	0.6%
Development	2.4%
Initial Leasing	1.3%
Operating	95.7%
Re-Development	
Other	
<u>Queue In:</u>	
Contribution Queue (\$MM)	#####
Anticipated Drawdown (Months)	

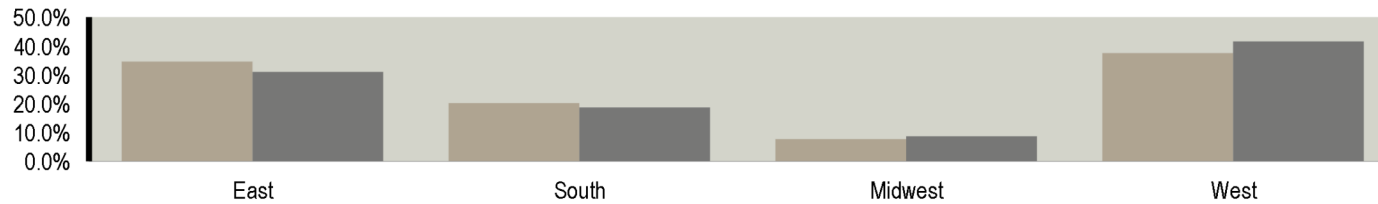
Top Five Metro Areas

	% of NAV
Los Angeles-Long Beach, CA	19.0%
New York-Newark, NY-NJ-CT-F	14.3%
Washington-Baltimore-Arlington	11.9%
San Jose-San Francisco-Oakland	8.5%
Boston-Worcester-Providence,	6.2%

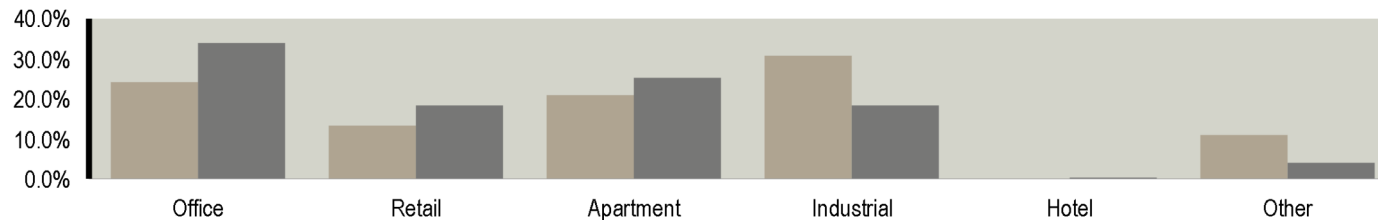
Queue Out:

Redemption Queue (\$MM)	
Anticipated Payout (Months)	

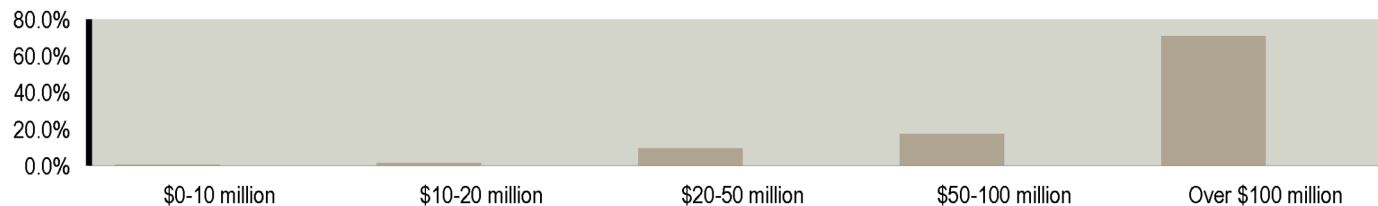
Regional Breakdown by NAV (Excluding Cash & Debt)



Property Type Breakdown by NAV (Excluding Cash & Debt)



Property Size Breakdown by NAV (Excluding Cash & Debt)



