

Investment Committee
Thursday, November 10, 2022, 9:00 a.m.
Retirement and Investment Conference Room (Virtual)
1600 E Century Ave, Suite 3, Bismarck, ND 58507
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AGENDA

- I. **CALL TO ORDER AND ACCEPTANCE OF AGENDA**
- II. **ACCEPTANCE OF MINUTES (OCTOBER 2022)**
- III. **INVESTMENT COMMITTEE PROPOSED CALENDAR – MR. ANDERSON**
- IV. **EQUITY PORTFOLIO REVIEW – MR. ANDERSON, MR. CHIN, MR. POSCH**
- V. **TRANSITION UPDATE – MR. CHIN**
- VI. **COMPLIANCE PROCESS – MR. CHIN**
- VII. **ADJOURNMENT**

**STATE INVESTMENT BOARD
INVESTMENT COMMITTEE MEETING
MINUTES OF THE
OCTOBER 7, 2022, MEETING**

MEMBERS PRESENT: Thomas Beadle, State Treasurer, Chair
Joseph Heringer, Trust Lands Commissioner, Vice Chair
Scott Anderson, CIO
Eric Chin, Deputy CIO
Dr. Prodosh Simlai, External Representative
Dr. Ruilin Tian, External Representative

STAFF PRESENT: Missy Kopp, Exec Assistant
Jan Murtha, Exec Director
Matt Posch, Sr. Investment Officer
Chad Roberts, DED/CRO
Sara Sauter, Suprv of Internal Audit
Ryan Skor, CFO/COO

GUESTS: Members of the Public

CALL TO ORDER:

Treasurer Beadle called the State Investment Board (SIB) Investment Committee (IC) meeting to order at 9:03 a.m. on Friday, October 7, 2022, at Workforce Safety & Insurance, 1600 E Century Ave., Bismarck, ND.

The following Investment Committee members were present representing a quorum, Mr. Anderson, Mr. Chin, Treasurer Beadle, Commissioner Heringer, Dr. Simlai, and Dr. Tian.

AGENDA:

The agenda was considered for the October 7, 2022, meeting.

IT WAS MOVED BY COMMISSIONER HERINGER AND SECONDED BY DR. TIAN AND CARRIED BY A VOICE VOTE TO APPROVE THE AGENDA FOR THE OCTOBER 7, 2022, MEETING AS DISTRIBUTED.

AYES: COMMISSIONER HERINGER, MR. ANDERSON, DR. SIMLAI, MR. CHIN, DR. TIAN, AND TREASURER BEADLE

NAYS: NONE

MOTION CARRIED

ACKNOWLEDGEMENT OF APPOINTED CHAIR AND VICE CHAIR AND INTRODUCTIONS:

Mr. Anderson acknowledged the appointments made by the SIB Chair of Treasurer Beadle as the IC Chair and Commissioner Heringer as Vice Chair. Treasurer Beadle reviewed the makeup of the SIB and their responsibilities. Committee members made introductions.

GOVERNANCE FOR GROWTH:

Mr. Anderson provided the IC with a presentation on how the SIB's evolving governance model can support further program growth. This presentation has been given to the SIB Governance and Policy Review (GPR) Committee and the SIB. Mr. Anderson discussed the time horizon of decision making. The current governance model falls into a minimal delegation model where external managers are

responsible for executing a mandate, investment staff make recommendations and provide opinions on investment strategy, and the Board is responsible for making policy and final decisions. We are moving toward a “some delegated authority” model where decision making moves toward the Investment Committee which is a hybrid committee made up of Board members, staff, and outside experts.

Mr. Anderson discussed the near-term plans for modifications to the SIB Governance manual and post-legislative session modifications. Some sections of the manual need modifications because of the addition of the Investment Committee. There are also some sections of the manual that are out of date and some changes that need to be made for TFFR. Staff plan to work on the necessary changes now so we can operate. After completion of legislative session, staff recommend a complete rewrite of the manual. Mr. Anderson outlined the proposed process for making these modifications. Committee discussion followed.

INVESTMENT COMMITTEE CHARTER AND ACTIVITIES:

Mr. Anderson reviewed the Investment Committee Charter presentation that was previously given to the GPR Committee prior to the creation of the IC. The presentation included three types of IC archetypes. The SIB chose the hybrid model. The IC is composed of two board members, two external investment professionals, and two RIO staff. Mr. Anderson reviewed the important capabilities and proposed responsibilities for the IC and the general procedures that will be followed for IC meetings. Committee discussion followed.

INVESTMENT ACTIVITIES TO DATE:

Mr. Anderson provided a summary of investment activities to date in 2022. The assets under management (AUM) for the SIB has grown from about \$4 billion in 2010 to over \$20 billion currently. This growth offers an opportunity to take advantage of scale with internal indexing and funds management. Staff have discussed the necessary capabilities for success with the SIB and have already implemented some of these capabilities including the formation of the new GPR and Investment Committees, a change of the Executive Review Committee’s scope, an audit consultant, and a risk management program. Mr. Anderson reviewed the legislative activities that have taken place so far this year. Staff will complete a comprehensive portfolio review in the coming months to identify opportunities across client funds, asset classes, sub-asset classes, and managers. Mr. Anderson explained the three planned phases for fund structure design changes. Committee discussion followed.

With no further business to come before the Investment Committee, Treasurer Beadle adjourned the meeting at 11:48 a.m.

Prepared by:

Missy Kopp
Assistant to the Board

State Investment Board & Committee Calendar 2022-23

Below please find a combined SIB & TFFR Board and Committee Calendar for 2022-2023. The TFFR Board approved its 2022/23 schedule at its meeting on April 21, 2022. While committee dates are subject to change, if the proposed Board schedule meets expectations staff requests the Board approve the following:

July 2022

July 21, 2022 – TFFR @ 1:00 PM
July 21, 2022 - SIB GPR @ 10:00 AM
July 22, 2022 – SIB @ 8:30 AM

August 2022

August 9, 2022- TFFR GPR @ 10:00 AM
August 9, 2022 – SIB Audit Committee @ 2:30 PM
August 23, 2022 – SIB GRP @ 2:30 PM
August 26, 2022 – SIB @ 8:30 AM

September 2022

September 27, 2022 – SIB Securities @ 3:00 PM
September 22, 2022 – SIB GRP @ 10:00 AM
September 22, 2022 – TFFR @ 1:00 PM
September 23, 2022 – SIB @ 8:30 AM

October 2022

October 26, 2022 – SIB GPR @ 2:30 PM
October 28, 2022 – SIB @ 8:30 AM

November 2022

November 8, 2022 – TFFR GPR @ 3:30 PM
November 10, 2022 – Investment Comm @ 9:00 AM
November 15, 2022 – SIB Audit Committee @ 2:30 PM
November 16, 2022 – SIB GPR @ 2:30 PM
November 17, 2022 – TFFR @ 1:00 PM
November 18, 2022 – SIB @ 8:30 AM

December 2022

December 9, 2022 – Investment Comm @ 9:00 AM?
December 13, 2022 – SIB Securities @ 10:00 AM
December 16, 2022 – SIB @ 8:30 AM (tentative)

January 2023

January 13, 2023 – Investment Comm @ 9:00 AM
January 26, 2023 – TFFR @ 1:00 PM
January 26, 2023 – SIB GPR @ 10:00 AM
January 27, 2023 – SIB @ 8:30 AM

February 2023

February 7, 2023 – TFFR GPR @ 3:30 PM
February 10, 2023 – Investment Comm @ 9:00 AM
February 16, 2023 – SIB Audit Committee @ 10:00 AM
February 16, 2023 – TFFR @ 2:00 PM (tentative)
February 17, 2023 – SIB @ 8:30 AM

March 2023

March 10, 2023 – Investment Comm @ 9:00 AM
March 21, 2023 – SIB Securities @ 10:00 AM
March 23, 2023 – SIB GPR @ 10:00 AM
March 23, 2023 – TFFR @ 1:00 PM
March 24, 2023 – SIB @ 8:30 AM

April 2023

April 14, 2023 – Investment Comm @ 9:00 AM
April 27, 2023 – SIB GPR @ 10:00 AM
April 27, 2023 – TFFR @ 1:00 PM
April 28, 2023 – SIB @ 8:30 AM

May 2023

May 9, 2023 – TFFR GPR @ 3:30 PM
May 12, 2023 – Investment Comm @ 9:00 AM
May 11, 2023 – SIB Audit Committee @ 2:30 PM
May 18, 2023 – SIB GPR @ 10:00 AM
May 19, 2023 – SIB @ 8:30 AM

June 2023

June 9, 2023 – Investment Comm @ 9:00 AM
June 13, 2023 – SIB Securities @ 10:00 AM
June 15, 2023 – TFFR Board Retreat @ 1:00 PM



EQUITY PORTFOLIO REVIEW

INVESTMENT STAFF
NOVEMBER 10, 2022

NORTH
Dakota
Be Legendary.

Retirement & Investment

CLIENT PORTFOLIO EQUITY WEIGHTS

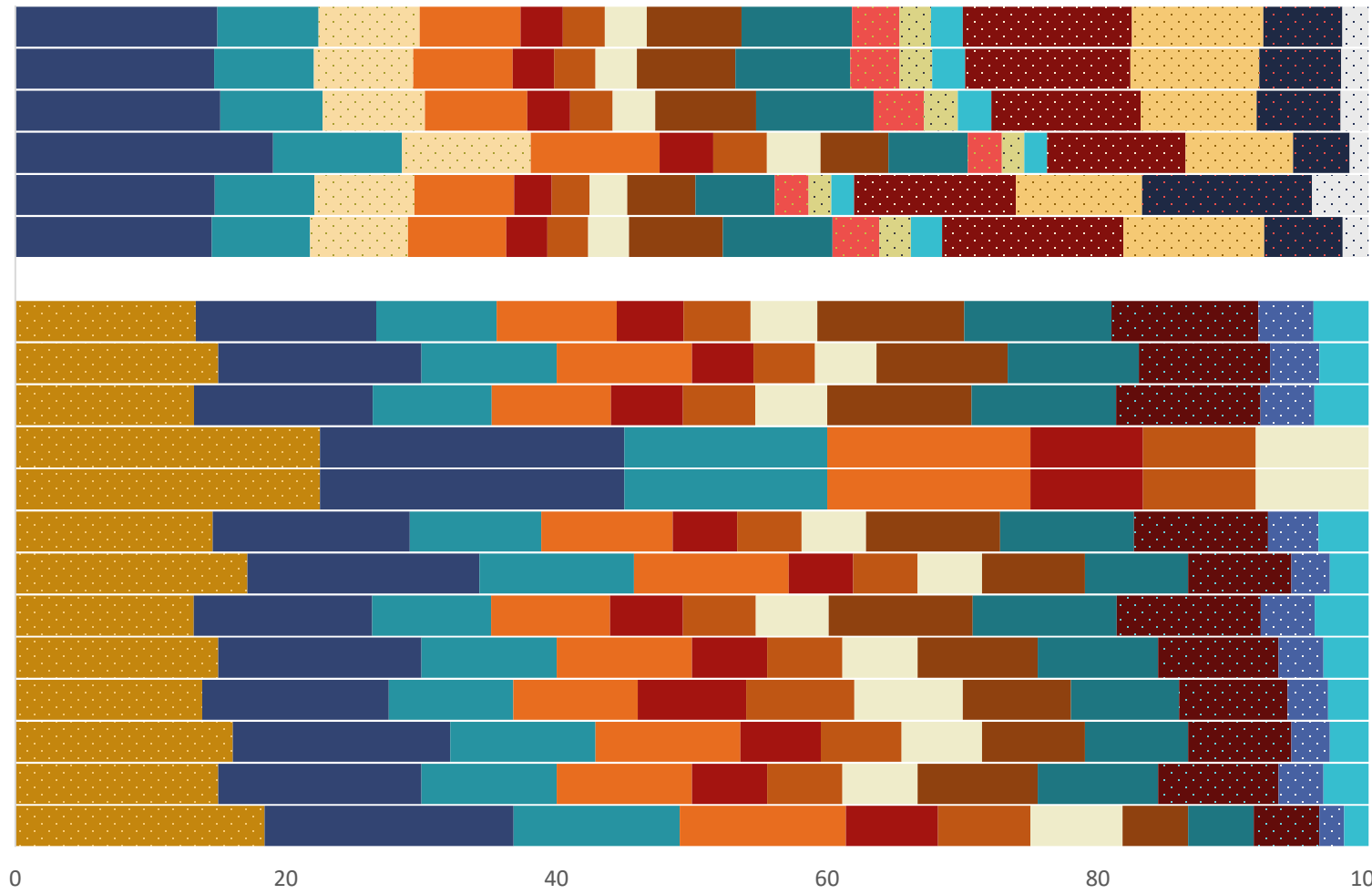
 PATTERN INDICATES MGR IS IN SOME BUT NOT ALL PORTFOLIOS

Pension

TFFR
Bismarck Police
PERS
Grand Forks Employees
Grand Forks Park District
Bismarck Employees

Insurance & Legacy Fund

Board of Medicine
WSI
Veteran's Cemetery
Risk Management WC
Risk Management
Parks & Rec
ND Association of Counties
Legacy Fund
Regulatory Trust Fund
FargoDome
Fire & Tornado
Deferred Sick Leave
Cultural



- Domestic Large Cap**
 - LSV Large Cap Value
 - LA Capital Large Cap Growth
 - LA Capital Large Cap Enhanced
 - NTAM Quant Enhanced S&P 500
 - Parametric Enhanced S&P 500
- Domestic Small Cap**
 - Sycamore Small Cap Value
 - Riverbridge Small Cap Growth
 - Atlanta Capital Small Cap Equity Fund
- International**
 - William Blair International Leaders
 - Arrowstreet International Equity
 - LSV International Large Cap Value
 - NTAM MSCI World ex-US Index
 - Wellington Intl Small Cap Opportunities
 - Vanguard Intl Explorer Fund
 - DFA International Small Cap Value
- Global**
 - LSV Global Value Equity
 - Epoch Global Choice
- Emerging Markets**
 - Axiom Emerging Markets Equity Fund
 - DFA Emerging Markets Small Cap Portfolio

Portfolio Weight (%)

PHASE

ACTIVITIES

1.0

SUB-ASSET STRUCTURE

- INDEXING FOR LIQUIDITY, TRACKING ERROR CONTROL, AND REBALANCING
- CONSISTENT SUB-ASSET ALLOCATIONS AND ASSET ALLOCATION POOLS ACROSS FUNDS BASED ON MARKET REPRESENTATIVE UNIVERSES AND BENCHMARKS
- MANGER'S MANDATES RISK ALIGNED TO ASSET ALLOCATION AND TO MANAGE RISK

2.0

SUB-ASSET OPTIMIZATION

- FIND OPTIMAL POOL OF MANAGERS FOR SUB-ASSET ACTIVE RETURN AND RISK GOALS
- CONSTRUCT OPTIMAL WEIGHTING OF MANAGER MANDATES

3.0

ADVANCED FUNDS MANAGEMENT

- OFFSET SUB-ASSET EXPOSURES TO OPTIMIZE ACTIVE RETURN/RISK
- MANAGE LIQUIDITY, REBALANCING AND EXPOSURES WITH INDEX FUNDS

