

INVESTMENT ADVISORY COMMITTEE MEETING

September 3, 2015

STATE OF MICHIGAN RETIREMENT SYSTEMS
QUARTERLY INVESTMENT REVIEW



Nick A. Khouri, State Treasurer

Prepared by Bureau of Investments
Michigan Department of Treasury

INVESTMENT ADVISORY COMMITTEE MEETING

SEPTEMBER 3, 2015

Agenda



- 9:30 a.m. Call to Order and Opening Remarks
- 9:40 a.m. Approval of Minutes of 6/4/15, IAC Meeting
- 9:45 a.m. Executive Summary & Performance for Periods Ending 6/30/15
- 10:00 a.m. Current Asset Allocation Review
- Markets Review and Outlook
- 10:15 a.m. Round Table Discussion:
- Private Equity
- Review of Investment Reports – *Receive and File*
- Absolute and Real Return/Oppportunistic
 - Domestic Equity
 - Fixed Income
 - International Equity
 - Real Estate & Infrastructure
- Basket Clause – *Receive and File*
- 11:00 a.m. Closing Remarks ~ Adjournment



2015 Meeting Schedule

Tuesday, December 1, 2015

Tentative 2016 Meeting Schedule

Wednesday, March 2, 2016
Thursday, June 16, 2016
Thursday, September 1, 2016
Thursday, December 15, 2016

All meetings start at 9:30 a.m.

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**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

MINUTES

INVESTMENT ADVISORY COMMITTEE MEETING

SEPTEMBER 3, 2015



**Jon M. Braeutigam
Chief Investment Officer
Bureau of Investments**

INVESTMENT ADVISORY COMMITTEE

The Investment Advisory Committee (IAC) held its quarterly meeting on Thursday, June 4, 2015, at the Bureau of Investments, Great Lakes Conference Room, 2501 Coolidge Road, Suite 400, East Lansing, Michigan.

Members Present:

James Nicholson – Chairman
Reginald Sanders
Shelly Edgerton, LARA
John Roberts, DTMB

In attendance from the Department of Treasury:

Treasurer Nick A. Khouri
Robert L. Brackenbury
Karen Stout
Lan Chen
Janet Sudac

Jon M. Braeutigam
Jim Elkins
David Klauka
Timothy Reynolds
Emma Khavari

Gregory J. Parker
Peter Woodford
Lee Logan
Marge McPhee

Others in attendance:

Max Kotary
Joe Hernandez
Molly Jason

Steve Cummings
John Ide
Mark Guastella

Tim McEnery
Josh Lieberman
Joe Curtin

Call to Order

Mr. John Roberts called the June 4, 2015, IAC meeting to order at 9:29 a.m.

Nomination of New Chair

- Ms. Shelly Edgerton nominated Mr. James Nicholson for Chair of the IAC Board. Motion was seconded by Mr. Reginald Sanders, the nomination was unanimous.
- Mr. Nicholson accepted the nomination of Chair stating it is a great honor.

Approval of Minutes of March 5, 2015

- Chairman Nicholson asked for a motion to approve the minutes of the September 5, 2014, IAC meeting. Mr. Reginald Sanders so moved, seconded by Ms. Shelly Edgerton; there were no objections – motion carried.

Executive Summary – Performance Section

- Mr. Jon Braeutigam reported on the performance section of the Executive Summary. He noted that against the peer group, returns for the plan were greater than median returns across all time periods.
- Mr. Braeutigam explained that over the past year, relative returns have been good versus peers.
- Mr. Braeutigam further described the outperformance to the peer median over the past year was due to superior selectivity in all asset classes.
- Mr. Braeutigam explained that in order to reach the plans' 8% actuarial rates of returns it is necessary to rely on equities.

Asset Allocation, Capital Markets, and Economic Backdrop Sections

- Mr. Greg Parker reviewed the asset allocation section of the Executive Summary. He noted that asset allocation is designed to earn 8%; the plan is near or at the strategic target in every asset class; with the current allocation being slightly conservative.
- He noted that capital market assumptions are lower today, domestic equity outperformed international, and fixed income rates stay very low, even though recently there was a sharp rebound.
- Mr. Parker noted that economists are talking about the strength of the jobs market noting that the four-week average for the claims is at a 42-year low.
- Mr. Parker also noted that over \$1 billion in new commitments were approved during the last quarter.

Absolute and Real Return

- Mr. Jim Elkins discussed the reorganization of fund of hedge fund managers being approximately 50% complete with completion expected near year-end.
- Mr. Elkins expressed that absolute return is at the preferred strategy mix.
- He noted that in the real return space the plan has about \$184 million in energy-related investments. This is a potential area for opportunity and SMRS will continue to monitor this.

Domestic Equity

- Mr. Jack Behar explained the three strategic priorities of the division including consolidating the external manager portfolio, driving down fees in the process, and developing internal managers.
- He noted that of the seven internally managed funds, four are in the top quartile over the 3-year period. The goal is to have all managed funds in the top quartile.
- He discussed the recent performance and versatility of the externally managed portfolio, and believes it is heading in the right direction.

Fixed Income

- Mr. Daniel Quigley reported that developed bond markets including the U.S. rallied during the quarter with the major driving force being the ECB quantitative easing. The U.S. rates also decreased, with the 30-year U.S. Treasury ending the quarter at an all-time low.
- He noted that primary market liquidity is robust, secondary market liquidity remained a concern for the bond market, and mutual fund flows recovered during the quarter.
- Also for the quarter, breakeven inflation levels were at the lowest level since the credit crisis and investment grade spreads were flat.

International Equity

- Mr. Richard Holcomb reported on international equities noting there was a rebound in the first quarter after underperforming for years. Developed markets outperformed emerging markets, both categories led the U.S., and foreign currencies saw some strengthening against the U.S. dollar.
- Also geopolitical concerns continue with issues regarding Greek debt, Russia Ukraine aggression, Middle East chaos, and slowing Chinese economic growth.
- The U.S. dollar will likely strengthen again if U.S. interest rates increase and foreign quantitative easing and economic stimulus continue.
- Mr. Holcomb outlined the three approaches used to invest in international equities: index fund investments, stock plus derivative overlay strategies, and active management using external managers. The outlook for adding returns through stock plus and active management funds is positive.

Private Equity

- Mr. Peter Woodford reported that the division has had good performance on an absolute basis, returning 2.3% for the quarter and 12.6% for the year. Performance lagged the benchmark on a relative basis because of strong equity markets. Historically, private equity returns lag the benchmark in up markets and outperform the benchmark during periods of correction.
- Also it was reported that the division returned \$1.7 billion net to the pension fund over the past 12 months.
- He noted that the middle market space will continue to be evaluated. It is attractive because the size and the market fragmentation of this segment provides rich opportunities for investment.

Real Estate and Infrastructure

- Mr. Brian Liikala reported that the recent performance has been good, primarily driven by distressed debt early and mezzanine debt.
- He discussed that the plans' largest property type, multi-family housing, has set a four-year run of strong rent growth.