■ PRISA ■ NCREIF-ODCE

Characteristics

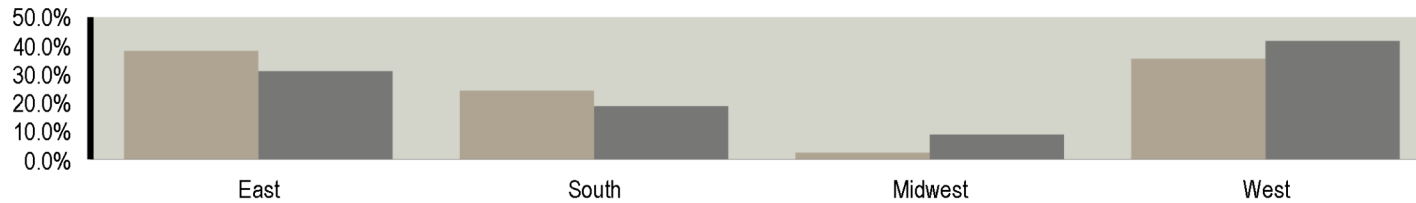
Fund GAV (\$MM)	\$14,352.0
Fund NAV (\$MM)	\$8,874.0
Cash (% of NAV)	3.2%
# of Investments	155
% in Top 10 by NAV	25.3%
Leverage %	34.8%
Occupancy	87.8%
# of MSAs	67
1-Year Dividend Yield	3.1%
As of Date	30-Jun-21

Strategy Breakdown

	% of Portfolio
Pre-Development	8.9%
Development	2.4%
Initial Leasing	13.4%
Operating	73.8%
Re-Development	0.0%
Other	1.5%
<u>Queue In:</u>	
Contribution Queue (\$MM)	\$0.00
Anticipated Drawdown (Months)	0

Top Five Metro Areas	% of NAV
Northern NJ	8.3%
San Francisco	8.0%
Boston	7.0%
San Jose	6.2%
Jersey City	5.7%
<u>Queue Out:</u>	
Redemption Queue (\$MM)	\$0.00
Anticipated Payout (Months)	0

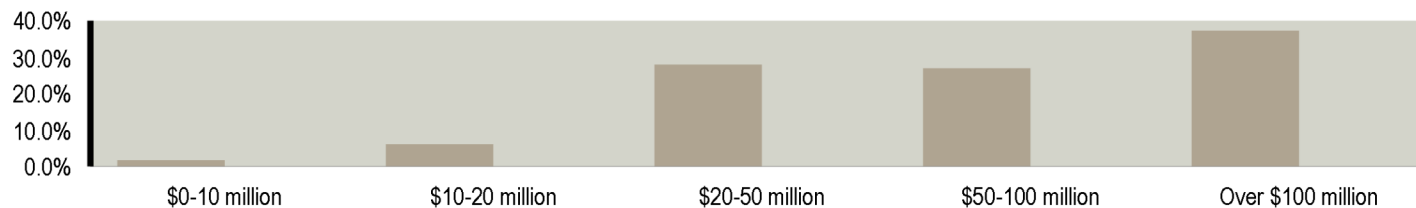
Regional Breakdown by NAV (Excluding Cash & Debt)



Property Type Breakdown by NAV (Excluding Cash & Debt)



Property Size Breakdown by NAV (Excluding Cash & Debt)



■ PRISA II ■ NCREIF-ODCE

As of September 30, 2021

Characteristics

Fund GAV (\$MM)	\$279.4
Fund NAV (\$MM)	\$259.7
Cash (% of NAV)	0.0%
# of Investments	8
Occupancy	67.0%
NOI	5.9%
Loan to Value	7.1%
As of Date	6/30/2021

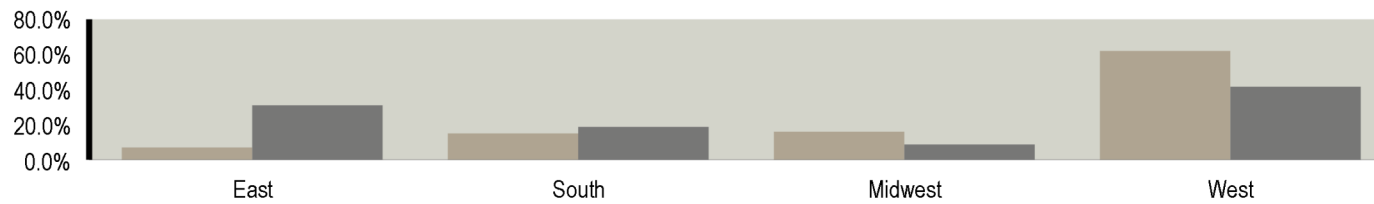
Asset Summary

Property	Acquisition
Copley Corporate Center	2010
SR Ranch	2011
Des Peres Corners	2010
708 Uptown	2014
Fairway Center II	2016
Republic Distribution Center	2013
526 Route 46	2014
Shoppes at Monarch Lakes	2010