BENCHMARK HARMONIZATION

ALLOCATION	BENCHMARK	PERS EQUITY BENCHMARK	WSI EQUITY BENCHMARK	LEGACY FUND EQUITY BENCHMARK	NEW POLICY BENCHMARK
WORLD EQUITY	MSCI WORLD	20%			
LARGE CAP DOMESTIC	RUSSELL 1000	38%	50%	44%	52%
SMALL CAP DOMESTIC	RUSSELL 2000	9%	14%	16%	9%
INTERNATIONAL ALL CAP DEVELOPED	MSCI ACWI EX US IMI				15%
INTERNATIONAL	MSCI WORLD EX US	25%	36%	40%	15%
INTERNATIONAL SMALL CAP	MSCI WORLD EX US SMALL CAP				2%
EMERGING MARKETS	MSCI EMERGING MARKETS	8%			7%
TOTAL		100%	100%	100%	100%

- NEW POLICY BENCHMARK CORRESPONDS TO THE MSCI ACWI IMI 60% US/40% NON-US RATIO
- INTERNATIONAL COMPONENTS OF THE NEW POLICY BENCHMARK AMALGAMATES TO THE MSCI ACWI IMI EX US INDEX
- STAFF MAINTAINS FLEXIBILITY TO ADJUST SUB-ASSET CLASS ALLOCATIONS TO RESPOND TO MARKETS

IMPLEMENT ONE EQUITY ALLOCATION

MANAGER/STRATEGY	PERS PRIOR EQUITY ALLOCATION (% EQUITY)	WSI PRIOR EQUITY ALLOCATION (% EQUITY)	LEGACY PRIOR EQUITY ALLOCATION (% EQUITY)	NEW EQUITY ALLOCATION
WORLD EQUITY	20.3%	-	-	-
1 EPOCH GLOBAL CHOICE	8.7%	-	-	-
LSV GLOBAL VALUE EQUITY	11.6%	-	-	-
LARGE CAP DOMESTIC EQUITY	40.1%	50.5%	50.7%	51.8%
LA CAPITAL LARGE CAP GROWTH	14.7%	14.5%	15.1%	1.3%
LA CAPITAL 60% LARGE CAP/40% ACTIVE EXTENSION	8.9%	10.8%	11.3%	21.3%
2 LSV LARGE CAP VALUE	-	15.4%	12.3%	-
NTAM - QUANT ENHANCED S&P 500	3 8.3%	-	-	8.1%
PARAMETRIC/CLIFTON GROUP ENHANCED S&P 500	8.1%	9.9%	12.0%	8.1%
RUSSELL 1000 INDEX	-	-	-	4 12.9%
SMALL CAP DOMESTIC EQUITY	10.1%	10.4%	9.3%	9.1%
ATLANTA CAPITAL SMALL CAP EQUITY FUND	3.6%	3.6%	3.2%	2.9%
RIVERBRIDGE SMALL CAP GROWTH	2.7%	3.3%	3.2%	2.9%
SYCAMORE SMALL CAP VALUE	3.8%	3.5%	3.0%	2.9%
RUSSELL 2000	-	-	-	4 0.5%
INTERNATIONAL ALL CAP	14.7%	19.9%	23.4%	15.2%
WILLIAM BLAIR INTERNATIONAL LEADERS	6.1%	8.7%	12.5%	6.1%
ARROWSTREET INTERNATIONAL EQUITY	8.6%	11.2%	10.9%	8.6%
MSCI ACWI EX US IMI PASSIVE	-	-	-	4 0.5%
DEVELOPED INTERNATIONAL EQUITY	3.6%	11.6%	10.0%	14.6%
NTAM - MSCI WORLD EX-US INDEX	3.6%	-	-	-
MSCI WORLD EX-US INDEX SSGA	-	-	-	4 14.6%
2 LSV INTERNATIONAL LARGE CAP VALUE	-	11.6%	10.0%	-
INTERNATIONAL SMALL CAP	4.8%	7.5%	6.6%	2.6%
DFA INTL. SMALL CAP VALUE PORTFOLIO	2.5%	4.1%	3.7%	1.0%
3 WELLINGTON INTERNATIONAL SMALL CAP	2.4%	-	-	1.0%
2 VANGUARD INTERNATIONAL EXPLORER FUND	-	3.4%	3.0%	-
MSCI WORLD EX US SMALL	-	-	-	4 0.5%
EMERGING MARKETS	6.4%	-	-	6.7%
AXIOM EMERGING MARKETS EQUITY FUND	3 4.5%	-	-	4.7%
DFA EMERGING MARKETS SMALL CAP PORTFOLIO	3 1.9%	-	-	1.6%
MSCI EMERGING MARKETS	-	-	-	4 0.5%
TOTAL	100.0%	100.0%	100.0%	100.0%

IMPLEMENT ONE EQUITY ALLOCATION

1 REMOVE WORLD EQUITIES FROM PENSION POOL

2 REMOVE LSV LARGE CAP VALUE, LSV INTL. LARGE CAP VALUE & VANGUARD INTL. EXPL. FUND FROM LEGACY AND INSURANCE

3 ADD NTAM QUANT ENHANCED S&P 500, WELLINGTON INTL. SMALL CAP & EMERGING MARKETS ASSET CLASS TO LEGACY AND INSURANCE

4 ADD PASSIVE INDEX TO EACH SUB ASSET CLASS

ONE YEAR CONTRIBUTION TO EQUITY ACTIVE RETURN

	ACTUAL WEIGHT	POLICY WEIGHT	PORTFOLIO RETURN	POLICY RETURN	SUB ASSET-CLASS EXCESS RETURN	EXCESS RETURN	POLICY ACTIVE RETURN	ACTIVE EXPOSURE RETURN	TOTAL ACTIVE RETURN ¹
PUBLIC EQUITY	52.1%	51.0%	-16.17%	-16.42%	0.00%	0.09%	0.09%	0.17%	0.26%
WORLD EQUITY	20.6%	19.6%	-13.32%	-14.34%	0.41%	0.20%	0.61%	0.03%	0.64%
EPOCH	9.1%	8.6%	-16.14%		0.29%	-0.27%	0.02%	0.00%	0.03%
LSV	11.5%	11.0%	-11.08%		0.37%	0.22%	0.59%	0.03%	0.61%
DOMESTIC EQUITY	48.2%	47.3%	-13.52%	-15.55%	0.41%	0.96%	1.37%	0.03%	1.40%
LARGE CAP DOMESTIC	38.7%	37.8%	-12.84%	-13.04%	1.28%	0.07%	1.35%	0.03%	1.39%
LA CAPITAL GROWTH	15.5%	15.1%	-16.20%		0.51%	-0.48%	0.03%	0.00%	0.03%
LA CAPITAL EXTENSION	8.0%	7.6%	-10.88%		0.26%	0.16%	0.42%	0.02%	0.44%
NTAM - QUANT	7.5%	7.6%	-7.73%		0.26%	0.40%	0.66%	-0.01%	0.65%
PARAMETRIC/CLIFTON	7.7%	7.6%	-13.08%		0.26%	0.00%	0.25%	0.00%	0.26%
SMALL CAP DOMESTIC	9.5%	9.5%	-16.28%	-25.20%	-0.83%	0.84%	0.01%	0.00%	0.01%
ATLANTA CAPITAL	3.2%	3.2%	-7.60%		-0.28%	0.55%	0.28%	0.00%	0.28%
RIVERBRIDGE GROWTH	2.9%	3.1%	-35.06%		-0.27%	-0.31%	-0.58%	0.03%	-0.54%
SYCAMORE VALUE	3.4%	3.2%	-8.25%		-0.28%	0.53%	0.26%	0.02%	0.28%
INTERNATIONAL EQUITY	32.2%	33.1%	-22.11%	-18.90%	-0.82%	-1.07%	-1.89%	0.11%	-1.78%
TOTAL DEVELOPED INTERNATIONAL	24.1%	24.9%	-20.38%	-16.76%	-0.08%	-0.90%	-0.98%	0.03%	-0.95%
NTAM	8.3%	8.2%	-16.26%		-0.20%	0.22%	0.01%	0.00%	0.01%
WILLIAM BLAIR	7.3%	7.3%	-28.52%		-0.18%	-0.70%	-0.88%	0.00%	-0.88%
ARROWSTREET	3.3%	4.4%	-11.23%		-0.11%	0.34%	0.23%	-0.06%	0.17%
DFA INTL. VALUE	2.4%	2.5%	-13.72%		-0.06%	0.13%	0.07%	0.00%	0.07%
WELLINGTON	2.8%	2.5%	-27.77%		-0.06%	-0.22%	-0.28%	-0.04%	-0.32%
EMERGING MARKETS	7.1%	8.3%	-27.98%	-25.28%	-0.73%	-0.22%	-0.96%	0.13%	-0.83%
AXIOM	5.2%	6.2%	-31.58%		-0.55%	-0.39%	-0.94%	0.15%	-0.79%
DFA	1.9%	2.1%	-18.29%		-0.18%	0.14%	-0.04%	0.00%	-0.04%

FIVE YEAR CONTRIBUTION TO EQUITY ACTIVE RETURN¹

	ACTUAL WEIGHT	POLICY WEIGHT	PORTFOLIO RETURN ¹	POLICY RETURN ¹	SUB ASSET-CLASS EXCESS RETURN	EXCESS RETURN	POLICY ACTIVE RETURN	ACTIVE EXPOSURE RETURN	TOTAL ACTIVE RETURN ¹
PUBLIC EQUITY	52.1%	51.0%	7.76%	6.99%	0.00%	0.66%	0.66%	0.10%	0.76%
WORLD EQUITY	20.6%	19.6%	5.55%	7.67%	0.13%	-0.41%	-0.28%	-0.01%	-0.30%
EPOCH	9.1%	8.6%	5.95%		0.34%	-0.43%	-0.09%	-0.01%	-0.09%
LSV	11.5%	11.0%	5.24%		0.44%	-0.64%	-0.19%	-0.01%	-0.20%
DOMESTIC EQUITY	48.2%	47.3%	11.71%	9.77%	1.32%	0.92%	2.24%	0.04%	2.28%
LARGE CAP DOMESTIC	38.7%	37.8%	12.26%	11.00%	1.52%	0.48%	1.99%	0.05%	2.04%
LA CAPITAL GROWTH	15.5%	15.1%	14.44%		0.61%	0.52%	1.13%	0.03%	1.16%
LA CAPITAL EXTENSION	8.0%	7.6%	11.36%		0.30%	0.03%	0.33%	0.02%	0.35%
NTAM - QUANT	7.5%	7.6%	10.23%		0.30%	-0.06%	0.25%	0.00%	0.24%
PARAMETRIC/CLIFTON	7.7%	7.6%	10.79%		0.30%	-0.02%	0.29%	0.01%	0.29%
SMALL CAP DOMESTIC	9.5%	9.5%	9.48%	5.17%	-0.17%	0.41%	0.24%	0.00%	0.24%
ATLANTA CAPITAL	9.5%	9.5%	9.48%		-0.17%	0.41%	0.24%	0.00%	0.24%
RIVERBRIDGE GROWTH	0.0%	0.0%	0.00%		0.00%	0.00%	0.00%	0.00%	0.00%
SYCAMORE VALUE	0.0%	0.0%	0.00%		0.00%	0.00%	0.00%	0.00%	0.00%
INTERNATIONAL EQUITY	31.2%	33.1%	3.09%	2.61%	-1.45%	0.16%	-1.29%	0.07%	-1.22%
TOTAL DEVELOPED INTERNATIONAL	24.1%	24.8%	3.06%	2.66%	-1.07%	0.10%	-0.97%	0.03%	-0.95%
NTAM	9.1%	9.3%	3.06%		-0.41%	0.04%	-0.37%	0.01%	-0.36%
WILLIAM BLAIR	8.1%	8.4%	5.34%		-0.37%	0.23%	-0.14%	0.00%	-0.13%
ARROWSTREET	0.0%	0.0%	0.00%		0.00%	0.00%	0.00%	0.00%	0.00%
DFA INTL. VALUE	3.2%	3.6%	0.38%		-0.16%	-0.08%	-0.24%	0.02%	-0.21%
WELLINGTON	3.6%	3.5%	0.34%		-0.15%	-0.08%	-0.23%	-0.01%	-0.24%
EMERGING MARKETS	7.1%	8.3%	3.18%	3.23%	-0.31%	0.00%	-0.32%	0.04%	-0.27%
AXIOM	5.2%	6.2%	2.98%		-0.23%	-0.02%	-0.25%	0.04%	-0.21%
DFA	1.9%	2.1%	3.72%		-0.08%	0.01%	-0.07%	0.00%	-0.06%

1. Difference of active return with official performance presentation from using one-year weights, weight rounding, multi-period return linking and assumptions for terminated and new managers.

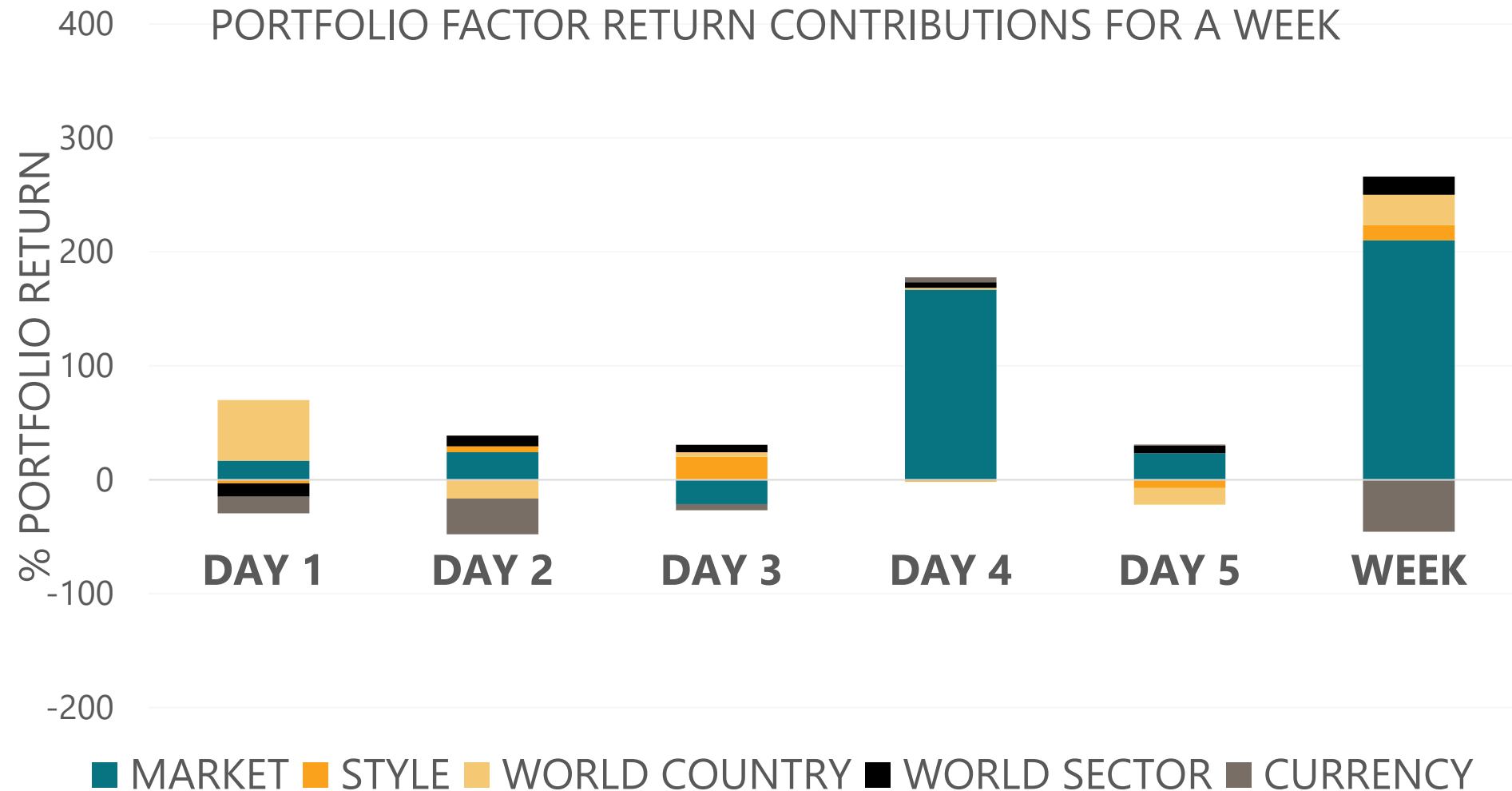
TRANSFORM STOCK RETURNS TO FACTOR RETURNS TO EXPLAIN RETURN/RISK!