- Mr. Liikala noted that office space and industrial property types are now seeing development due to occupancy growth.
- Also, medical office properties will continue to see strong occupancy.
- He discussed the debt market which is disciplined but attractive for borrowers, therefore, the transaction market is very strong.

Basket Clause

In the spirit of time, this report was received and filed.

Closing Remarks

Chairman Nicholson requested the next meeting focus on private equity. He thanked everyone for attending.

Next Meeting Date and Adjournment

The next Investment Advisory Committee Meeting is scheduled for Thursday, September 3, 2015. The meeting was adjourned by Chairman Nicholson at 11:08 a.m.

Approved:

James Nicholson, Chairman

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

EXECUTIVE SUMMARY

INVESTMENT ADVISORY COMMITTEE MEETING

SEPTEMBER 3, 2015



**Gregory J. Parker, CFA
Director of Investments – Public Markets
Director of Asset Allocation
Bureau of Investments**

EXECUTIVE SUMMARY

June 2015

Performance

An overview.

MPSERS Plan (6/30/15)	1-Year	3-Years	5-Years	7-Years	10-Years
Annualized Returns	6.2%	12.4%	12.1%	6.8%	7.4%
Policy Return	6.1%	11.9%	12.6%	7.4%	7.3%
Peer Median Return	3.3%	11.1%	11.0%	5.9%	6.7%
Rank vs. Peers	5	14	14	25	10
Number of Peers	31	29	29	28	22

- For the periods ending June 2015; the past three and five years have been especially strong as the markets have rebounded from the 2008-09 financial crisis.
- Against the peer group, returns for the plan are greater than median returns across all time periods. The past one-year relative returns are exceptional, out-returning the peer median by 2.9% and ranking in the top decile. The outperformance to the peer median over the past year was helped by superior selectivity across all asset classes. The overweight in real estate and private equity as well as the underweight to fixed income and international equity compared to peers also added relative value.
- Over the past year, all asset classes earned returns greater than the peer median.
- Absolute returns across most asset classes are slowing from their substantial past gains.

Asset Allocation

Building up commitments in private markets.

- The combined systems paid out approximately \$1.9 billion net of contributions over the past twelve months ending in June 2015; 3.2% of the June 2015 AUM.
- Over the past year, the plans put to work \$1.5 billion in absolute return and \$0.4 billion in real return opportunistic strategies. Over the same time period, the plan reduced the allocation to private equity by \$1.5 billion, domestic equity by \$0.9 billion, real estate by \$0.7 billion, and international equity by \$0.2 billion. The allocation to short term cash increased by \$0.5 billion.
- According to the State Street peer universe data, the peer median allocation for the long-term fixed income asset class is 22.8% versus the plans' allocation of 11.6%. The strategic target allocation for fixed income is now 10.5%. With the 10-year U.S. Treasury yielding approximately 2.4% and cash yielding approximately 10 basis points (bps) at the end of July, the lower allocation is justified as it will be difficult to earn the target rate of 8%.
- The plans have outstanding capital commitments to fund approximately \$9.0 billion in illiquid asset classes, primarily private equity. This figure is about 14.6% of the June 2015 market value and is an additional liquidity consideration. In the June 2015 quarter, nearly \$1.5 billion of new commitments were made.

Capital Markets

An update on stocks and bonds.

- Capital market assumptions used for determining strategic asset allocations are being reduced across the board. This is the general opinion for most consultants, investment banks, and other market participants. The reason for this is the low interest rate environment caused by the policies of the Federal Reserve and other central banks, as well as the run-up in prices for most risk assets over the past five years after the depths of the Great Recession.
- Domestic equity markets continue to be strong. The broad domestic market index, S&P 1500, returned 7.3% over the past year, 18.5% over the past three years, and 17.3% per year over the past five years ending June 2015.
- International equities continue to lag however. Over the past one, three, five, seven, and ten years ending June 2015, the international market index, MSCI ACWI ex USA, underperformed the S&P 1500 index by -11.7%, -6.8%, -8.2%, -7.4%, and -2.4% annualized respectively.
- The 10-year U.S. Treasury closed June 2015 at 2.4%, 10 bps lower than one year prior. The curve is still fairly steep, and spreads are becoming more attractively priced.
- At the end of July 2015, commodity prices, as measured by the Thomson Reuters CRB Index, collapsed by -35% since June 2014.
- There has been some pull back in the REIT index. As of June 2015, the index is 15% off its January 2015 highs.

Economic Backdrop

An eye on the jobs market.

- The most recent reading of the annualized U.S. GDP growth was 2.5%, slightly above the consensus estimate of 2.3%. Current estimates for 2015 GDP growth for the U.S. is 3.1%. Coincidental economic indicators such as the Institute for Supply Management's Manufacturing and Non-Manufacturing PMI Indexes are above 50, indicating that there currently is a modest expansion in the U.S. economy.
- In January 2015, the President of the European Central Bank, Mario Draghi, announced its Quantitative Easing program. The bank plans on purchasing roughly €60 billion per month at least until September 2016 in order to fight deflation in the Eurozone.
- The jobs market is finally showing signs of great health. Both initial jobless and continuing claims are at the lowest levels in over 15 years. The national unemployment rate is at 5.5%, the lowest level since May 2008.
- Anecdotally, wages are increasing across the U.S. However, wage growth has been depressed for a number of years prior, so it is difficult to become too concerned about wage-cost inflation right now.

Investment Update*Highlighting the quarter.*

(\$ Millions)

NEW COMMITMENTS**April 1 – June 30, 2015**

Asset Class	Fund Name	Commitment
Private Equity	Blackstone Capital Partners VII	\$300
Private Equity	Coller International Partners VII	150
Private Equity	Carlyle Europe Partners IV, L.P.	111
Private Equity	Centerbridge Capital Partners III	75
Private Equity	Encap Energy Capital Fund X, L. P.	45
Private Equity	Peninsula Fund VI, L.P.	40
Private Equity	Arboretum Ventures IV, L.P.	30
Real Estate & Infrastructure	Domain GVA-1, LLC	160
Real Estate & Infrastructure	MIP Holdco, LLC	100
Real Estate & Infrastructure	Northpark-Land Associates, LLLP	65
Real Estate & Infrastructure	ArcLight Energy Partners Fund VI, LP	50
Real Estate & Infrastructure	GSO Energy Select Opportunities Fund, LP	50
Real Estate & Infrastructure	True North Real Estate Fund III	50
Real Estate & Infrastructure	IPF II, LP	30
Real Return & Opportunistic	Lakewater LLC, Series V ~ Global Resources	250
Total		\$1,506

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

PERFORMANCE

**FOR PERIODS ENDING
JUNE 30, 2015**

**INVESTMENT ADVISORY COMMITTEE MEETING
SEPTEMBER 3, 2015**



**Jon M. Braeutigam
Chief Investment Officer
Bureau of Investments**

Bureau of Investments

Mission Statement

The Bureau of Investments continually strives to provide quality investment management services, broad professional expertise, and independent advice to the State Treasurer as fiduciary of the State of Michigan Retirement Systems, and various Michigan trust funds and the State's common cash.

SMRS Goals

Maintain sufficient liquidity to pay benefits.