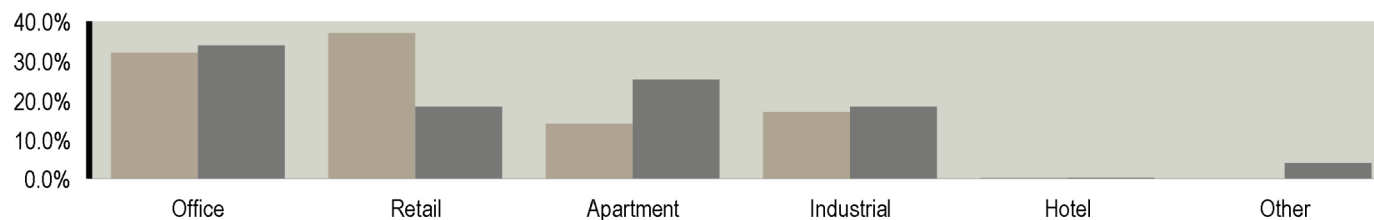
Portfolio Allocation

#	Property	Type	Location	% of Fund NAV
1	Copley Corporate Center	Office	San Diego, CA	18.2%
2	SR Ranch	Retail	San Diego, CA	16.1%
3	Des Peres Corners	Retail	Des Peres, MO	15.8%
4	708 Uptown	Apartment	Seattle, WA	14.6%
5	Fairway Center II	Office	Brea, CA	13.0%
6	Republic Distribution Center	Industrial	Houston, TX	10.3%
7	526 Route 46	Industrial	Teterboro, NJ	6.9%
8	Shoppes at Monarch Lakes	Retail	Miramar, FL	5.0%
Total				100.0%

Regional Breakdown by NAV



Property Type Breakdown by NAV



Net Assets (\$MM) 134.1

Portfolio Allocation

#	Property	Type	Location	% of Fund NAV
1	Dupont	Pine	Georgia	17.3%
2	Black River	Pine	South Carolina	16.3%
3	Coquille	Douglas Fir/Cedar	Oregon	17.6%
4	North River	Douglas Fir/Hemlock	Washington	13.1%
5	Bucktails	Maple/Oak/Cherry	Pennsylvania	13.3%
6	Carter Pasture	Pine	Texas	7.2%
7	Bennetts Creek	Pine	North Carolina	6.2%
8	Bear Island	Pine	Virginia	5.2%
9	Fitz-Weller	Maple/Oak	New York	3.8%
Total				100.0%