STOCK WEIGHT	STOCK RETURN	STOCK RISK		FACTOR EXPOSURE	FACTOR RETURN	RETURN CONTRIBUTION	RISK CONTRIBUTION
STOCK 1	X RETURN 1	RISK 1	TRANSFORM	FACTOR 1	RETURN 1	CONTRIBUTION 1	RISK 1
STOCK 2	X RETURN 2	RISK 2		FACTOR 2	RETURN 2	CONTRIBUTION 2	RISK 2
STOCK 3	X RETURN 3	RISK 3		FACTOR 3	RETURN 3	CONTRIBUTION 3	RISK 3
STOCK 4	X RETURN 4	RISK 4		FACTOR 4	RETURN 4	CONTRIBUTION 4	RISK 4
STOCK 5	X RETURN 5	RISK 5		FACTOR 5	RETURN 5	CONTRIBUTION 5	RISK 5
STOCK 6	X RETURN 6	RISK 6		SPECIFIC	RETURN	CONTRIBUTION 6	RISK 6
STOCK 7	X RETURN 7	RISK 7					
.....					
STOCK 4000	X RETURN 4000	RISK 8					
SUM	TOTAL RETURN	TOTAL RISK		SUM		TOTAL RETURN	TOTAL RISK

EQUALS! (=)

EXAMPLE PORTFOLIO FACTOR RETURN CONTRIBUTIONS FOR A WEEK¹



EQUITY PORTFOLIO RISK¹

(IN BP UNITS) PORTFOLIO/RISK FACTOR	FACTOR EXPOSURE			STANDALONE RISK			RISK CONTRIBUTION			FACTOR RETURN
	PORTFOLIO	BENCHMARK	ACTIVE	PORTFOLIO	BENCHMARK	ACTIVE	PORTFOLIO	BENCHMARK	ACTIVE	
PENSION PUBLIC EQUITY				1,975	1,974	134	1,975	1,974	134	
EQUITY				1,864	1,844	123	1,857	1,834	118	
WRLD STYLE	1.98	1.94	0.05	1,738	1,755	52	1,707	1,720	31	674
MARKET	0.99	1.00	-0.01	1,792	1,807	15	1,753	1,764	-1	666
SIZE	0.92	1.07	-0.15	185	215	30	59	72	8	-7
VOLATILITY	-0.21	-0.25	0.04	143	167	24	-116	-135	0	192
MOMENTUM	0.21	0.17	0.04	79	63	16	-11	-11	6	-56
REVERSAL	0.06	0.07	-0.01	20	23	3	-12	-14	1	-170
LIQUIDITY	0.27	0.32	-0.05	53	63	9	32	38	0	81
SMALLCAP	-0.11	-0.12	0.01	35	38	3	12	13	0	8
VALUE	-0.17	-0.27	0.10	49	80	31	5	9	7	-111
PROFITABILITY	0.34	0.26	0.08	90	69	21	-10	-10	9	84
EARNINGS YIELD	0.04	-0.06	0.10	5	9	14	-1	1	4	68
DIVIDEND YIELD	-0.13	-0.10	-0.03	18	14	4	7	5	1	-69
GROWTH	-0.04	-0.05	0.02	11	15	5	-4	-6	0	58
LEVERAGE	0.00	0.05	-0.05	1	8	9	0	-2	-1	-24
SENTIMENT	-0.01	-0.01	-0.01	2	1	1	1	1	0	32
EMERGING	-0.06	-0.02	-0.03	16	7	9	-7	-3	-2	-89
OIL	-0.11	-0.11	-0.01	18	17	1	-1	-1	0	-6
WRLD COUNTRY	99.12	99.95	-0.83	310	273	57	137	121	21	-50
WRLD SECTOR	99.12	99.95	-0.83	72	63	66	7	-12	37	11
FOREIGN EXCHANGE	0.00	0.00	0.00	202	237	40	113	140	16	-85

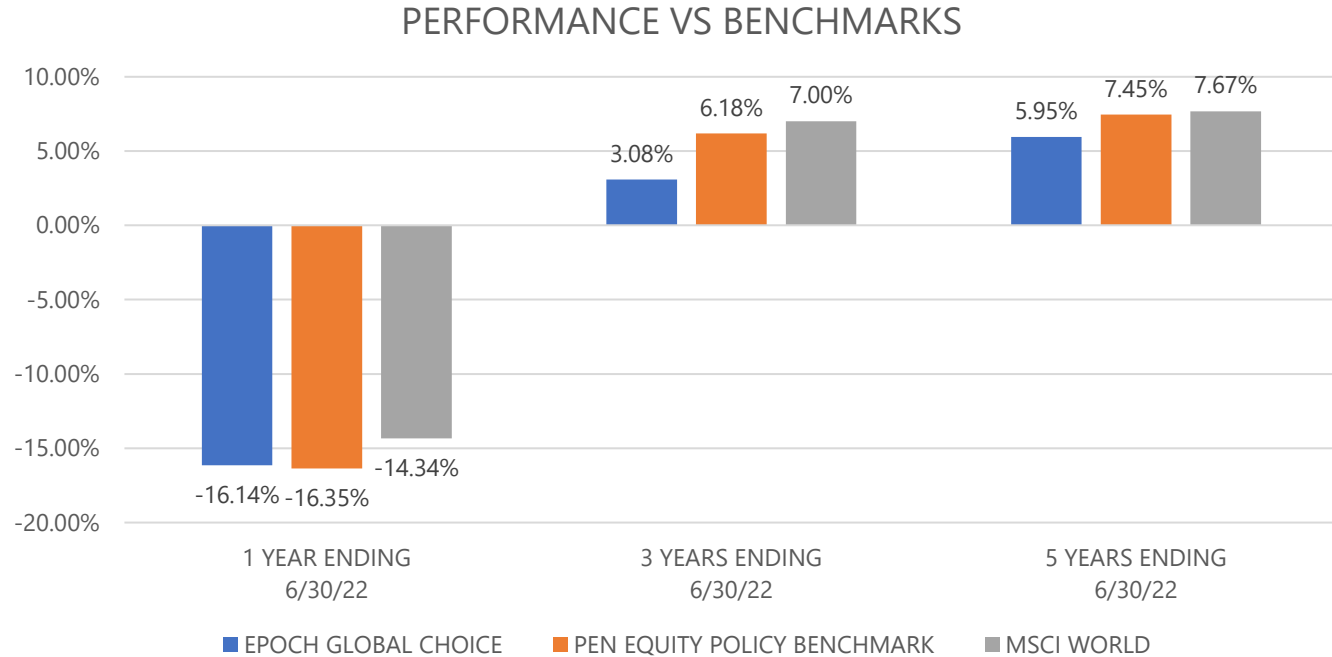
EQUITY PORTFOLIO RETURN CONTRIBUTION FROM RISK¹

(IN BP UNITS) PORTFOLIO/RISK FACTOR	FACTOR EXPOSURE				RETURN CONTRIBUTION			
	PORTFOLIO	BENCHMARK	ACTIVE	FACTOR	RETURN	PORTFOLIO	BENCHMARK	ACTIVE
PENSION PUBLIC EQUITY						756.36	751.27	5.08
EQUITY						771.65	758.47	13.18
WRLD STYLE	1.98	1.94	0.05	674	673.60	667.73	5.88	
MARKET	0.99	1.00	-0.01	666	659.76	665.30	-5.54	
SIZE	0.92	1.07	-0.15	-7	-6.34	-7.35	1.01	
VOLATILITY	-0.21	-0.25	0.04	192	-40.53	-47.31	6.78	
MOMENTUM	0.21	0.17	0.04	-56	-11.66	-9.36	-2.30	
REVERSAL	0.06	0.07	-0.01	-170	-9.81	-11.44	1.63	
LIQUIDITY	0.27	0.32	-0.05	81	21.80	25.67	-3.87	
SMALLCAP	-0.11	-0.12	0.01	8	-0.91	-0.99	0.08	
VALUE	-0.17	-0.27	0.10	-111	18.40	30.07	-11.67	
PROFITABILITY	0.34	0.26	0.08	84	28.39	21.79	6.59	
EARNINGS YIELD	0.04	-0.06	0.10	68	2.45	-4.08	6.53	
DIVIDEND YIELD	-0.13	-0.10	-0.03	-69	8.88	6.95	1.93	
GROWTH	-0.04	-0.05	0.02	58	-2.12	-3.03	0.90	
LEVERAGE	0.00	0.05	-0.05	-24	0.09	-1.09	1.18	
SENTIMENT	-0.01	-0.01	-0.01	32	-0.45	-0.26	-0.18	
EMERGING	-0.06	-0.02	-0.03	-89	5.01	2.23	2.78	
OIL	-0.11	-0.11	-0.01	-6	0.65	0.62	0.03	
WRLD COUNTRY	99.12	99.95	-0.83	-50	96.80	102.35	-5.55	
WRLD SECTOR	99.12	99.95	-0.83	11	1.24	-11.60	12.85	
FOREIGN EXCHANGE	0.00	0.00	0.00	-85	-20.22	-7.20	-13.02	

EQUITY MANAGER CATALOGUE

EPOCH GLOBAL CHOICE

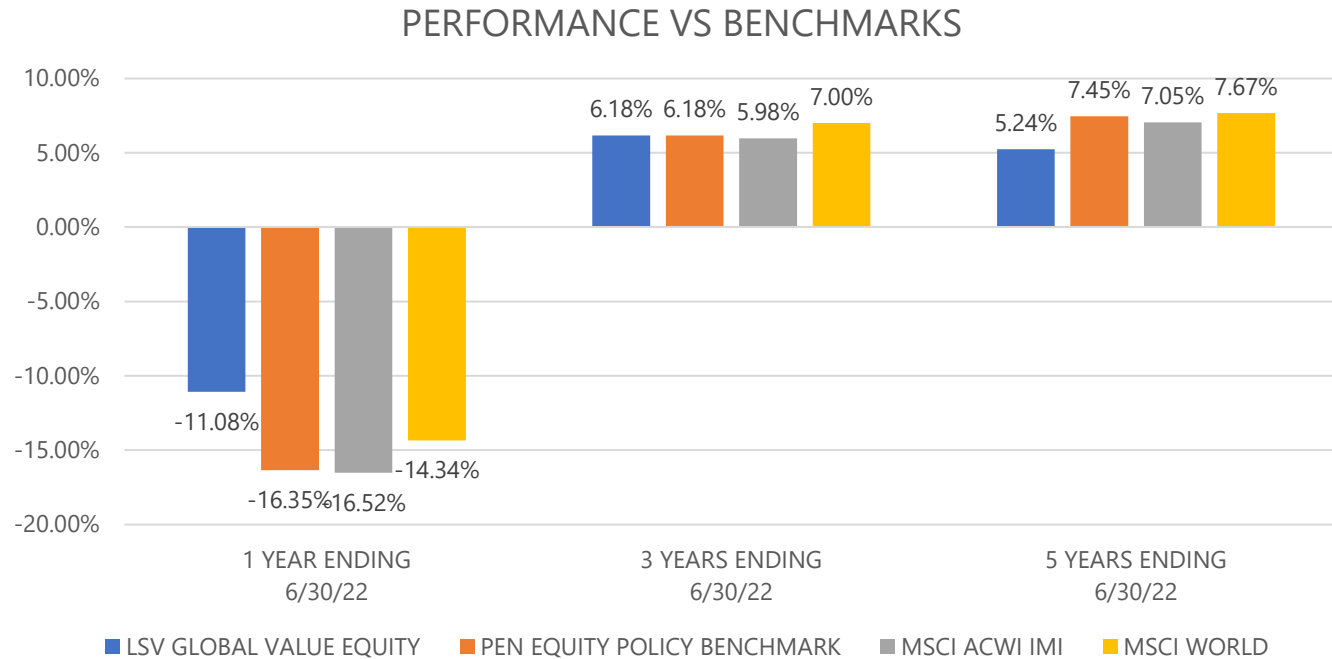
STRATEGY: THE CONCENTRATED ACTIVE, GLOBAL EQUITY PORTFOLIO TYPICALLY CONSISTS OF APPROXIMATELY 20-35 SECURITIES (GENERALLY EQUITIES) REPRESENTING THE FIRM'S HIGHEST CONVICTION NAMES. THE EXPECTED ANNUAL TURNOVER IS GENERALLY BETWEEN 90-130%. THE EQUITY PORTION OF THE PORTFOLIO WILL INVEST NO MORE THAN 10% OF THE PORTFOLIO, AT THE TIME OF PURCHASE, IN ANY ONE EQUITY SECURITY.



POOL	AUM
PENSION	\$280 M

LSV GLOBAL VALUE EQUITY

STRATEGY: THE OBJECTIVE OF THE GLOBAL ACWI STRATEGY IS TO OUTPERFORM THE BENCHMARK BY AT LEAST 200 BASIS POINTS (GROSS OF FEES) PER ANNUM. THE PROCESS USED TO SELECT STOCKS IS A QUANTITATIVE APPROACH THAT RANKS A BROAD UNIVERSE OF STOCKS ON A COMBINATION OF VALUE AND MOMENTUM FACTORS. THE STRATEGY TARGETS APPROXIMATELY 125 STOCKS. THE PORTFOLIO IS BROADLY DIVERSIFIED ACROSS COUNTRIES AND INDUSTRY GROUPS. INITIAL POSITIONS MUST HAVE A MARKET CAPITALIZATION ABOVE \$400 MILLION.