*Meet or exceed the actuarial assumption
over the long term.*

*Perform in the top half of the public plan
universe over the long term.*

Diversify assets to reduce risk.

*Exceed individual asset class benchmarks
over the long term.*

MPSERS PENSION

Time-Weighted Rates of Return
Periods Ending June 30, 2015

	% of Portfolio 6/30/15	Ten Years ¹		Seven Years ¹		Five Years ¹		Three Years ¹		One Year		Current Quarter	
		Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank
TOTAL PLAN	100.0	7.4	10	6.8	25	12.1	14	12.4	14	6.2	5	1.3	8
Median - Greater than \$10 Billion ²		6.7		5.9		11.0		11.1		3.3		0.6	
MPSERS Total Plan Policy		7.3		7.4		12.6		11.9		6.1		0.9	
DOMESTIC EQUITIES	30.1	8.2	30	9.9	28	17.3	38	18.5	15	7.3	35	0.2	54
Median ²		7.8		9.1		16.4		16.5		6.1		0.2	
S&P 1500 Index		8.1		9.6		17.4		17.5		7.3		0.2	
PRIVATE EQUITIES	16.0	13.9	6	9.8	5	15.9	4	15.6	14	11.5	19	4.2	21
Median ²		10.0		7.2		12.5		12.4		7.5		2.7	
Alternative Blended Benchmark ³		12.2		14.2		22.8		19.2		15.9		1.7	
INTERNATIONAL EQUITIES	15.1	5.1	84	2.7	38	9.2	68	11.0	66	-1.7	28	1.2	39
Median ²		6.2		2.6		9.7		11.9		-3.0		1.1	
International Blended Benchmark ⁴		4.2		1.8		7.7		9.8		-5.3		0.5	
BONDS	11.7	5.3	35	5.6	39	4.2	63	3.0	39	2.7	28	-0.9	43
Median ²		5.1		5.3		4.9		2.7		1.9		-1.1	
Barclays Aggregate		4.4		4.6		3.4		1.8		1.9		-1.7	
REAL ESTATE & INFRASTRUCTURE	9.2	6.0	54	2.0	51	13.1	54	13.1	43	14.8	32	2.8	34
Median ²		6.2		2.4		13.5		12.4		11.9		2.5	
NCREIF - Property Blended Index ⁵		6.8		4.0		11.3		10.2		11.5		2.8	
NCREIF Open Fund Index Net		5.9		2.7		13.3		12.1		13.4		3.6	
ABSOLUTE RETURN	7.1					6.1		8.5		5.2		2.0	
HFRI FOF Cons 1 month lagged						3.7		5.6		4.1		1.5	
REAL RETURN AND OPPORTUNISTIC	6.6					10.8		12.4		7.5		2.1	
50% (CPI +500 bps) + 50% (8% actuarial rate)						7.5		7.2		6.6		2.1	
CASH EQUIVALENTS	4.4	1.4		0.7		0.3		0.4		0.4		0.1	
1 Month T-Bill		1.3		0.1		0.1		0.0		0.0		0.0	

¹ Annualized Returns

² Comparison universe is the State Street Universe comprised of Public Funds greater than \$10 Billion on the total plan level and greater than \$1 Billion for asset classes.

³ SP 500 + 300 bps thru 12/31/06. Ending market value (EMV) weighted blend of 10 yr yield + 300 bps and SP 500 + 300 bps 12/31/06 to 9/30/09. EMV weighted blend of 10 yr yield + 300 bps and SP 500 + 300 bps 3-month lagged 9/30/09 to present.

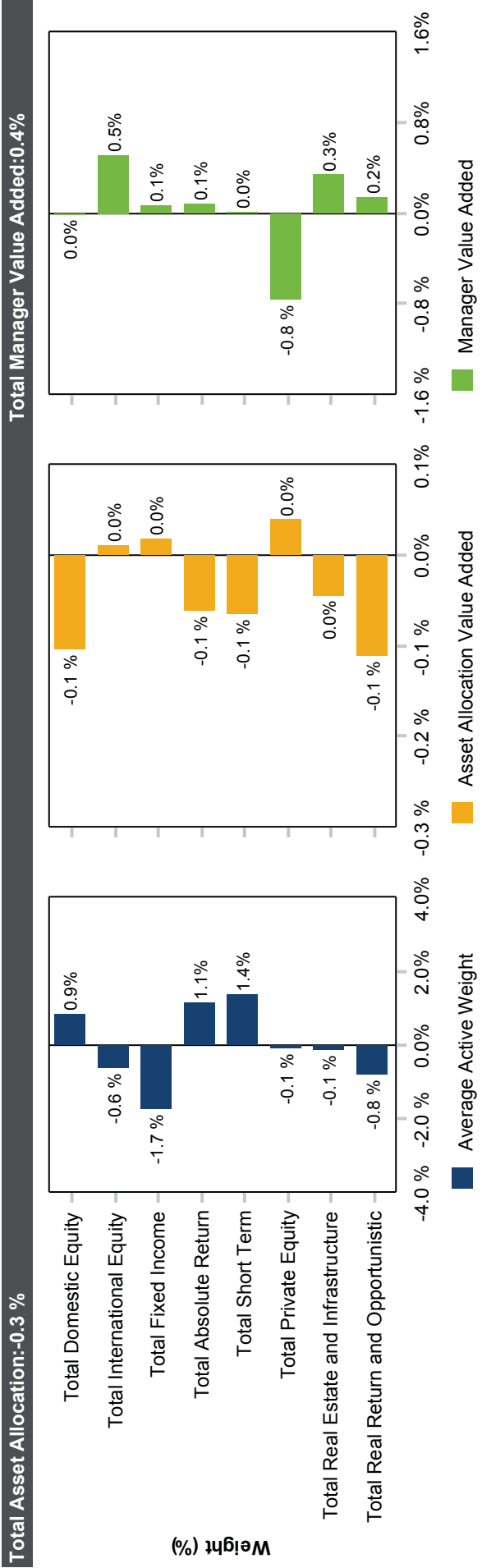
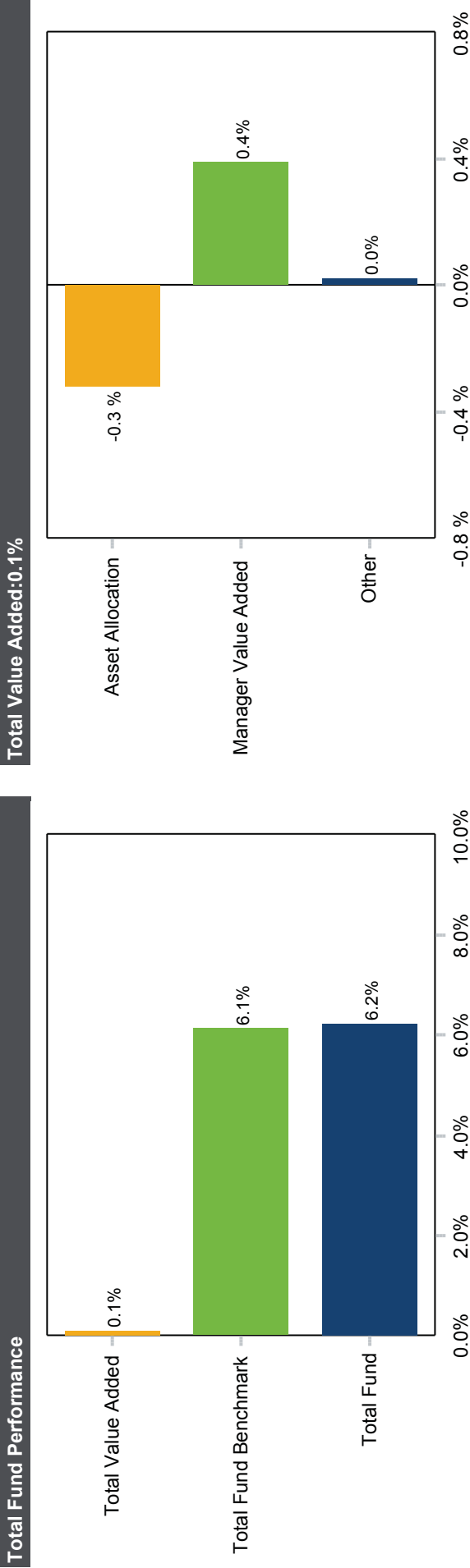
⁴ International blended benchmark is S&P Developed BMI-EPAC 50/50 prior to 1/1/2010. S&P Developed BMI-EPAC 75 USD / 25 Local, 1/1/2010 to 9/30/10. MSCI ACWI Ex USA Gross 10/1/2010 to present.