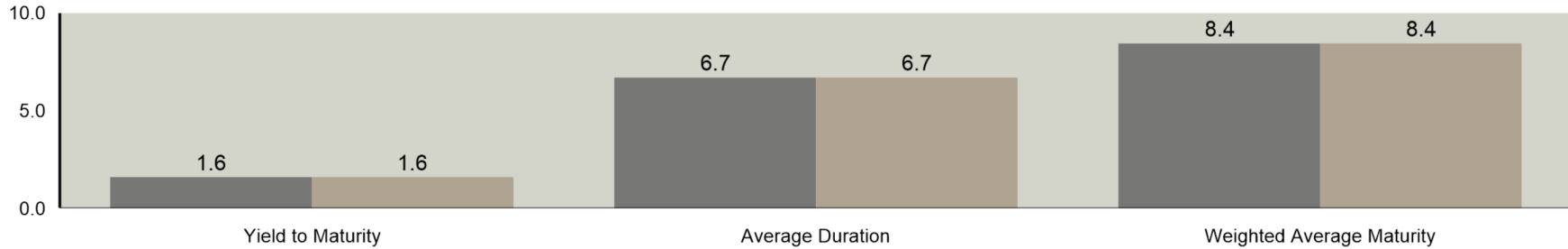
Regional Breakdown by NAV



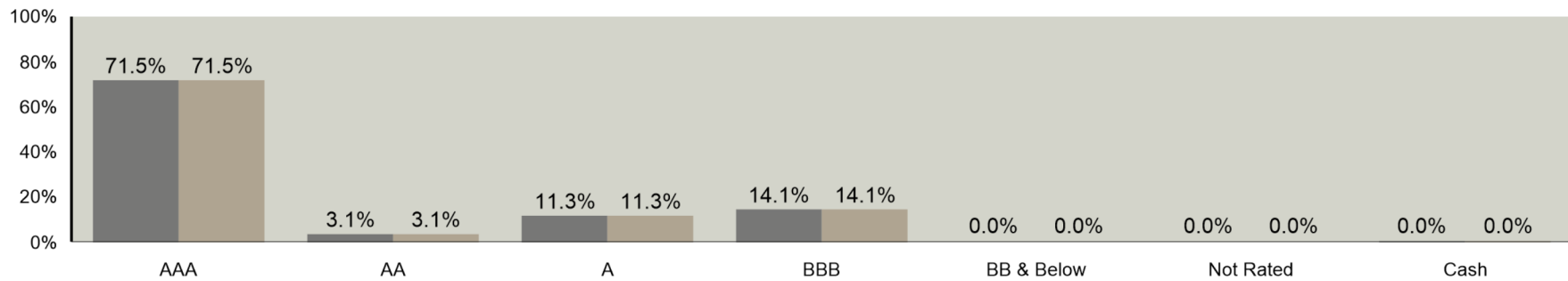
Manager Summary

Passive strategy, tracks the BBgBarc U.S. Aggregate Bond Index. Using statistical sampling techniques based on duration, maturity, interest rate sensitivity, security structure, and credit quality to attempt to replicate the returns of the Index using a smaller number of securities.

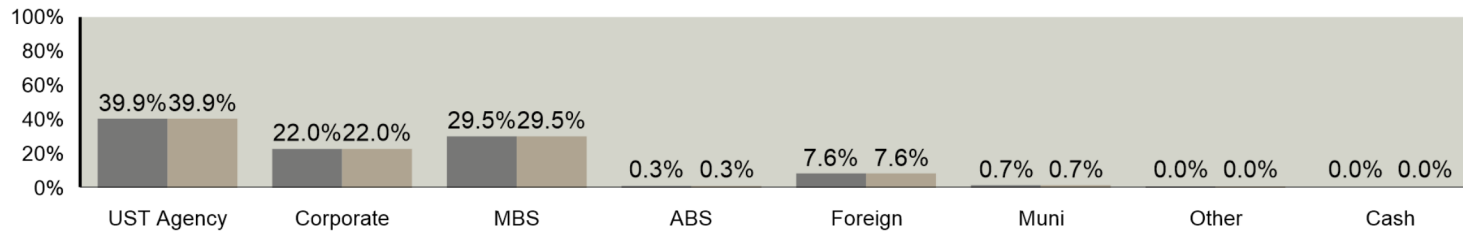
Summary Characteristics



Credibility Quality Allocation



US Sector Allocation



SSGA BBG Barclays Aggregate

BBgBarc U.S. Aggregate Bond

VI. Appendix



As of September 30, 2021

Cash Flow Summary by Manager From July 01, 2021 to September 30, 2021

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Eagle Asset Mgmt	\$227,119,805	-\$425,465	\$5,340,067	\$232,034,407
LSV Large Cap Value	\$215,981,647	\$0	-\$3,005,702	\$212,975,945
SSGA S&P 500	\$116,089,964	\$0	\$653,484	\$116,743,448
Polen Focus Growth	\$277,278,621	-\$267,569	\$7,789,816	\$284,800,867
William & Blair Large Cap Growth	\$78,676,170	-\$85,442	\$835,365	\$79,426,093
LSV Small Cap Value	\$100,437,933	-\$3,000,000	-\$2,270,847	\$95,167,086
Smith, Graham & Co Small Cap Value	\$102,681,641	-\$171,469	-\$6,117,649	\$96,392,522
SSGA Russell 2000	\$118,824,275	\$0	-\$5,182,444	\$113,641,830
Copeland Small Cap Dividend Growth	\$60,835,665	-\$75,910	-\$1,105,847	\$59,653,908
AMI Small Cap Growth	\$54,143,314	-\$101,272	\$733,521	\$54,775,564
Emerald Small Cap Growth	\$92,465,084	-\$118,147	-\$1,517,589	\$90,829,348
SSGA MSCI World ex US	\$168,951,073	\$0	-\$1,126,846	\$167,824,227
Hardman Johnston Int'l Equity	\$179,465,060	\$0	\$2,296,031	\$181,761,090
HGK Int'l Equity	\$168,109,615	\$0	\$1,674,758	\$169,784,372
Jarislowsky, Fraser Limited	\$316,883	\$0	-\$5,527	\$311,357
Mercator Asset Management	\$19,165	\$0	-\$436	\$18,730
GlobeFlex Capital	\$2,658	\$0	\$159	\$2,817
WHV Investment Management	\$3,170	\$0	-\$72	\$3,098
SSGA MSCI Emerging Markets Index	\$330,520,758	-\$6,000,000	-\$27,592,189	\$296,928,569
Forest Investment Associates	\$133,963,103	-\$1,500,000	\$2,965,732	\$135,428,835
PRISA LP	\$55,445,216	-\$133,446	\$4,308,119	\$59,619,890
PRISA II	\$112,243,471	-\$307,041	\$8,480,765	\$120,417,196
PennMuni-Nuveen U.S. Real Estate Fund	\$211,438,010	-\$2,829,086	\$0	\$208,608,924
N. Front Street (Nuveen)	\$2,100,476	\$0	\$0	\$2,100,476
SSGA US Aggregate Bond Index	\$635,136,465	\$0	\$402,889	\$635,539,355
Cash Management	\$10,867,896	-\$5,426,260	\$11,868	\$5,453,504
Pool 999	\$6,692,648	-\$6,692,648	\$0	\$0
Total	\$3,459,809,786	-\$27,133,755	-\$12,432,573	\$3,420,243,458