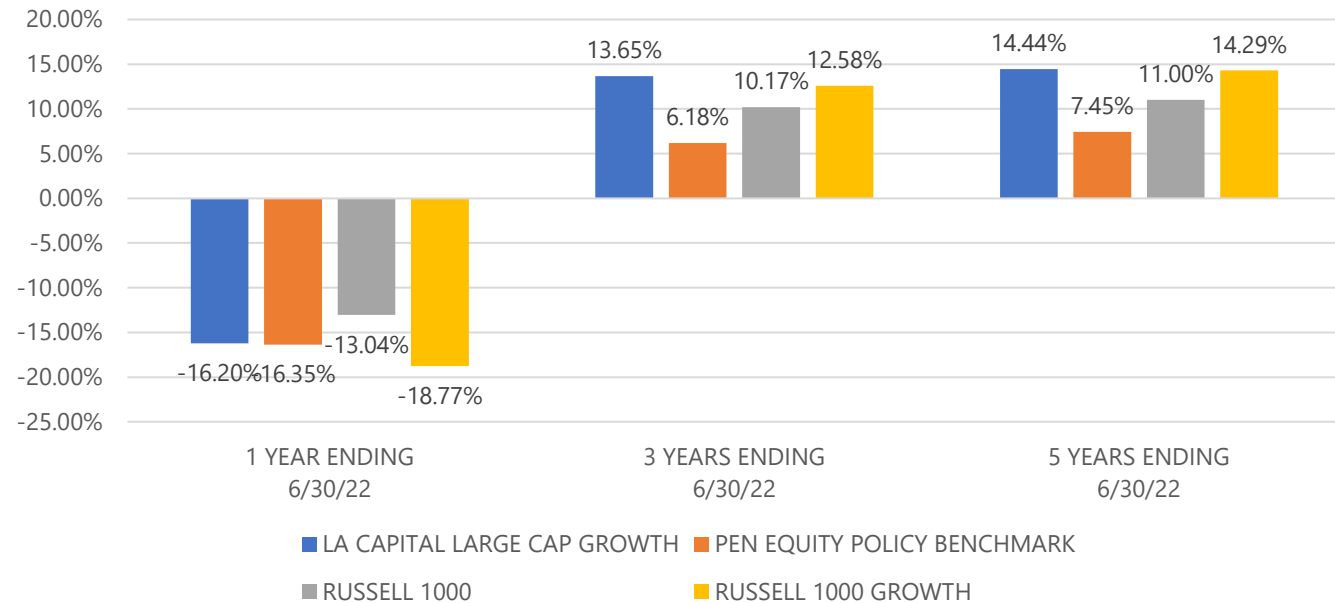
POOL	AUM
PENSION	\$394 M

LA CAPITAL LARGE CAP GROWTH

STRATEGY: ACTIVE LARGE CAP GROWTH STRATEGY TARGETING 2% ALPHA WITH A 4% TRACKING ERROR TO THE BENCHMARK. USES A DYNAMIC ALPHA MODEL—A QUANTITATIVE PROCESS THAT EVALUATES HOW FACTORS BEHAVE IN THE MARKET.

POOL	AUM
PENSION	\$444 M
LEGACY	\$507 M
INSURANCE	\$56 M

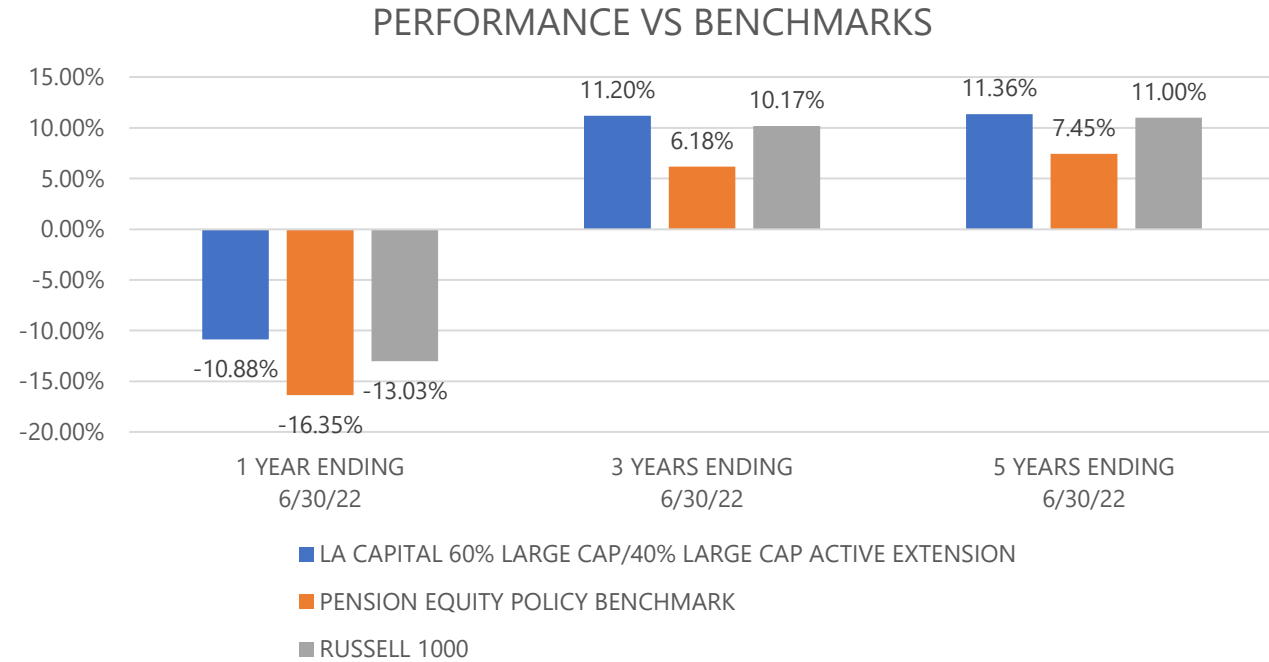
PERFORMANCE VS BENCHMARKS



LA CAPITAL 60% LARGE CAP/40% ACTIVE EXTENSION

STRATEGY: 60% TO A LARGE CORE PORTFOLIO BENCHMARKED TO THE RUSSELL 1000 INDEX. CHARACTERIZED AS AN ENHANCED INDEX ASSIGNMENT. THIS MANDATE TARGETS A 1% ANNUAL ALPHA WITH A RISK BUDGET OF 3%. 40% LARGE CAP TO THE ALPHA FUND. THE BENCHMARK FOR THIS FUND IS THE S&P 500. THE OBJECTIVE OF THIS PRODUCT IS TO OUTPERFORM THE BENCHMARK BY 5% WHILE ALLOWING FOR A RISK BUDGET AS HIGH AS 7%. USES A DYNAMIC ALPHA MODEL—A QUANTITATIVE PROCESS THAT EVALUATES HOW FACTORS BEHAVE IN THE MARKET.

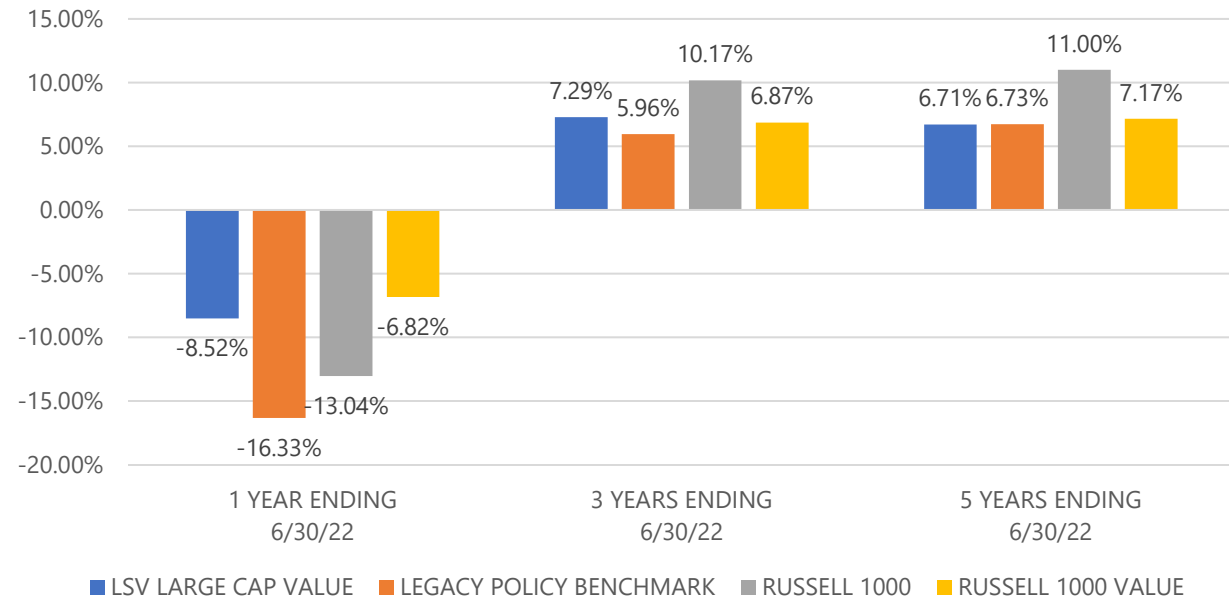
POOL	AUM
PENSION	\$259 M
LEGACY	\$348 M
INSURANCE	\$40 M



LSV LARGE CAP VALUE

STRATEGY: THE OBJECTIVE OF THE LARGE CAP VALUE EQUITY (U.S.) STRATEGY IS TO OUTPERFORM THE RUSSELL 1000 VALUE BY AT LEAST 200 BASIS POINTS (GROSS OF FEES) PER ANNUM OVER A 3-5 YEAR PERIOD WITH A TRACKING ERROR OF APPROXIMATELY 4%. THE PROCESS USED TO SELECT STOCKS IS A QUANTITATIVE APPROACH THAT RANKS A BROAD UNIVERSE OF STOCKS ON A COMBINATION OF VALUE AND MOMENTUM FACTORS AND SEEKS TO INVEST APPROXIMATELY 100 STOCKS. THE PORTFOLIO WILL BE BROADLY DIVERSIFIED ACROSS INDUSTRY GROUPS AND FULLY INVESTED. INITIAL POSITIONS MUST BE IN STOCKS WITH A MARKET CAPITALIZATION ABOVE \$500 MILLION.

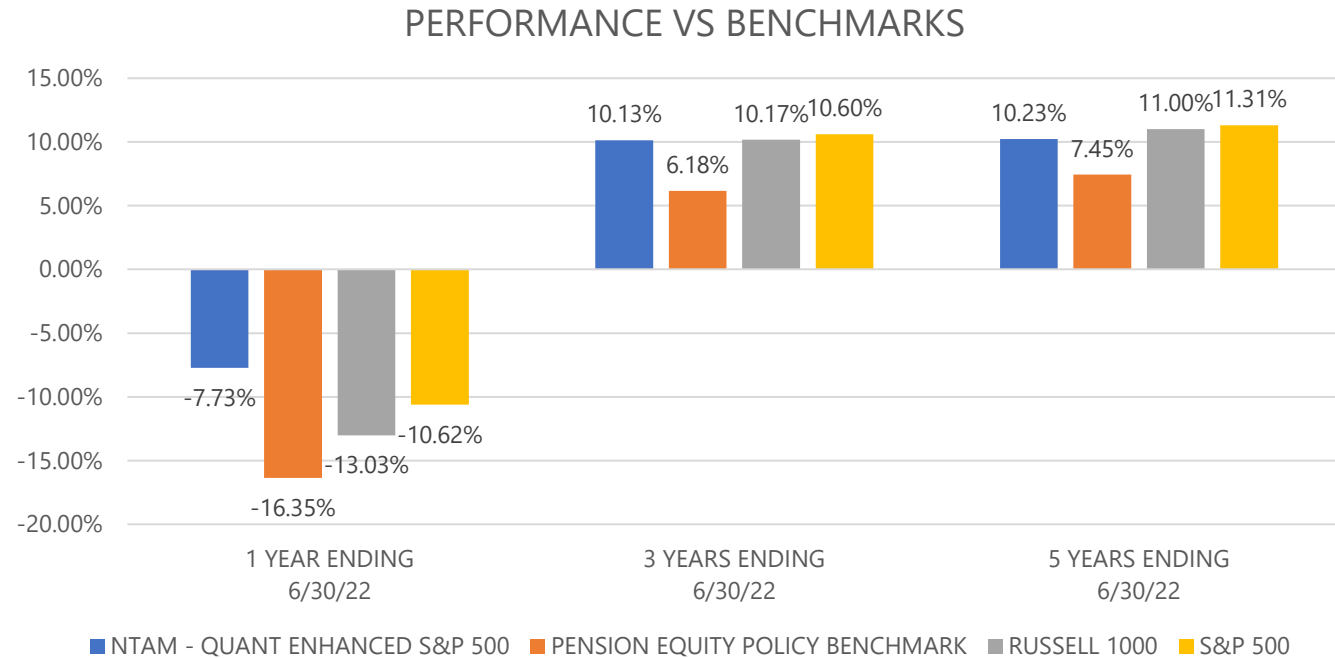
PERFORMANCE VS BENCHMARKS



POOL	AUM
LEGACY	\$482 M
INSURANCE	\$61 M

NTAM - QUANT ENHANCED S&P 500

STRATEGY: THE INVESTMENT MANAGER WILL USE AN INVESTMENT APPROACH PRIMARILY BASED ON QUANTITATIVE INVESTMENT TECHNIQUES. THE PRINCIPAL SOURCE OF VALUE ADDED IS THE STOCK SELECTION PROCESS. RELATIVE ATTRACTIVENESS IS ASSESSED USING A PROPRIETARY MULTIPLE FACTOR MODEL. ATTRACTIVE SECURITIES ARE OVER WEIGHTED RELATIVE TO THE INDEX WHILE UNATTRACTIVE SECURITIES ARE UNDER WEIGHTED, OR EXCLUDED ENTIRELY. THE ACCOUNT WILL INVEST PRIMARILY IN A BROADLY DIVERSIFIED PORTFOLIO OF EQUITY SECURITIES.

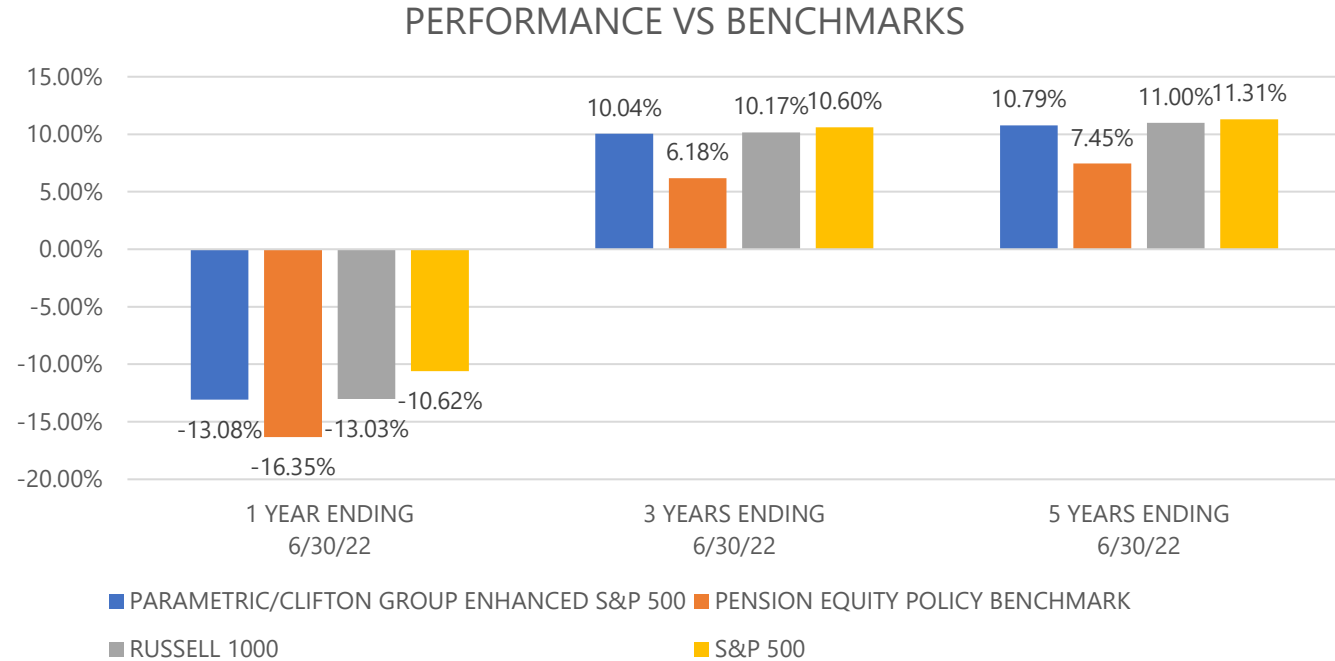


POOL	AUM
PENSION	\$254 M

PARAMETRIC/CLIFTON GROUP ENHANCED S&P 500

STRATEGY: PARAMETRIC BELIEVES THAT THE U.S. EQUITY UNIVERSE IS HIGHLY EFFICIENT. AS SUCH, EQUITY FUTURES ARE USED TO GAIN THE BENCHMARK EXPOSURE. THE UNDERLYING CASH PORTFOLIO IS THEN INVESTED IN A LIQUID, HIGH QUALITY SHORT DURATION FIXED INCOME PORTFOLIO. OVER MARKET CYCLES EXCESS RETURN GENERATED BY THE SHORT DURATION PORTFOLIO, WHEN ADDED TO THE PERFORMANCE OF FUTURES IS EXPECTED TO ALLOW THE STRATEGY TO ACHIEVE 0.50% TO 1.00% OF GROSS EXCESS ANNUAL PERFORMANCE.