⁵ NCREIF - Property Blended Index is NPI minus 75 bps prior to October 2005, NPI minus 130 bps current.

Source: State Street Analytics; the NCREIF - NPI (Property Index) source is NCREIF; the S&P BMI-EPAC Index source is S&P.

Total Fund Attribution

Total Michigan vs. Total Plan Attribution



Cumulative and Consecutive Total Fund Returns

MPSERS

Cumulative For Years Ending 6/30/15

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MPSERS	6.2	12.5	12.4	9.9	12.1	11.9	6.8	5.4	6.9	7.4
Public Plan - Median (> \$10 billion)*	3.3	10.3	11.1	8.6	11.0	11.3	5.9	4.8	6.3	6.7
Rank	5	5	14	8	14	25	25	27	11	10
bp Difference - Median	298	218	132	126	118	63	93	63	57	68
Consecutive For Years Ending										
	06/15	06/14	06/13	06/12	06/11	06/10	06/09	06/08	06/07	06/06
MPSERS	6.2	19.1	12.2	2.6	21.7	10.9	-19.3	-4.0	19.3	12.5
Public Plan - Median (> \$10 billion)*	3.3	17.5	12.7	1.1	22.2	13.1	-19.8	-3.8	18.2	10.8
Rank	5	10	66	22	54	76	38	54	31	28
bp Difference - Median	298	163	-46	144	-46	-220	54	-17	107	170

MSERS

Cumulative For Years Ending 6/30/15

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MSERS	6.2	12.5	12.4	9.8	12.1	11.8	6.7	5.3	6.8	7.3
Public Plan - Median (> \$1 billion)*	3.2	9.9	10.7	8.3	10.9	11.3	6.0	5.0	6.3	6.7
Rank	3	3	12	6	17	31	34	33	23	18
bp Difference - Median	299	252	164	149	115	55	67	31	43	57
Consecutive For Years Ending										
	06/15	06/14	06/13	06/12	06/11	06/10	06/09	06/08	06/07	06/06
MSERS	6.2	19.1	12.2	2.4	21.7	10.5	-19.5	-4.1	19.3	12.5
Public Plan - Median (> \$1 billion)*	3.2	17.3	12.6	0.9	22.3	12.9	-19.8	-3.1	18.0	11.1
Rank	3	9	64	16	58	74	43	61	24	25
bp Difference - Median	299	179	-39	154	-59	-239	35	-95	131	143

*State Street Public Funds Universe

Cumulative and Consecutive Total Fund Returns

MSPRS

Cumulative For Years Ending 6/30/15

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MSPRS	6.2	12.4	12.3	9.8	12.1	11.8	6.7	5.3	6.8	7.3
Public Plan - Median (> \$1 billion)*	3.2	9.9	10.7	8.3	10.9	11.3	6.0	5.0	6.3	6.7
Rank	3	3	13	6	17	31	35	33	21	16
bp Difference - Median	297	247	158	145	114	53	65	32	45	60
Consecutive For Years Ending										
	06/15	06/14	06/13	06/12	06/11	06/10	06/09	06/08	06/07	06/06
MSPRS	6.2	19.0	12.1	2.5	21.8	10.4	-19.5	-3.9	19.5	12.6
Public Plan - Median (> \$1 billion)*	3.2	17.3	12.6	0.9	22.3	12.9	-19.8	-3.1	18.0	11.1
Rank	3	9	66	15	57	74	44	59	22	23
bp Difference - Median	297	171	-50	158	-52	-242	33	-76	148	152

MJRS

Cumulative For Years Ending 6/30/15

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MJRS	6.2	12.0	12.1	9.6	12.0	11.3	6.4	5.1	6.5	7.1
Public Plan - Median (> \$1 billion)*	3.2	9.9	10.7	8.3	10.9	11.3	6.0	5.0	6.3	6.7
Rank	3	5	17	13	20	44	45	42	36	28
bp Difference - Median	296	209	138	128	106	6	36	11	22	34
Consecutive For Years Ending										
	06/15	06/14	06/13	06/12	06/11	06/10	06/09	06/08	06/07	06/06
MJRS	6.2	18.2	12.2	2.4	22.1	8.0	-18.9	-3.6	19.0	12.0
Public Plan - Median (> \$1 billion)*	3.2	17.3	12.6	0.9	22.3	12.9	-19.8	-3.1	18.0	11.1
Rank	3	34	62	16	54	98	33	55	29	34
bp Difference - Median	296	91	-34	148	-17	-484	89	-46	98	95