Pennsylvania Municipal Retirement System

Fee Summary

As of September 30, 2021

Account	Fee Schedule	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
Eagle Asset Mgmt	1.00% of First 5.0 Mil, 0.75% Thereafter	6.8%	\$1,752,758	0.76%
LSV Large Cap Value	0.60% of First 25.0 Mil, 0.50% of Next 25.0 Mil, 0.40% of Next 50.0 Mil, 0.30% of Next 100.0 Mil, 0.30% Thereafter	6.2%	\$813,928	0.38%
SSGA S&P 500	0.03% of Assets	3.4%	\$35,023	0.03%
Polen Focus Growth	0.40% of Assets	8.3%	\$1,139,203	0.40%
William & Blair Large Cap Growth	0.50% of First 50.0 Mil, 0.35% of Next 50.0 Mil, 0.30% of Next 150.0 Mil, 0.25% Thereafter	2.3%	\$352,991	0.44%
LSV Small Cap Value	0.75% of First 25.0 Mil, 0.65% of Next 25.0 Mil, 0.55% Thereafter	2.8%	\$598,419	0.63%
Smith, Graham & Co Small Cap Value	0.75% of First 50.0 Mil, 0.60% Thereafter	2.8%	\$653,355	0.68%
SSGA Russell 2000	0.04% of First 50.0 Mil, 0.03% Thereafter	3.3%	\$39,093	0.03%
Copeland Small Cap Dividend Growth	0.50% of Assets	1.7%	\$298,270	0.50%
AMI Small Cap Growth	0.90% of First 10.0 Mil, 0.80% of Next 15.0 Mil, 0.70% of Next 25.0 Mil, 0.60% Thereafter	1.6%	\$413,653	0.76%
Emerald Small Cap Growth	0.60% of First 10.0 Mil, 0.55% of Next 5.0 Mil, 0.50% Thereafter	2.7%	\$466,647	0.51%

Pennsylvania Municipal Retirement System

Fee Summary

As of September 30, 2021

Account	Fee Schedule	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
SSGA MSCI World ex US	0.05% of Assets	4.9%	\$83,912	0.05%
Hardman Johnston Int'l Equity	0.75% of First 25.0 Mil, 0.60% Thereafter	5.3%	\$1,128,067	0.62%
HGK Int'l Equity	0.90% of First 5.0 Mil, 0.80% of Next 5.0 Mil, 0.70% of Next 15.0 Mil, 0.65% Thereafter	5.0%	\$1,131,098	0.67%
SSGA MSCI Emerging Markets Index	0.08% of First 50.0 Mil, 0.05% Thereafter	8.7%	\$163,464	0.06%
Forest Investment Associates	0.75% of Assets	4.0%	\$1,015,716	0.75%
PRISA LP	1.00% of First 25.0 Mil, 0.95% of Next 25.0 Mil, 0.85% of Next 50.0 Mil, 0.75% of Next 100.0 Mil, 0.70% of Next 100.0 Mil, 0.65% Thereafter	1.7%	\$569,269	0.95%
PRISA II	1.20% of First 25.0 Mil, 1.15% of Next 25.0 Mil, 1.05% of Next 50.0 Mil, 0.95% of Next 100.0 Mil, 0.90% of Next 100.0 Mil, 0.85% Thereafter	3.5%	\$1,306,463	1.08%
PennMuni-Nuveen U.S. Real Estate Fund	0.85% of Assets	6.1%	\$1,773,176	0.85%
N. Front Street (Nuveen)	0.85% of Assets	0.1%	\$17,854	0.85%
SSGA US Aggregate Bond Index	0.02% of Assets	18.6%	\$127,108	0.02%
Cash Management	No Fee	0.2%	--	--
Investment Management Fee		100.0%	\$13,879,468	0.41%

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