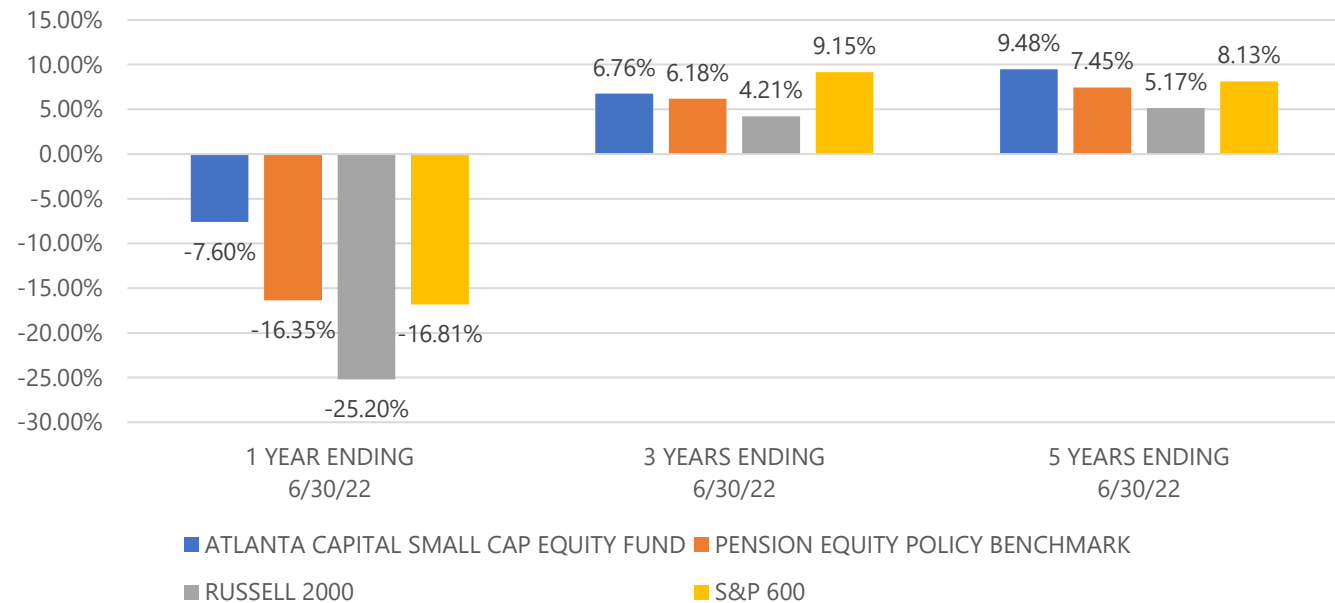
POOL	AUM
PENSION	\$246 M
LEGACY	\$336 M
INSURANCE	\$39 M



ATLANTA CAPITAL SMALL CAP EQUITY FUND

STRATEGY: THE HIGH-QUALITY SMALL CAP STRATEGY IS A FUNDAMENTAL CORE APPROACH THAT INVESTS IN SMALL CAP COMPANIES IN STRONG FINANCIAL CONDITION AND WHOSE EQUITIES ARE PRICED BELOW THE TEAM'S ESTIMATE OF FAIR VALUE. THE INVESTMENT TEAM SEEKS TO OWN INNOVATIVE BUSINESSES THAT DOMINATE A NICHE, MAINTAIN HIGH BARRIERS TO ENTRY, AND HAVE CONSISTENT DEMAND OVER AN ECONOMIC CYCLE. THEY CONDUCT BOTTOM-UP PROPRIETARY RESEARCH, AND MEET WITH MANAGEMENT TEAMS AS WELL AS VISIT THE FACILITIES OF EACH OF THEIR COMPANIES.

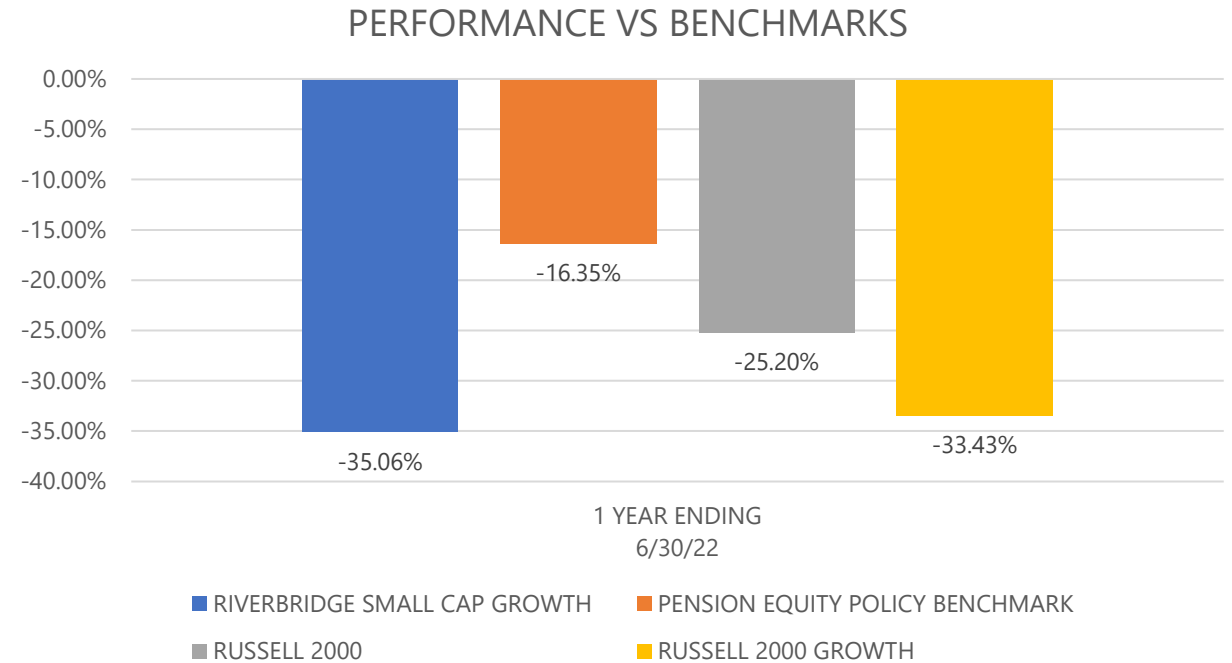
PERFORMANCE VS BENCHMARKS



POOL	AUM
PENSION	\$110 M
LEGACY	\$206 M
INSURANCE	\$15 M

RIVERBRIDGE SMALL CAP GROWTH

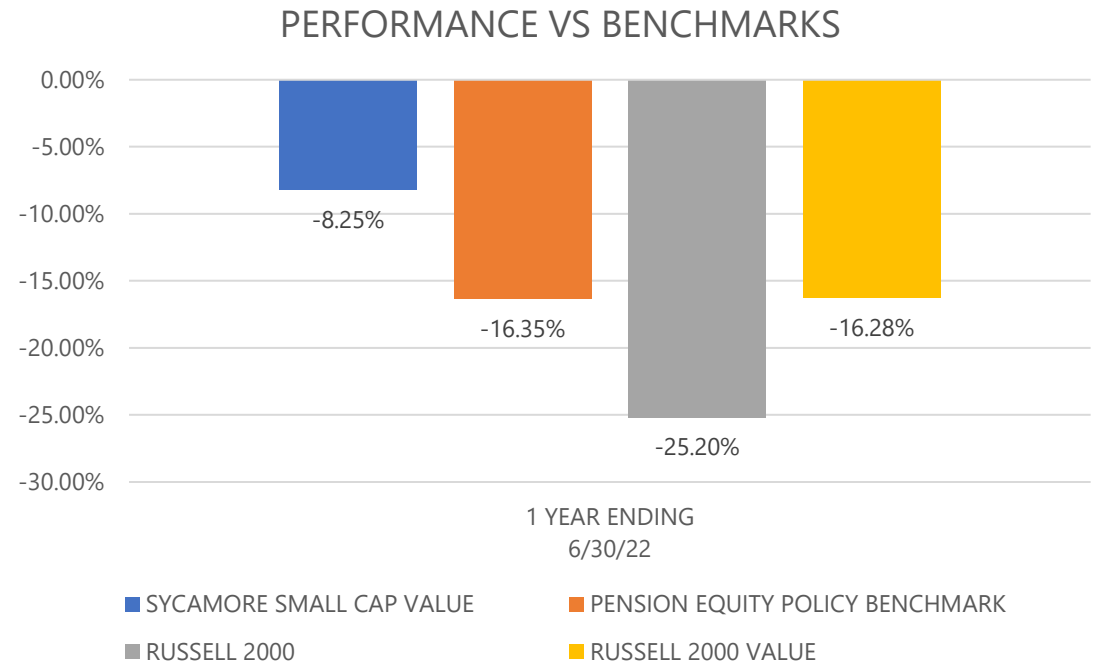
STRATEGY: RIVERBRIDGE INVESTS IN HIGH-QUALITY GROWTH COMPANIES THAT POSSESS THE ABILITY TO BUILD THEIR EARNINGS POWER AT ABOVE-AVERAGE RATES FOR LONG PERIODS OF TIME. THEY DEFINE EARNINGS POWER AS COMPANIES ACHIEVING HIGH RETURNS ON INVESTED CAPITAL WHILE POSSESSING AN ENDURING STRATEGIC ADVANTAGE IN THEIR MARKETPLACE. THEY BUILD PORTFOLIOS BY IDENTIFYING AND BUYING WELL-MANAGED COMPANIES THEY BELIEVE CAN MAINTAIN CONSISTENT UNIT GROWTH AND STRONG FREE CASH FLOW, ALLOWING THEM TO FINANCE THEIR GROWTH USING INTERNALLY GENERATED SOURCES OF CAPITAL.



POOL	AUM
PENSION	\$78 M
LEGACY	\$180 M
INSURANCE	\$13 M

SYCAMORE SMALL CAP VALUE

STRATEGY: VCM'S SYCAMORE SMALL CAP VALUE STRATEGY WAS INCEPTED IN 1983. THE TEAM CONSISTS OF 12 INVESTMENT PROFESSIONALS INCLUDING CIO AND LEAD PORTFOLIO MANAGER GARY MILLER, WHO HAS BEEN WITH THE FIRM FOR 32 YEARS. GARY HAS BEEN LEAD PORTFOLIO MANAGER ON THE STRATEGY SINCE 2004. THE STRATEGY FOCUSES ON IDENTIFYING HIGH QUALITY SMALL CAP COMPANIES AT AN ATTRACTIVE VALUE THROUGH BOTTOM-UP RESEARCH.



POOL

AUM

PENSION

\$114 M

LEGACY

\$201 M

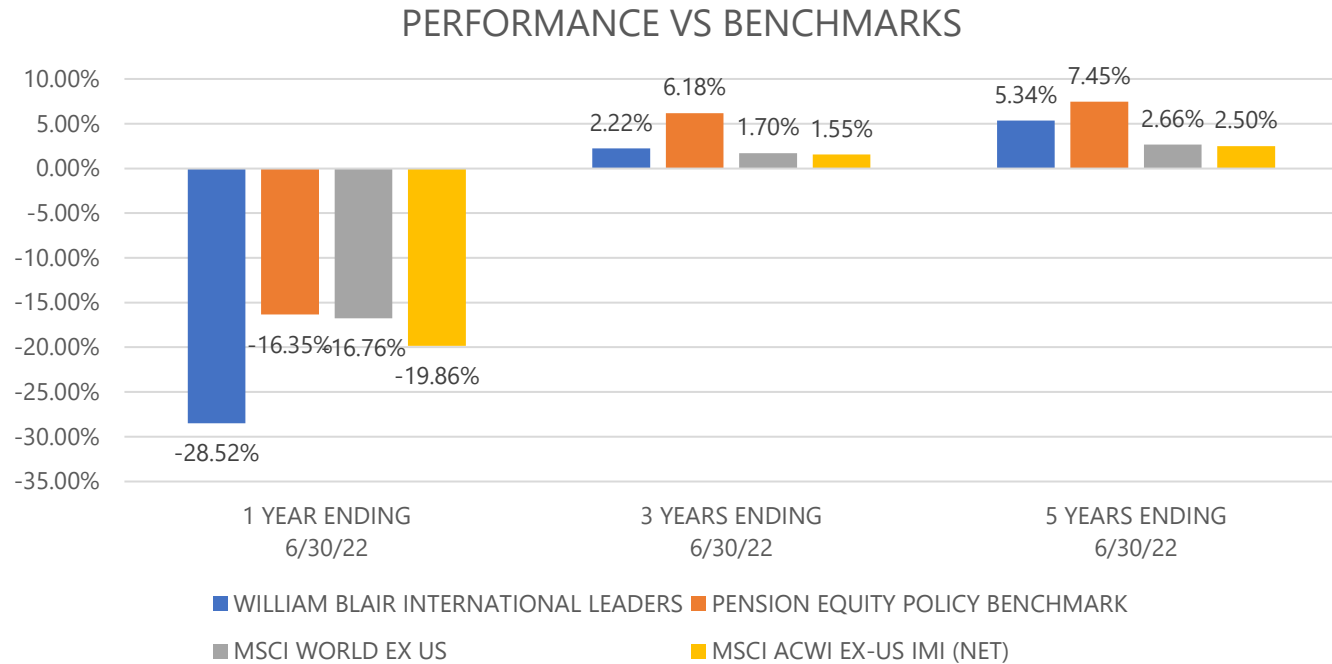
INSURANCE

\$15 M

WILLIAM BLAIR INTERNATIONAL LEADERS

STRATEGY: WILLIAM BLAIR INVESTS IN A GROWTH-ORIENTED, DIVERSIFIED PORTFOLIO THAT WILL TYPICALLY HOLD BETWEEN 40-70 SECURITIES. THE FIRM'S INVESTMENT PHILOSOPHY IS TO FOCUS ON COMPANIES WITH ABOVE-AVERAGE GROWTH PROSPECTS WHERE GROWTH CAN BE SUSTAINED THROUGH LEADING OR FRANCHISE POSITIONS IN TERMS OF PROPRIETARY PRODUCTS, MARKETING DOMINANCE, OR COST/ASSET BASE ADVANTAGE.