*State Street Public Funds Universe

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

ASSET ALLOCATION REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

SEPTEMBER 3, 2015

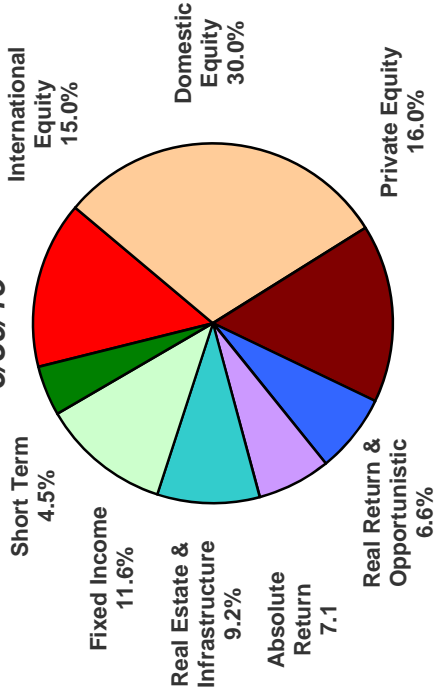


**Jon M. Braeutigam
Chief Investment Officer
Bureau of Investments**



STATE OF MICHIGAN RETIREMENT SYSTEMS PROFILE - JUNE 2015

Asset Allocation 6/30/15



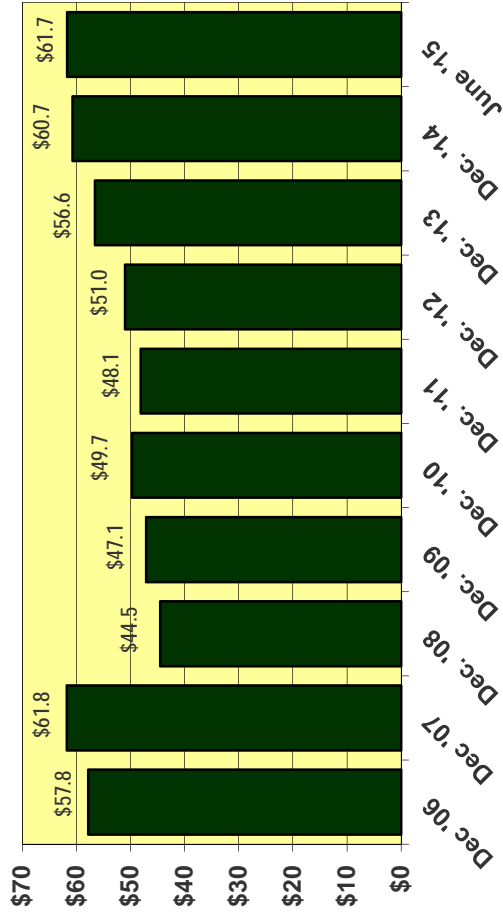
Asset Allocation By Market Value (In Millions)

Investment Strategies	6/30/15	3/31/15
Domestic Equity	\$18,521	\$18,807
Private Equity	9,875	9,882
International Equity	9,274	9,166
Fixed Income	7,181	7,250
Real Estate & Infra.	5,664	5,550
Absolute Return	4,352	4,291
Real Return & Opport.	4,039	3,719
Short Term***	2,784	2,660
TOTAL	\$61,690	\$61,325

Short Term Equivalents (in Billions)

Short Term Strategy***	\$2.8
Short Term in Other Inv. Strategies	0.7
TOTAL SHORT TERM	\$3.5
	5.7% of Total Funds

Market Value* (Billions of Dollars)



Market Value By Plan ~ 6/30/15 (in Millions)

	Pension Plan Mkt. Value	OPEB** Mkt. Value	Combined Mkt. Value	%
MPERS	\$44,165	\$3,561	\$47,726	77.4%
MSERS - (closed)	11,060	1,273	12,333	20.0%
MSPRS	1,274	89	1,363	2.2%
MJRS - (closed)	267	1	268	0.4%
TOTAL	\$56,766	\$4,924	\$61,690	100.0%



17th Largest DB Public Pension Fund in the U.S.
19th Largest DB Pension Fund in the U.S.



Pensions & Investments Survey - February 9, 2015 Issue

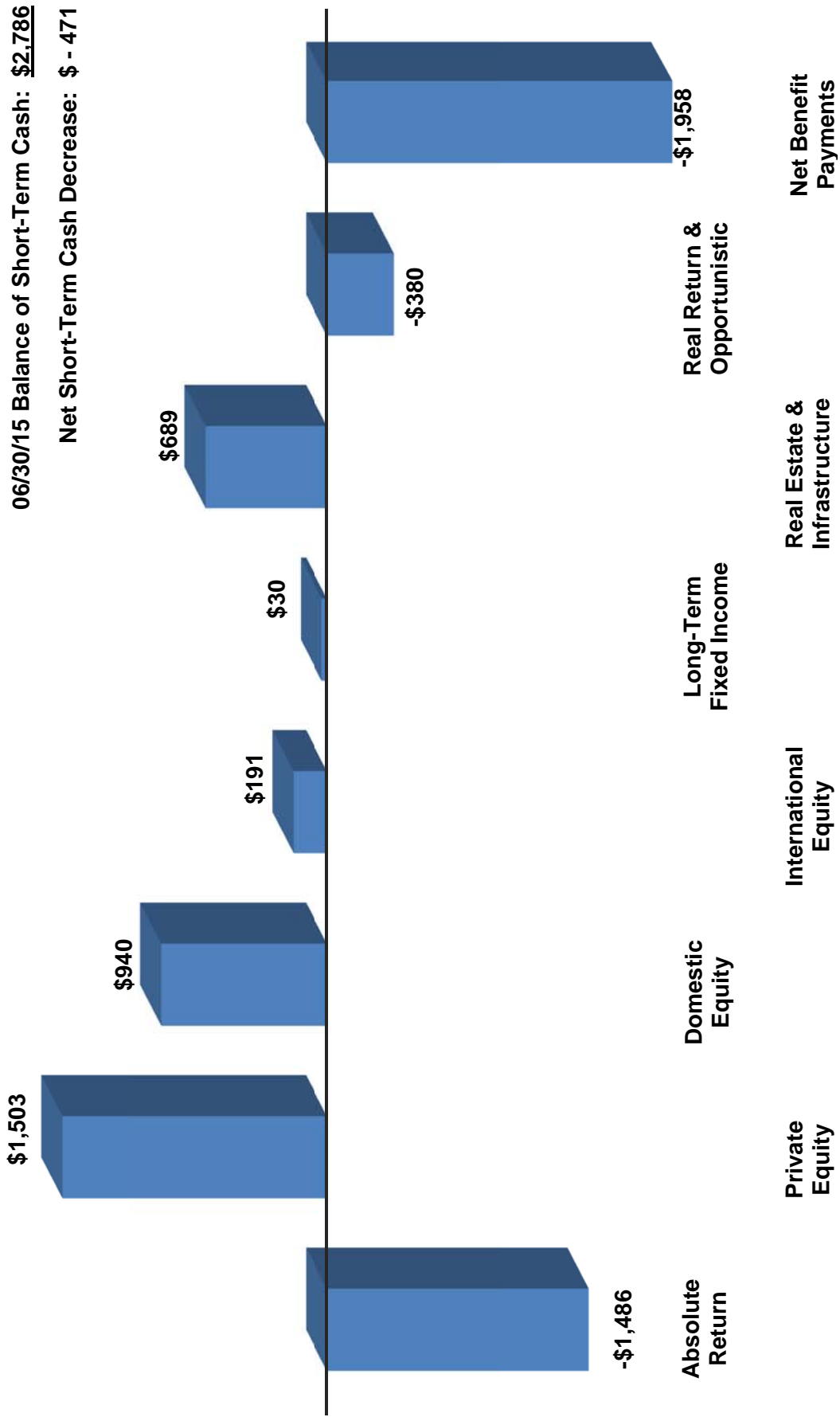
*The combined net payout for the plans for FY 2014 was \$2.1 billion with \$17.8 billion paid out since 2008 (SOMCAFR). This represents the amount paid to beneficiaries in excess of employer and employee contributions.