THE PORTFOLIO WILL BE DIVERSIFIED BY REGION AND COUNTRY AND MAY INVEST UP TO 2X THE MSCI ACWI EX-US IMI INDEX WEIGHTING IN EMERGING MARKETS SECURITIES.



POOL	AUM
PENSION	\$188 M
LEGACY	\$374 M
INSURANCE	\$34 M

ARROWSTREET INTERNATIONAL EQUITY

STRATEGY: ARROWSTREET'S INVESTMENT APPROACH UTILIZES QUANTITATIVE METHODS THAT FOCUS ON IDENTIFYING AND INCORPORATING INVESTMENT SIGNALS INTO PROPRIETARY RETURN, RISK, AND TRANSACTION COST MODELS. THIS STRATEGY TARGETS OUTPERFORMANCE OF 3% PER YEAR OVER A MARKET CYCLE RELATIVE TO THE MSCI ACWI EX US INDEX. ARROWSTREET EMPLOYS A CORE INVESTMENT STYLE THAT CAN OUTPERFORM DURING A BROAD RANGE OF MARKET ENVIRONMENTS.

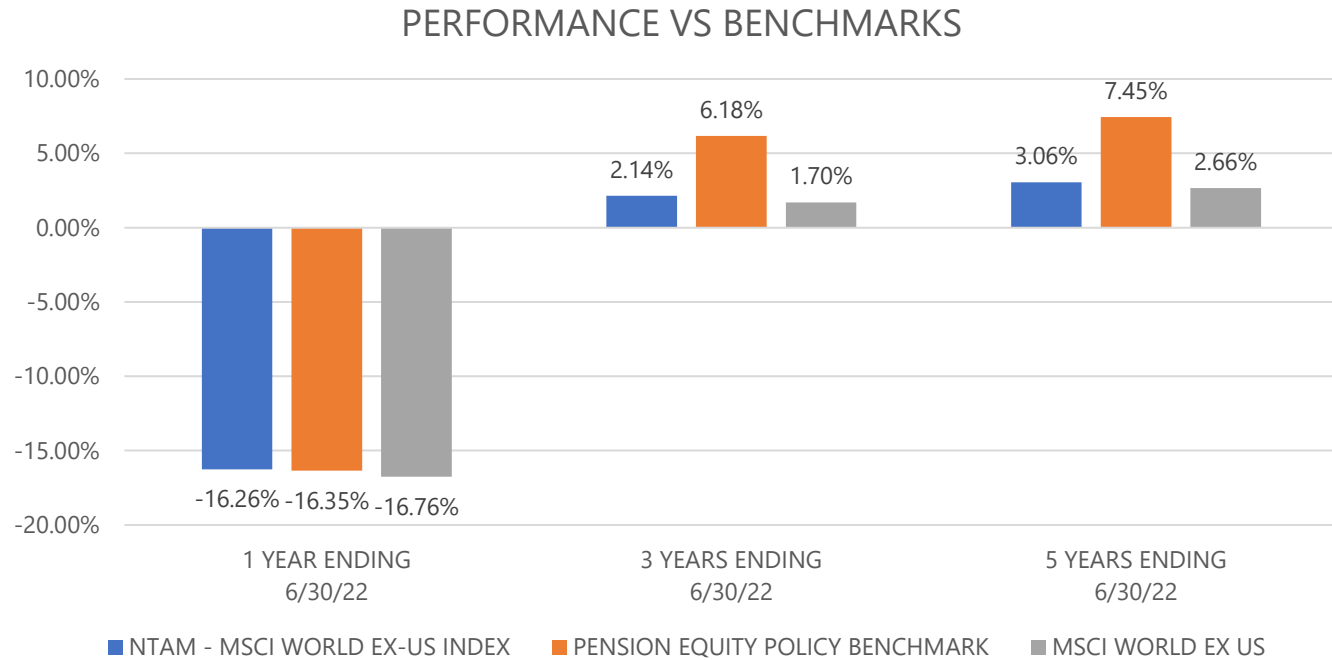
ADDED: JANUARY 2022

POOL	AUM
PENSION	\$270 M
LEGACY	\$347 M
INSURANCE	\$45 M

NTAM - MSCI WORLD EX-US INDEX

STRATEGY: THE FUND'S OBJECTIVE IS TO PROVIDE INVESTMENT RESULTS THAT REPLICATE THE OVERALL PERFORMANCE OF THE MSCI® WORLD EX-US INDEX. THIS IS A PASSIVE STRATEGY

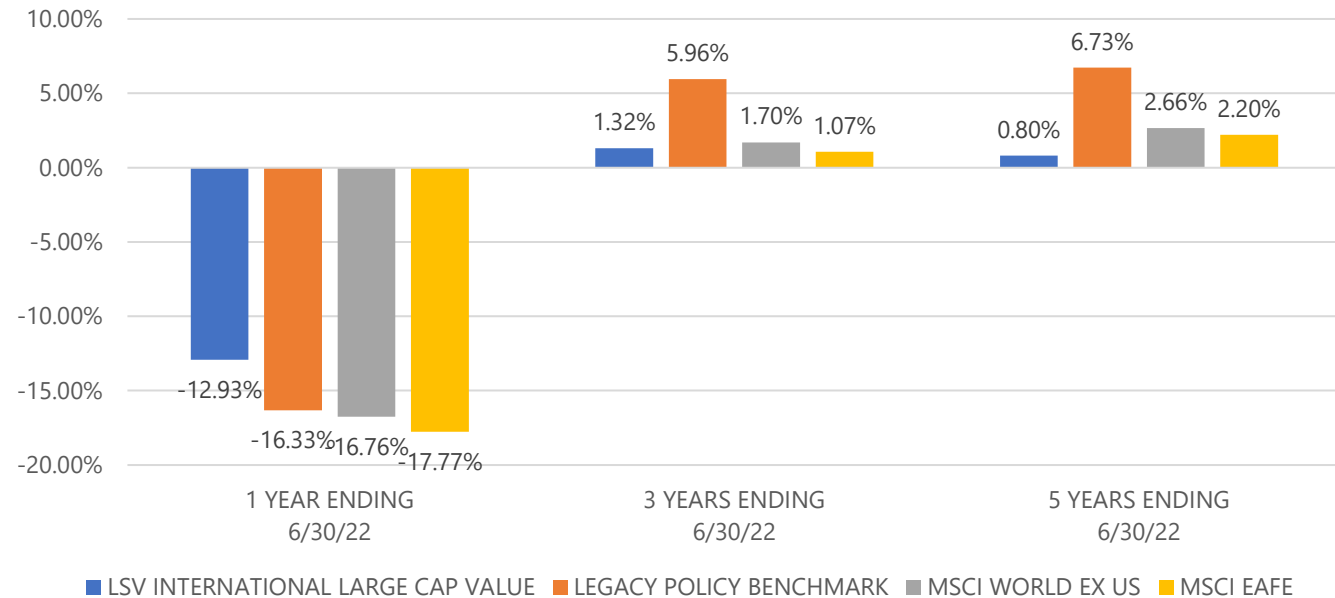
POOL	AUM
PENSION	\$112 M



LSV INTERNATIONAL LARGE CAP VALUE

STRATEGY: THE OBJECTIVE OF THE INTERNATIONAL LARGE CAP VALUE STRATEGY IS TO OUTPERFORM THE MSCI EAFE INDEX (50% HEDGED) BY AT LEAST 250 BASIS POINTS (GROSS OF FEES) PER ANNUM OVER AN ANNUALIZED 3-5 YEAR PERIOD WITH A TRACKING ERROR OF APPROXIMATELY 5-6%. THE QUANTITATIVE PROCESS RANKS A BROAD UNIVERSE OF STOCKS ON A COMBINATION OF VALUE AND MOMENTUM FACTORS AND SEEKS TO INVEST IN APPROXIMATELY 150 STOCKS. THE RESULTING PORTFOLIO WILL BE BROADLY DIVERSIFIED ACROSS INDUSTRY GROUPS. LSV WEIGHS COUNTRIES AT A NEUTRAL WEIGHT RELATIVE TO THE BENCHMARK COUNTRY WEIGHTS. INITIAL POSITIONS MUST BE IN STOCKS WITH A MARKET CAPITALIZATION ABOVE \$500 MILLION. 50% OF THE PORTFOLIO IS US DOLLAR HEDGED.

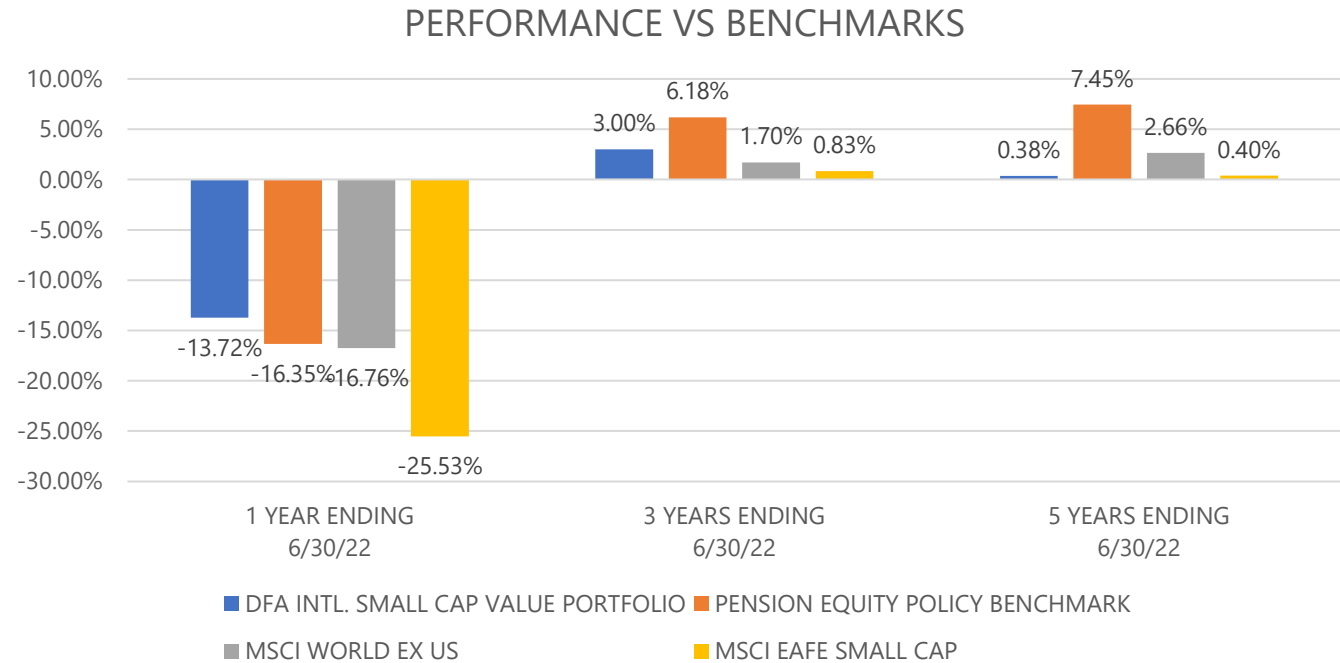
PERFORMANCE VS BENCHMARKS



POOL	AUM
LEGACY	\$408 M
INSURANCE	\$47 M

DFA INTL. SMALL CAP VALUE PORTFOLIO

STRATEGY: THE INTERNATIONAL SMALL CAP VALUE PORTFOLIO INVESTS IN THE STOCKS OF SMALL, NON-US DEVELOPED MARKETS COMPANIES THAT DIMENSIONAL BELIEVES TO BE VALUE STOCKS AT THE TIME OF PURCHASE. SIZE IS DEFINED AS THE SMALLEST 8-10% OF EACH COUNTRY'S MARKET CAPITALIZATION. SECURITIES ARE CONSIDERED VALUE STOCKS PRIMARILY BECAUSE A COMPANY'S SHARES HAVE A HIGH BOOK VALUE IN RELATION TO THEIR MARKET VALUE (BTM). THIS BTM SORT EXCLUDES FIRMS WITH NEGATIVE OR ZERO BOOK VALUES. IN ASSESSING VALUE, ADDITIONAL FACTORS SUCH AS PRICE-TO-EARNINGS RATIOS MAY BE CONSIDERED, AS WELL AS ECONOMIC CONDITIONS AND DEVELOPMENTS IN THE ISSUER'S INDUSTRY.

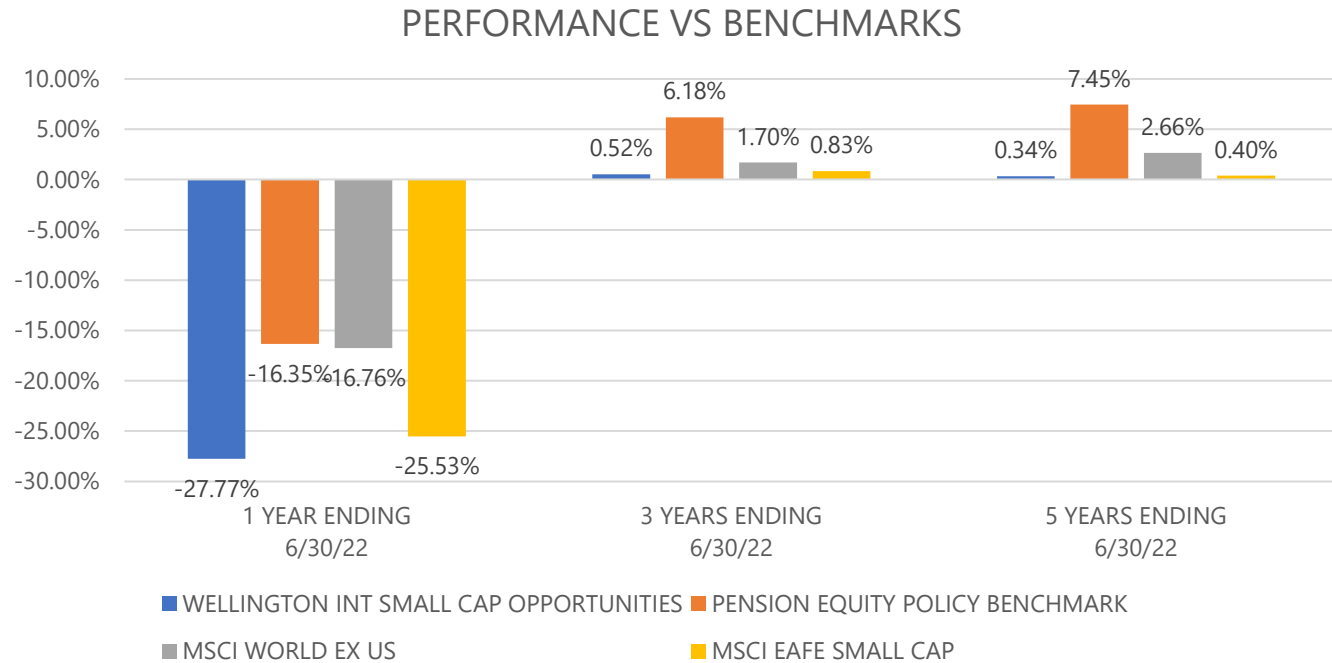


POOL	AUM
PENSION	\$78 M
LEGACY	\$151 M
INSURANCE	\$17 M

WELLINGTON INTERNATIONAL SMALL CAP

STRATEGY: THE INTERNATIONAL SMALL CAP OPPORTUNITIES INVESTMENT APPROACH IS BOTTOM-UP FOCUSED, AND LEVERAGES THE GLOBAL RESEARCH RESOURCES AT WELLINGTON MANAGEMENT. IN IMPLEMENTING PURCHASE DECISIONS, CONSIDERATION IS GIVEN TO THE SIZE, LIQUIDITY, AND VOLATILITY OF THESE PROSPECTS. SELL DECISIONS ARE BASED ON CHANGING FUNDAMENTALS OR VALUATIONS, OR ON FINDING BETTER OPPORTUNITIES ELSEWHERE. THE ASSETS ARE NOT HEDGED.