**OPEB - Other Post Employment Benefits

Sources and Uses of Cash

July 2014 ~ June 2015

07/01/14 Balance of Short-Term Cash: \$3,257
 06/30/15 Balance of Short-Term Cash: \$2,786
 Net Short-Term Cash Decrease: \$ - 471



A negative number in an asset category indicates a use of cash, a positive number indicates a source of cash.
 Dollars in millions

Asset Allocation Targets As of 6/30/15

Asset Class	MPSERS			MSERS			MSPRS			MJRS			SMRS
	Actual	Target	Target*	Actual	Target	Target*	Actual	Target	Target*	Actual	Target	Target*	Ranges
	6/30/15	9/30/15	9/30/16	6/30/15	9/30/15	9/30/16	6/30/15	9/30/15	9/30/16	6/30/15	9/30/15	9/30/16	
Broad U.S. Equity	30.1%	29.2%	28.0%	30.1%	29.2%	28.0%	30.1%	29.2%	28.0%	30.2%	29.2%	28.0%	20% - 50%
Private Equity	16.0%	17.6%	18.0%	16.0%	17.6%	18.0%	16.0%	17.6%	18.0%	16.0%	17.6%	18.0%	10% - 25%
Broad Int'l Equity	15.1%	15.6%	16.0%	15.1%	15.6%	16.0%	15.1%	15.6%	16.0%	15.1%	15.6%	16.0%	10% - 20%
U.S. Fixed Income Core	11.6%	11.1%	10.5%	11.6%	11.1%	10.5%	11.6%	11.1%	10.5%	11.7%	11.1%	10.5%	8% - 25%
Real Estate / Infrastructure	9.1%	9.5%	10.0%	9.1%	9.5%	10.0%	9.1%	9.5%	10.0%	9.3%	9.5%	10.0%	0% - 15%
Real Return / Opportunistic	6.6%	7.2%	9.5%	6.6%	7.2%	9.5%	6.6%	7.2%	9.5%	6.6%	7.2%	9.5%	0% - 15%
Absolute Return	7.1%	5.6%	6.0%	7.1%	5.6%	6.0%	7.1%	5.6%	6.0%	7.1%	5.6%	6.0%	0% - 12%
Cash	4.4%	4.2%	2.0%	4.4%	4.2%	2.0%	4.4%	4.2%	2.0%	4.1%	4.2%	2.0%	1% - 9%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

*Complies with basket clause and international restrictions.

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

MARKETS REVIEW AND OUTLOOK

INVESTMENT ADVISORY COMMITTEE MEETING

SEPTEMBER 3, 2015



**Gregory J. Parker, CFA
Director of Investments – Public Markets
Director of Asset Allocation
Bureau of Investments**

CAPITAL MARKETS

Return and Risk Assumptions, Benchmark and Outlook

A starting point.

MPSERS Plan	Assumed Return* (Arithmetic)	Standard Deviation*	Trailing 10-Year (Benchmark**)	Tactical (Short Term) Expectations***
Private Equity	11.3%	24.0%	12.2%	Hold
International Equity	9.3%	21.3%	5.5%	Hold
Domestic Equity	8.0%	17.4%	8.1%	Trim
Real Estate (Core)	6.4%	11.5%	6.8%	Trim
Absolute Return	6.9%	9.0%	5.3%	Hold
Real Ret/Oppportunistic	8.1%	12.0%	7.5%	Add
Long-Term Fixed	3.0%	4.0%	4.4%	Hold
Short-Term	2.1%	1.0%	1.3%	Hold

* Aon Hewitt Investment Consultants 2014 Long-Term Return/Risk Assumptions

** Investment Policy Statement; Annualized Returns

*** Actual investments may differ due to changing conditions and the availability of new information

Overview

Softening the outlook for risk assets.

- Capital market assumptions used for determining strategic asset allocations are being reduced across the board. This is the general opinion for most consultants, investment banks, and other market participants. The reason for this phenomenon is the low interest rate environment caused by the policies of the Federal Reserve and other central banks, as well as the run-up in prices for most risk assets over the past five years after the depths of the Great Recession.
- The broad domestic market index, S&P 1500, returned 7.3% over the past year, 17.5% over the past three years, and 17.3% per year over the past five years ending June 2015. Technical price trends and market breadth look to be weakening and valuations are above normal.
- Over the past one, three, five, seven, and ten years ending June 2015, the international market index, MSCI ACWI ex USA, underperformed the S&P 1500 index by -11.7%, -6.8%, -8.2%, -7.4%, and -2.4% annualized respectively. Technical price trends are good for developed but less so for emerging. The U.S. dollar looks to be the swing-factor.
- The 10-year U.S. Treasury closed June 2015 at 2.4%, 10 bps lower than one year prior. The curve is still fairly steep, about 50 bps higher than average. Spreads are becoming more attractively priced. At the end of June 2015, investment grade was about 40 bps and high-yield spreads were about 50 bps above their long-term averages.
- Valuations in the commercial real estate market are full in some areas, though opportunities are selectively available. Against the 10-year U.S. Treasury, REITs are on the high side, and appear expensive on other valuation metrics. One clue to the next turn of the REIT Index is the direction of the bond market. Since June 2013, the movement in returns of the REIT Index and the Barclays U.S. Aggregate Bond index have been very similar.
- At the end of July 2015, commodity prices, as measured by the Thomson Reuters CRB Index, collapsed by -35% since June 2014. Since its peak in 2008, prices are down by more than -57%, and prices are now less than at the March 2009 levels. The CRB Index is now at the low end of its trading range, and seemingly on a lower trend.

Domestic Equity

Market breadth looks like it is narrowing.

- Since the bottom, six years ago now, the U.S. stock market continues to make new highs and from a technical perspective, the large-cap market price appreciation has slowed in recent months. The small-cap price trend is noticeably weaker and given the stretched relative valuations, continued weakness and underperformance is not unlikely.
- The breadth of the market has narrowed slightly as well. In the months of July 2015 and 2014, the S&P 500 index was within a couple of percent of its 52-week high. However, at the end of July 2015, the average stock was underperforming the cap-weighted S&P 500 by nearly -4% compared to -1.5% a year earlier. In addition, at the end of July 2015, one out of five S&P 500 companies were more than -20% below its 52-week high; nearly five times greater than the year prior.
- Valuation metrics are above average and the absolute returns over the next cycle will not likely be as strong as the historical average. Small caps look expensive by some measures. The domestic equity assets are positioned as modestly defensive relative to the benchmark.
- Over the past year ending June 2015, large outperformed small by 0.9%. Over the past three years, large underperformed small by -0.4% annually and over the past five years, large slightly outperformed small-cap returns by 0.2%. Over the past year, growth handily beat value by 6.6%; and over the past three, five, seven, and ten years by 1-2% annually.
- The active portfolio is now slightly defensively oriented relative to the S&P 1500 benchmark. This action seems prudent after six years of recovery in the stock market. The fund is underweight the typical cyclical areas of the market; small caps, as well as commodity-related industries. This is a slight contrast in philosophy over the past four years. In September 2011, the fund had an above market risk exposure; a good call as the market has nearly doubled since then.
- In the past twelve months, ending June 2015, the plan reduced the exposure to domestic equity by over \$900 million, or about a percent and a half of the total. At the end of June 2015, the plan had 30% allocated to domestic equity with a long-term strategic target of 28%.