POOL	AUM
PENSION	\$75 M

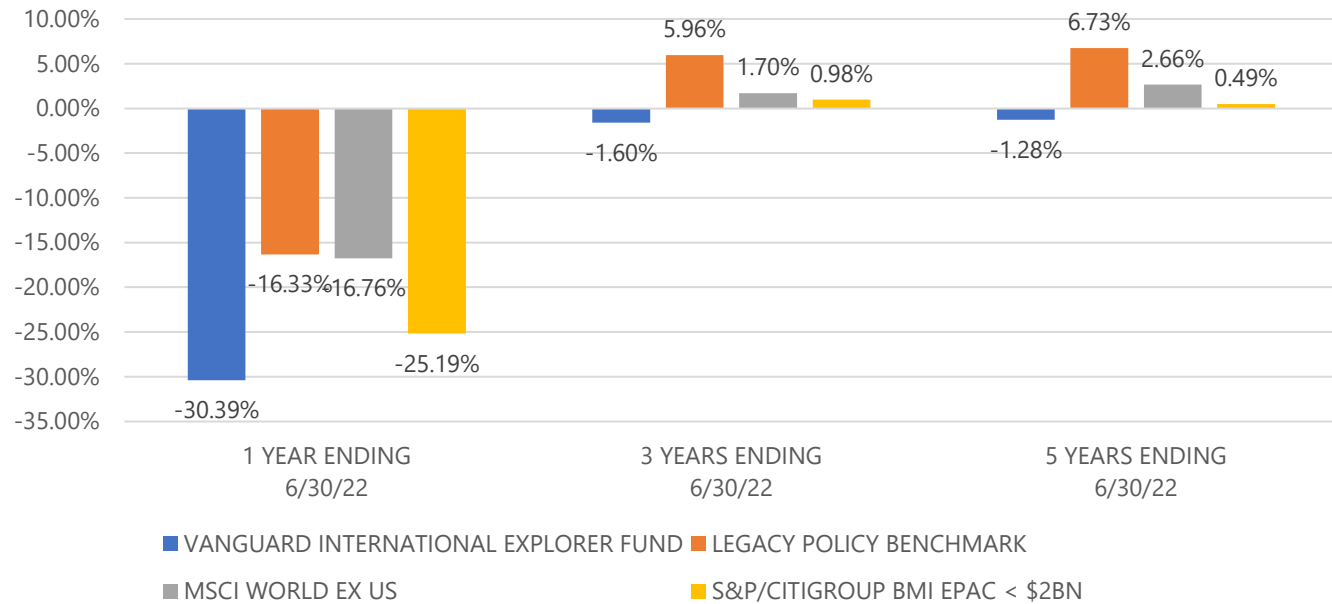


VANGUARD INTERNATIONAL EXPLORER FUND



STRATEGY: VANGUARD INTERNATIONAL EXPLORER FUND SEEKS TO PROVIDE LONG-TERM CAPITAL APPRECIATION. THE FUND INVESTS PRIMARILY IN THE EQUITY SECURITIES OF SMALL-CAPITALIZATION COMPANIES LOCATED OUTSIDE THE UNITED STATES THAT THE ADVISOR BELIEVES OFFER THE POTENTIAL FOR CAPITAL APPRECIATION. IN DOING SO, THE ADVISOR CONSIDERS, AMONG OTHER THINGS, WHETHER A COMPANY IS LIKELY TO HAVE ABOVE-AVERAGE EARNINGS GROWTH, WHETHER THE COMPANY'S SECURITIES ARE ATTRACTIVELY VALUED, AND WHETHER THE COMPANY HAS ANY PROPRIETARY ADVANTAGES.

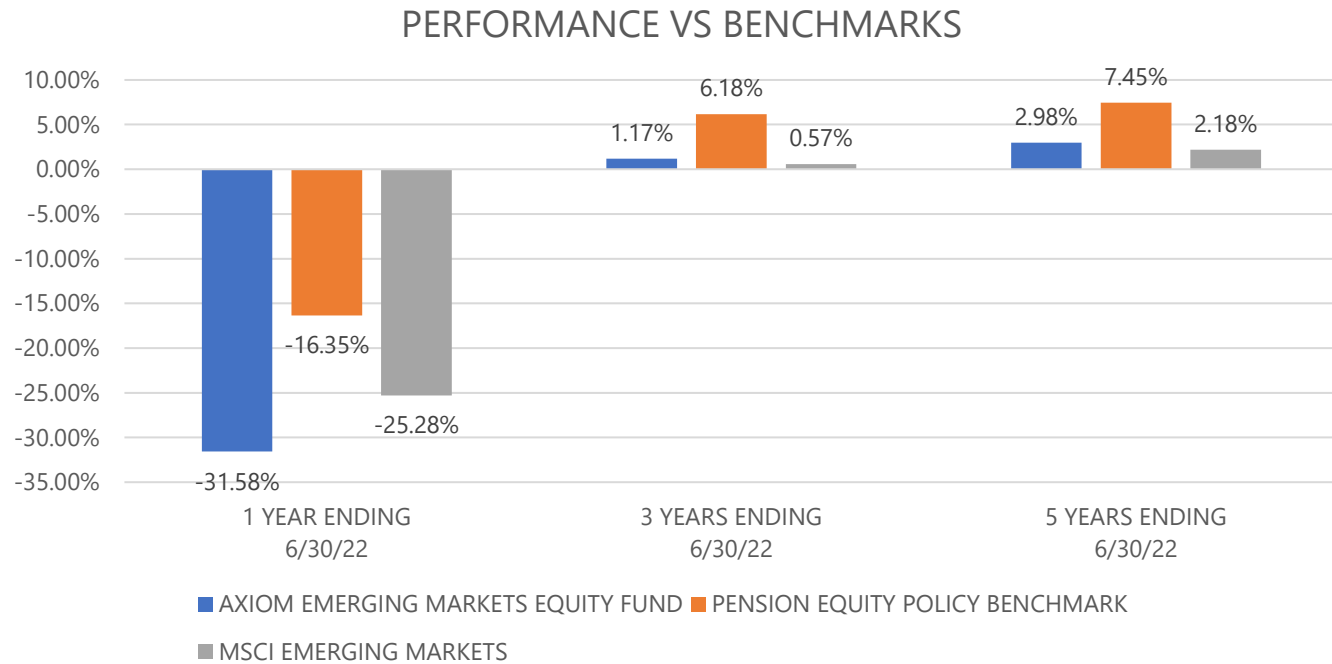
PERFORMANCE VS BENCHMARKS



POOL	AUM
LEGACY	\$120 M
INSURANCE	\$14 M

AXIOM EMERGING MARKETS EQUITY FUND

STRATEGY: THE FUND SEEKS TO INVEST IN EMERGING MARKET COMPANIES WHOSE KEY BUSINESS DRIVERS ARE BOTH IMPROVING AND EXCEEDING EXPECTATIONS, AS DETERMINED BY AXIOM'S STOCK SELECTION TECHNIQUES FOCUSED ON FUNDAMENTAL COMPANY ANALYSIS. THE STRATEGY CONSIDERS EMERGING MARKETS SECURITIES TO INCLUDE SECURITIES OF COMPANIES EITHER (I) LOCATED IN COUNTRIES THAT ARE NOT INCLUDED IN THE MSCI DEVELOPED MARKETS INDEX SERIES OR (II) THAT DERIVE A MAJORITY OF THEIR REVENUES OR ASSETS FROM A COUNTRY OR COUNTRIES NOT INCLUDED IN THE MSCI DEVELOPED MARKETS INDEX SERIES, IN EACH CASE AT THE TIME OF INVESTMENT.



POOL

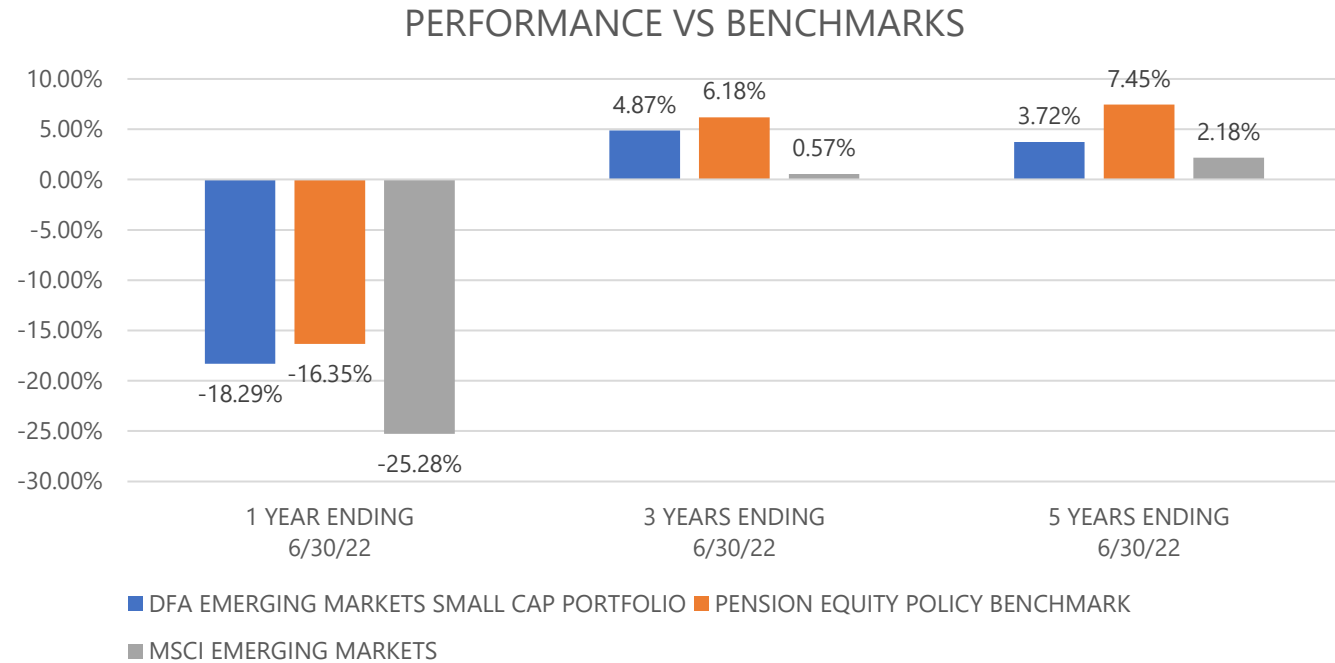
PENSION

AUM

\$147 M

DFA EMERGING MARKETS SMALL CAP PORTFOLIO

STRATEGY: THE EMERGING MARKETS SMALL CAP PORTFOLIO INVESTS IN SMALL CAP EMERGING MARKETS COMPANIES. PRESENTLY, THIS MEANS INVESTMENT IN COMPANIES WHOSE MARKET CAPITALIZATION IS LESS THAN \$2.3 BILLION AT THE TIME OF PURCHASE. DIMENSIONAL WILL CONSIDER, AMONG OTHER THINGS, INFORMATION DISSEMINATED BY THE INTERNATIONAL FINANCE CORPORATION IN DETERMINING AND APPROVING EMERGING MARKET COUNTRIES. THE PORTFOLIO CURRENTLY INVESTS IN COMPANIES IN BRAZIL, CHILE, CHINA, HUNGARY, INDIA, INDONESIA, ISRAEL, MALAYSIA, MEXICO, THE PHILIPPINES, POLAND, SOUTH AFRICA, SOUTH KOREA, TAIWAN, THAILAND, AND TURKEY. DUE TO REPATRIATION RESTRICTIONS, THE PORTFOLIO CURRENTLY HOLDS BUT DOES NOT PURCHASE SECURITIES IN ARGENTINA.



POOL	AUM
PENSION	\$58 M



EQUITY TRANSITION UPDATE

INVESTMENT STAFF
NOVEMBER 10, 2022

NORTH
Dakota
Be Legendary.

Retirement & Investment

EXECUTIVE SUMMARY

1. THE SIB APPROVED A NEW EQUITY PORTFOLIO ACROSS THE THREE POOLS DURING THE MAY 2022 SIB MEETING
2. THREE KEY OBJECTIVES:
 - HARMONIZE THE EQUITY PORTFOLIOS ACROSS THE THREE POOLS (19 DIFFERENT EQUITY PORTFOLIOS) AND CREATE ONE OPTIMAL EQUITY ALLOCATION
 - IMPLEMENT ONE POLICY BENCHMARK THAT SETS THE RUSSELL 3000 AND MSCI ACWI EX US IMI AS THE NEW POLICY BENCHMARK (OR RELEVANT SUB-INDICES WHERE APPROPRIATE)
 - ADD PASSIVE INDEX EXPOSURE TO EQUITY SUB-ASSET CLASSES FOR EXPOSURE MANAGEMENT AND LIQUIDITY

EXECUTIVE SUMMARY

1. TRANSITION IS 99% COMPLETE AS OF NOV. 1ST WITH A FEW REMNANT POSITIONS REMAINING
2. COMPLEX AND NUANCED TRANSACTION
 - APPROXIMATELY \$3.3 BILLION OF ADDS AND 3.3 BILLION OF REDEMPTIONS
 - OVER 1,900 SECURITIES ON THE SELL LIST AND OVER 5,400 ON THE BUY LIST
3. TRANSITION BREAKDOWN BY FUND:
 - PENSION TRANSITION: ~\$1.1 BILLION OF ADDS AND REDEMPTIONS
 - LEGACY FUND TRANSITION: ~\$2.0 BILLION OF ADDS AND REDEMPTIONS
 - INSURANCE: ~\$200 MILLION OF ADDS AND REDEMPTIONS

KEY STATISTICS

1. BREAKDOWN OF TRANSACTIONS:
 - 48% TRADED: SECURITIES TRADED TO BUILD TARGET PORTFOLIOS
 - 40% TRANSFERRED IN-KIND: SECURITIES KEPT AND TRANSFERRED
 - 12% CASH TRANSACTIONS: REDEMPTIONS AND SUBSCRIPTIONS INTO COMMINGLED FUNDS
2. TOTAL COST OF THE TRANSITION CAME IN LOWER THAN PRE-TRADE ESTIMATES ACROSS THE THREE POOLS

EQUITY PORTFOLIO TRANSITION UPDATE

PENSION POOL POST TRADE ANALYSIS (ESTIMATE):

EXPLICIT COSTS	ACTUAL COST	PRE-TRADE COST	BASIS POINTS (LEGACY PORTFOLIO)
COMMISSION	132,349	136,140	1.2
EQUITY	129,362	133,139	1.2
INTERIM EXPOSURE	2,987	3,001	0.0
TAXES & FEES	309,817	311,749	2.8
STAMP DUTY CHARGES	308,201	308,201	2.7
SUB-TOTAL	750,367	756,090	6.7
IMPLICIT COSTS			
EQUITY	266,159	319,502	2.4
SPREAD	98,164	117,838	0.9
MKT. IMPACT	167,995	201,664	1.5
CURRENCY	108,798	72,164	1.0
SUB-TOTAL	374,957	391,666	3.3
TRADING COST	1,125,325	1,147,756	10.0
OPPORTUNITY COST	- 411,095	519,320	-3.7
TOTAL SHORTFALL	714,229	1,667,076	6.4

- TOTAL TRANSITION COSTS WERE LESS THAN PRE-TRADE ESTIMATES
- EXPLICIT COSTS WERE SLIGHTLY LOWER THAN PRE-TRADE ESTIMATES
- POSITIVE BENEFIT FROM TRADING IMPLEMENTATION
- OVERALL TRANSITION COSTS WERE IN-LINE WITH EXPECTATIONS

EQUITY PORTFOLIO TRANSITION UPDATE

LEGACY FUND POST TRADE ANALYSIS (ESTIMATE):

EXPLICIT COSTS	ACTUAL COST	PRE-TRADE ESTIMATE	BASIS POINTS (LEGACY PORTFOLIO)
COMMISSION	275,573	282,109	1.4
EQUITY	210,909	224,271	1.1
FIXED INCOME	9,659	10,152	0.0
INTERIM EXP	55,005	47,686	0.3
TAXES & FEES	272,398	262,665	1.4
STAMP DUTY CHARGES	517,540	517,540	2.6
SUB-TOTAL	1,065,512	1,062,314	5.4
IMPLICIT COSTS			
EQUITY	613,421	766,181	3.1
SPREAD	193,151	241,251	1.0
MKT. IMPACT	420,270	524,930	2.1
FIXED INCOME	42,596	42,596	0.2
CURRENCY	95,421	54,669	0.5
SUB-TOTAL	751,438	863,446	3.8
TRADING COST	1,816,950	1,925,760	9.2
OPPORTUNITY COST	- 751,311	2,185,112	-3.8
TOTAL SHORTFALL	1,065,639	4,110,872	5.4

- TOTAL TRANSITION COSTS WERE LESS THAN PRE-TRADE ESTIMATES
- IMPLICIT COSTS WERE LOWER THAN PRE-TRADE ESTIMATES
- POSITIVE BENEFIT FROM TRADING IMPLEMENTATION
- OVERALL TRANSITION COSTS WERE IN-LINE WITH EXPECTATIONS

EQUITY PORTFOLIO TRANSITION UPDATE

INSURANCE POOL POST TRADE ANALYSIS (ESTIMATE):

	BASIS POINTS				
EXPLICIT COSTS	ACTUAL COST	PRE-TRADE COST (LEGACY PORTFOLIO)			
COMMISSION	27,856	29,302	1.4		
EQUITY	22,059	23,389	1.1		
FIXED INCOME	1,104	1,145	0.1		
INTERIM EXPOSURE	4,694	4,769	0.2		
TAXES & FEES	30,624	29,730	1.5		
STAMP DUTY CHARGES	49,286	49,286	2.4		
SUB-TOTAL	107,767	108,319	5.2		
IMPLICIT COSTS					
EQUITY	12,095	14,248	0.6		
SPREAD	4,914	5,789	0.2		
MKT. IMPACT	7,181	8,459	0.3		
FIXED INCOME	4,213	4,213	0.2		
SPREAD	4,213	4,213	0.2		
CURRENCY	6,924	3,841	0.3		
SUB-TOTAL	23,232	22,302	1.1		
TRADING COST	130,999	130,621	6.4		
OPPORTUNITY COST	-	32,287	102,474	-	1.6
TOTAL SHORTFALL	98,711	233,095	4.8		

- TOTAL TRANSITION COSTS WERE LESS THAN PRE-TRADE ESTIMATES
- EXPLICIT COSTS WERE SLIGHTLY LOWER THAN PRE-TRADE ESTIMATES
- POSITIVE BENEFIT FROM TRADING IMPLEMENTATION
- OVERALL TRANSITION COSTS WERE IN-LINE WITH EXPECTATIONS

NEXT STEPS

- FORMAL POST TRADE REVIEW OF TRANSITION WITH NORTHERN TRUST
- IMPLEMENTATION OF EQUITY 2.0 COMMENCES
 - I. EVALUATE SUB-ASSET CLASS STRATEGIES TO IDENTIFY STRATEGY GROUPS WITH HIGHER PROBABILITIES TO GENERATE ATTRACTIVE RISK ADJUSTED EXCESS RETURNS
 - II. IDENTIFY ATTRACTIVE MANAGERS IN EACH STRATEGY GROUP
 - III. DEVELOP PORTFOLIO OF ATTRACTIVE MANAGERS AND OPTIMIZE TARGETING 100 BPS OF EXCESS RETURN AND 200 BPS OF TRACKING ERROR
 - IV. IMPLEMENT NEW STRUCTURE WITH CONSIDERATIONS AROUND TRANSACTION COSTS



COMPLIANCE PROCESS 1.0

North Dakota Retirement & Investment

INVESTMENT COMMITTEE

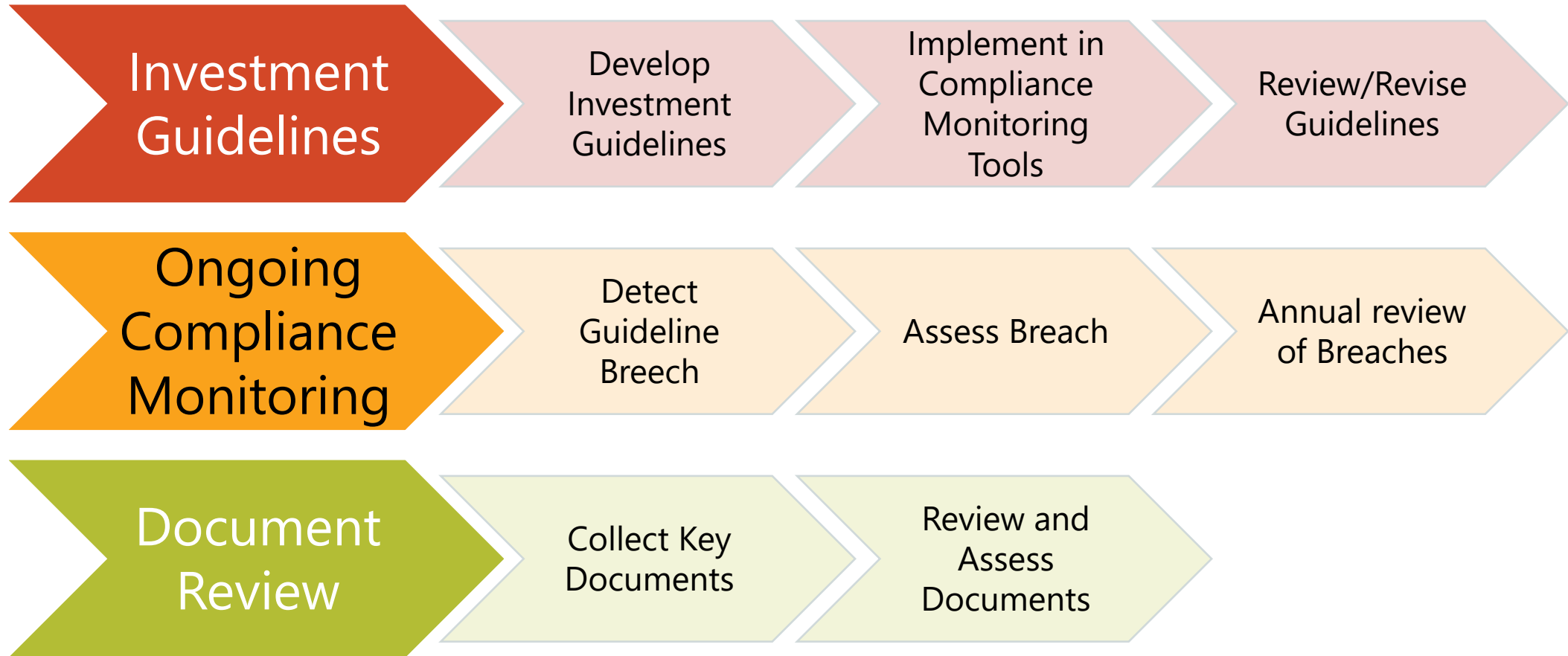
INVESTMENT STAFF

NOVEMBER 10, 2022

NORTH
Dakota
Be Legendary.

Retirement & Investment

INVESTMENT COMPLIANCE ACTIVITIES & TASKS



PORTFOLIO COMPLIANCE PROCESS



Task	Description	Input	Output	Responsible
Select new manager	Investments Team identifies new manager to onboard to platform (see Manager Process)	Manager Research Internal Analyses Consultant Research	Internal Research Reports Board Presentation	Investment Team
Develop strategy appropriate investment guidelines	Investment & Risk Teams collaborate with the investment manager to develop strategy appropriate investment guidelines.	IMA/LPA and manager research	Approved Investment Guidelines	Investment & Risk Team

PORTFOLIO COMPLIANCE PROCESS



Task	Description	Input	Output	Responsible
Input guidelines into compliance tools	Risk Team inputs guidelines to the Northern Trust Compliance Tool	Approved Investment Guidelines	Guidelines coded into Northern Trust Compliance Tool	Risk Team

PORTFOLIO COMPLIANCE PROCESS



Task	Description	Input	Output	Responsible
Review & revise guidelines	Risk and Investment Teams review manager investment guidelines and IMA annually. Discuss fees, investment guidelines and recommend changes as appropriate.	Manager Memos Internal Research	Memo detailing changes to guidelines and reason for changes	Risk Team
Negotiate suggested changes with Manager	Risk and Investment Team negotiates with the investment manager to make suggested changes to fees and guidelines	Memo with suggested changes	New investment guidelines	Risk and Investment Teams
Input new guidelines into compliance tool	Input new guidelines into Northern Trust Compliance monitoring tool	Approved Investment Guidelines	New guidelines coded into Northern compliance tools	Risk Team

PORTFOLIO COMPLIANCE PROCESS



Task	Description	Input	Output	Responsible
Risk Team monitors portfolios using Northern Trust Compliance Tool	Risk Team uses Northern Trust Compliance Tool to continually monitor portfolios. Tool flags guideline breaches.	Guidelines Northern Trust Compliance Tool	Flags guideline breaches	Northern Trust Compliance Tool and Risk Team
Manager self-reports guideline breach	Manager identifies guideline breach and self-reports to Investment and Risk Teams	Manager's portfolio monitoring tools	Manager reports breach to Investment and Risk Team	Manager

PORTFOLIO COMPLIANCE PROCESS



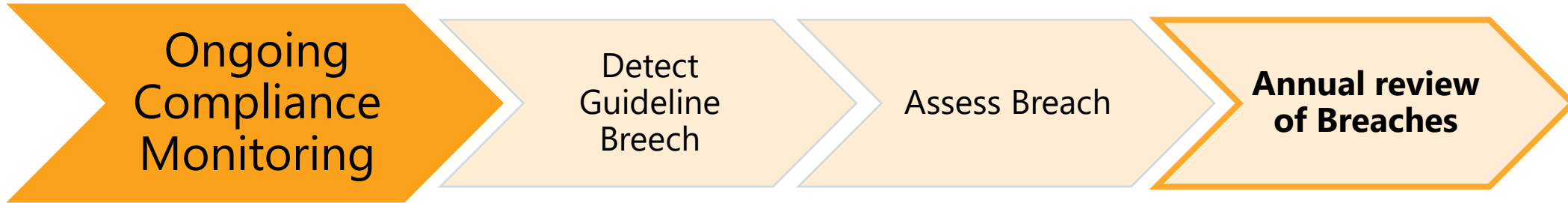
Task	Description	Input	Output	Responsible
Review breach	Risk Team reviews breach, assesses significance (can trigger manager review). Determines if a waiver of guideline is appropriate or demands immediate resolution. Risk Team drafts memo shares with Investment Team and tracks breach in the Compliance Exceptions Report	Information on guideline breach, additional research if necessary	Memo of action. Breach tracked in Compliance Exceptions Report	Risk Team
Significant breach waivers approved by Chair or Vice Chair of the IC	Risk Team sends memo of breach and requests waiver for significant guideline breaches to the Chairman or Vice Chairman of the Investment Committee for approval.	Memo of Breach	Waiver Approval granted by Chair/Vice Chair of IC	Risk Team Chairman or Vice Chairman of IC

PORTFOLIO COMPLIANCE PROCESS



Task	Description	Input	Output	Responsible
Resolve breach immediately	Risk Team communicates to manager need for immediate resolution of breach, and monitors portfolio to ensure immediate resolution. Outcome tracked in Compliance Exceptions Report	Breach Memo, Northern Compliance Tool and portfolio monitoring tools	Immediate resolution of breach. Tracked in Compliance Exceptions Report	Risk Team
Breach waiver	Risk Team informs manager of the approved waiver of the guideline. Risk Team monitors breach and informs Investment Team of any significant changes of the Breach (resolution, exacerbation). Breach is tracked in compliance exceptions report.	Breach Memo, Northern Compliance Tool and portfolio monitoring tools	Monitoring until resolution of breach. Tracked in Compliance Exceptions Report	Risk Team
Ongoing review of outstanding breaches	Risk Team provides regular updates at Investment Team meetings on outstanding breaches.	Compliance Exception Report	Team Review, develop course of action if necessary	Investment & Risk Team

PORTFOLIO COMPLIANCE PROCESS



Task	Description	Input	Output	Responsible
Annual review of breaches	Investment and Risk Team formally reviews all breaches that occurred over the year annually. Significant or frequent breaches can lead to a manager review and or termination.	Compliance Exceptions Report Breach Memos	Formal review and potential manager changes	Risk Team and Investment Teams
Risk Team presents Compliance Exceptions Report to the Investment Committee	Risk Team presents Compliance Exceptions Report to the Investment Committee Annually. Discusses significant and outstanding breaches.	Compliance Exception Report	Presentation to the Investment Committee	Risk Team

DOCUMENT REVIEW PROCESS



Task	Description	Input	Output	Responsible
Develop and send Annual DDQ to managers	Develop a set of firm, asset class and strategy specific questions. This includes due diligence questions (organization, performance, compliance, strategy, philosophy, key man, operations, terms, risk etc.). Send the DDQ to the manger to complete. The DDQ is revised and updated annually.	Asset class, manager, regulatory research	Annual DDQ	Risk and Investment Teams
Collect key documents	Risk Team requests manager provide ADV, Audited Financials, SOC 1 Report, & written confirmation that the manager has been in compliance with guidelines. Risk Team tracks documents collected.	Document request by Risk Team	Set of key documents for each manager	Risk Team

DOCUMENT REVIEW PROCESS



Task	Description	Input	Output	Responsible
Review and assess DDQ and key documents	Identify and assess notable changes from prior period and significant or key disclosures. Findings are shared with the Team and may lead to manager changes. Risk Team tracks documents and findings in Compliance Documents Report	Completed DDQ & Key Documents	Identify key changes and disclosures. Compliance Document Report	Risk Team
Compliance findings shared with the Investment Committee annually	Risk Team presents Compliance Document Report and key findings to the Investment Committee	Compliance Document Report	Presentation to the Investment Committee	Risk Team