International Equity

Weakness in emerging markets continue.

- International equities continue to underperform domestic. Over the past one, three, five, seven, and ten years ending June 2015, the international market index, MSCI ACWI ex USA, underperformed the S&P 1500 index by -11.7%, -6.8%, -8.2%, -7.4%, and -2.4% annualized respectively.
- Within international equities, over the past one and ten years ending June 2015, emerging markets have outperformed developed markets annualized by 0.2% and 2.8% respectively. However, over the past three, five, and seven years developed markets have outperformed emerging markets by 6.7%, 4.9% and 0.8% annualized.
- The price trend (measured in local currency) of developed international is mostly good. By contrast, emerging markets price is at the low end of its price channel and below its 200-day moving average.
- The plan is underweight international equity against a global benchmark (approximately 33% versus 50%) and it is also slightly underweight peers; 14.9% versus 18.4%. Actual emerging market exposure is approximately 3.8% overweight the MSCI ACWI ex US benchmark and has averaged around that level for the past year.
- Based on a price-to-earnings valuation multiple, excluding non-earning companies, developed international equity markets trade at a 15% discount to the U.S. counterparts, while emerging markets trade at over a 30% discount. However, it appears that most of this valuation gap is due to the sector weights of the non-U.S. indexes rather than a true valuation discrepancy.

Interest Rates

Low rates persist.

- The 10-year U.S. Treasury closed June 2015 at 2.4%, 10 bps lower than one year prior. The curve is still fairly steep, about 50 bps higher than average. Spreads are becoming more attractively priced. At the end of June 2015, investment grade was about 40 bps and high-yield spreads were about 50 bps above their long-term averages.
- Inflation expectations are being priced lower in the bond markets. The 10-year breakeven rates at the end of June 2015 were priced at 1.8%, 40 bps below the average of the past 5 years. This is also lower than the Fed's target rate of long-term 2% inflation; the market is betting against the Fed.
- The Barclays Aggregate Index sensitivity to changes in interest rates has increased over time as measured by the modified adjusted duration. At the end of June 2015, the Barclays Aggregate Index had a duration of 5.9. Even at this stage in the economic cycle, credit risk is still preferable to duration risk.

Real Estate

Rich valuations and following the bond market.

- The publicly traded FTSE Nareit REIT Index was up 4.2% over the past year for the period ending June, underperforming the broad domestic equity market. Over the past three and five years, the index is up 9.0% and 14.4% respectively.
- There has been some pull back in the REIT index. As of June 2015 the index is 15% off its January 2015 highs.
- The REIT Index is priced modestly expensive relative to bonds, while other valuation metrics indicate that the index is very expensively priced. In other words, real estate is not expected to deliver high absolute returns over the longer term. However stretched the valuations have become, timing of the softer than normal returns is tricky.
- One clue to the next turn of the REIT Index is the direction of the bond market. Since June 2013, the movement in returns of the REIT Index and the Barclays U.S. Aggregate Bond index have been very similar.

Commodities

Weaker still.

- At the end of July 2015, commodity prices, as measured by the Thomson Reuters CRB Index, collapsed by -35% since June 2014. Since its peak in 2008, prices are down by more than -57%, and prices are now less than at the March 2009 levels. The CRB Index is now at the low end of its trading range, and seemingly on a lower trend.
- The U.S. dollar continues to surge in value relative to other currencies. As measured by the DXY Index, the dollar strengthened by around 20% over the past year ending June 2015. That is at the high end for a one-year price move for the DXY Index. Although the long-term trend seems to be continued strengthening for the dollar, a pause in the ascension or even a moderate pull-back in the near term should be expected.

ECONOMIC OUTLOOK

Select Historic Economic Growth with Forecasts

An eye to 2015.

Real GDP Growth Actual/Forecasts	2013	2014	2015	2016	2017
World	3.4	3.4	3.1	3.6	3.4
U.S.	1.5	2.4	2.3	2.8	2.7
Developed (G10)	1.1	1.8	2.0	2.4	2.3
Asia	4.9	4.7	4.8	5.2	5.1
EMEA	2.3	2.4	1.2	2.6	3.0
Europe	-0.4	0.8	1.5	1.7	1.3
Latin America	3.3	1.3	0.1	1.7	2.8
China	7.7	7.4	7.0	6.7	6.5

*Source: Bloomberg









Economic Overview

U. S. economy remains the bright spot.

- The most recent reading of the annualized U.S. GDP growth was 2.5%, slightly above the consensus estimate of 2.3%. Current estimates for 2015 GDP growth for the U.S. is 3.1%. Coincidental economic indicators such as the Institute for Supply Management's Manufacturing and Non-Manufacturing PMI Indexes are above 50, indicating that there currently is a modest expansion in the U.S. economy.
- The jobs market is finally showing signs of great health. The latest April figures for both initial jobless and continuing claims were at the lowest levels in over 15 years. The national unemployment rate is at 5.3%, the lowest level since April 2008.
- Anecdotally, wages are increasing across the U.S. However, wage growth has been depressed for a number of years prior, so it is difficult to become too concerned about wage-cost inflation right now.
- U.S. housing is a bright spot. At nearly 5.5 million, total existing home sales is at its highest level in eight years. Demand is more robust than supply; housing inventory-to-sales ratios are at the low end of a 25-year range. At 1.2 million, new housing starts are also at late 2007 levels. As housing prices have increased, the affordability of housing is at the high end of the past 30 years.

Annual Total Returns of Key Asset Classes 1995 - 2014

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		
	U.S. Equity	U.S. Equity	U.S. Equity	U.S. Equity	Int'l Equity	Gov't Bonds	Corp. Bonds	Gov't Bonds	Int'l Equity	Int'l Equity	Real Estate	Int'l Equity	Int'l Equity	Gov't Bonds	Int'l Equity	U.S. Equity	Real Estate	Int'l Equity	U.S. Equity	U.S. Equity		
	36.52%	22.42%	32.94%	26.33%	26.97%	13.23%	10.40%	11.50%	40.82%	20.90%	20.06%	26.65%	16.65%	12.38%	41.44%	16.38%	14.26%	16.83%	32.80%	13.08%		
	Corp. Bonds	Hedge Funds	Hedge Funds	Int'l Equity	U.S. Equity	Real Estate	Real Estate	Corp. Bonds	U.S. Equity	Real Estate	Int'l Equity	Real Estate	Real Estate	Cash	U.S. Equity	Real Estate	Gov't Bonds	U.S. Equity	Int'l Equity	Real Estate		
	22.24%	13.73%	14.95%	19.97%	20.27%	12.24%	7.28%	10.52%	29.58%	14.48%	16.62%	16.59%	15.84%	2.05%	27.24%	13.11%	9.02%	16.17%	15.29%	11.81%		
	Gov't Bonds	Real Estate	Real Estate	Real Estate	Hedge Funds	Corp. Bonds	Gov't Bonds	Real Estate	Hedge Funds	U.S. Equity	U.S. Equity	U.S. Equity	Gov't Bonds	Int'l Equity	Corp. Bonds	Int'l Equity	Corp. Bonds	Real Estate	Real Estate	Corp. Bonds		
	18.33%	10.31%	13.91%	16.24%	18.93%	9.40%	7.24%	6.74%	9.01%	11.78%	5.65%	15.34%	8.67%	0.10%	16.05%	11.15%	8.35%	10.54%	10.99%	7.53%		
	Hedge Funds	Int'l Equity	Corp. Bonds	Gov't Bonds	Real Estate	Cash	Cash	Hedge Funds	Real Estate	Hedge Funds	Hedge Funds	Hedge Funds	Hedge Funds	Corp. Bonds	Hedge Funds	Corp. Bonds	Int'l Equity	Corp. Bonds	Hedge Funds	Gov't Bonds		
	13.06%	6.05%	10.23%	9.85%	11.36%	6.16%	4.43%	3.57%	8.99%	5.83%	5.13%	9.21%	7.68%	-3.07%	9.65%	8.46%	2.96%	9.37%	7.69%	4.92%		
	Int'l Equity	Cash	Gov't Bonds	Corp. Bonds	Cash	Hedge Funds	Hedge Funds	Int'l Equity	Corp. Bonds	Corp. Bonds	Int'l Equity	Cash	U.S. Equity	Real Estate	Int'l Equity	Gov't Bonds	U.S. Equity	Hedge Funds	Int'l Equity	Hedge Funds		
	11.22%	5.30%	9.58%	8.59%	4.83%	5.77%	3.11%	2.39%	7.69%	5.25%	3.42%	4.81%	5.47%	-6.46%	2.72%	5.52%	1.75%	4.06%	1.49%	3.41%		
	Real Estate	Int'l Equity	Cash	Cash	Int'l Equity	Int'l Equity	Int'l Equity	Cash	Gov't Bonds	Gov't Bonds	Cash	Corp. Bonds	Corp. Bonds	Hedge Funds	Cash	Hedge Funds	Cash	Gov't Bonds	Cash	Inflation		
	7.54%	3.33%	5.35%	5.24%	2.68%	3.39%	1.55%	1.79%	2.36%	3.48%	3.06%	4.27%	5.10%	-19.86%	0.19%	5.07%	0.10%	2.02%	0.07%	0.66%		
	Cash	Corp. Bonds	Int'l Equity	Int'l Equity	Corp. Bonds	U.S. Equity	U.S. Equity	Int'l Equity	Int'l Equity	Int'l Equity	Gov't Bonds	Gov't Bonds	Cash	Cash	Gov't Bonds	Int'l Equity	Hedge Funds	Int'l Equity	Corp. Bonds	Cash		
	6.04%	3.28%	1.77%	1.60%	-1.94%	-6.98%	-10.64%	-14.95%	1.88%	3.25%	2.65%	3.46%	5.03%	-36.72%	-2.19%	1.50%	-3.55%	1.70%	-2.01%	0.04%		
	Inflation	Gov't Bonds	Inflation	Hedge Funds	Gov't Bonds	Int'l Equity	Int'l Equity	U.S. Equity	Cash	Cash	Corp. Bonds	Inflation	Inflation	Inflation	Real Estate	Cash	Int'l Equity	Cash	Gov't Bonds	Int'l Equity		
	2.54%	2.77%	1.70%	-1.61%	-2.25%	-15.31%	-19.74%	-21.30%	1.16%	1.33%	1.95%	2.55%	4.06%	-45.52%	-16.86%	0.13%	-13.71%	0.11%	-2.60%	-3.87%		
Best																						Worst
	Return Risk	Return Risk	Infl.		Cash	Hedge			Int'l		Gov't		Corp.		R.E.		U.S. Eq.				Return Risk	
			2.29%		2.84%	5.43%			5.66%		5.86%		6.90%		9.61%		10.10%					
			1.16%		0.67%	7.01%			20.22%		4.15%		5.17%		8.42%		15.24%					

 - Hedge Funds are represented by the HFRI FOF Conservative Index
 - Inflation is represented by the U.S. Consumer Price Index
 - International Equity is represented by the MSCI EAFE Index
 2000 Forward - Int'l Equity is represented MSCI - AC World EX-USA Index
 - Corporate Bonds are represented by the Barclays Capital - Credit Index
 - Government Bonds are represented by the Barclays Capital U.S. Government
 - U.S. Equity is represented by the S&P 1500
 - Real Estate is represented by the NPI

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Annualized Returns 1995 - 2014

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

PRIVATE EQUITY REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

SEPTEMBER 3, 2015



**Peter A. Woodford
Senior Investment Manager
Private Equity Division**

EXECUTIVE SUMMARY

Performance

MPSERS Plan	1-Year	3-Years	5-Years	7-Years	10-Years
Annualized Returns	11.5%	15.6%	15.9%	9.8%	13.9%
Benchmark Return	15.9%	19.2%	22.8%	14.2%	12.2%
Peer Median Return	7.5%	12.4%	12.5%	7.2%	10.0%
Rank vs. Peers	19	14	4	5	6

- The Private Equity Division annualized returns have been strong in absolute terms for all time periods over the past ten years; returning 11.5% and 13.9% over the past one and ten years respectively.
- The Private Equity Division annualized returns have been strong relative to peer median returns for all time periods over the past ten years, outperforming peer returns by almost 4% on a ten year basis.
- It is not unusual for private equity returns to lag the public market benchmark return in a strong up market; the past several years have been no exception. However; over the past ten years, a full market cycle, the Private Equity Division has delivered 6.0% annualized excess returns over the S&P 500 (10-year S&P 500 return 7.9%).

Strategy Update

Over the past twelve months ending 6/30/15, the Private Equity Division returned roughly \$1.4 billion, net of contributions, to the pension fund. This trend has continued into the third quarter of 2015, as a low interest rate environment favors higher prices, asset sellers rather than buyers, and excess distributions over capital calls. The target allocation remains 18%.

- The Private Equity Division has approximately \$4.9 billion in unfunded commitments. New commitments closed during the quarter include:
 - \$300 million to Blackstone Capital Partners VII; Leveraged buyout
 - \$150 million to Collier International Partners VII; Secondaries
 - €100 million to Carlyle Europe Partners IV; European middle market LBO
 - \$75 million Centerbridge Capital Partners III; Buyout/distressed
 - \$45 million Encap Energy Capital Fund X; Upstream E&P
 - \$40 million Peninsula Fund VI; Lower-middle market mezzanine
 - \$30 million Arboretum Ventures IV; Healthcare and life sciences
- The Private Equity Division strategy is focused on the asset classes of: leveraged buyouts, venture, distressed debt, mezzanine debt, and special situations. The division is overweight leveraged buyouts because this strategy has resulted in higher, more consistent long-term returns (10+ years) vs. other asset classes.

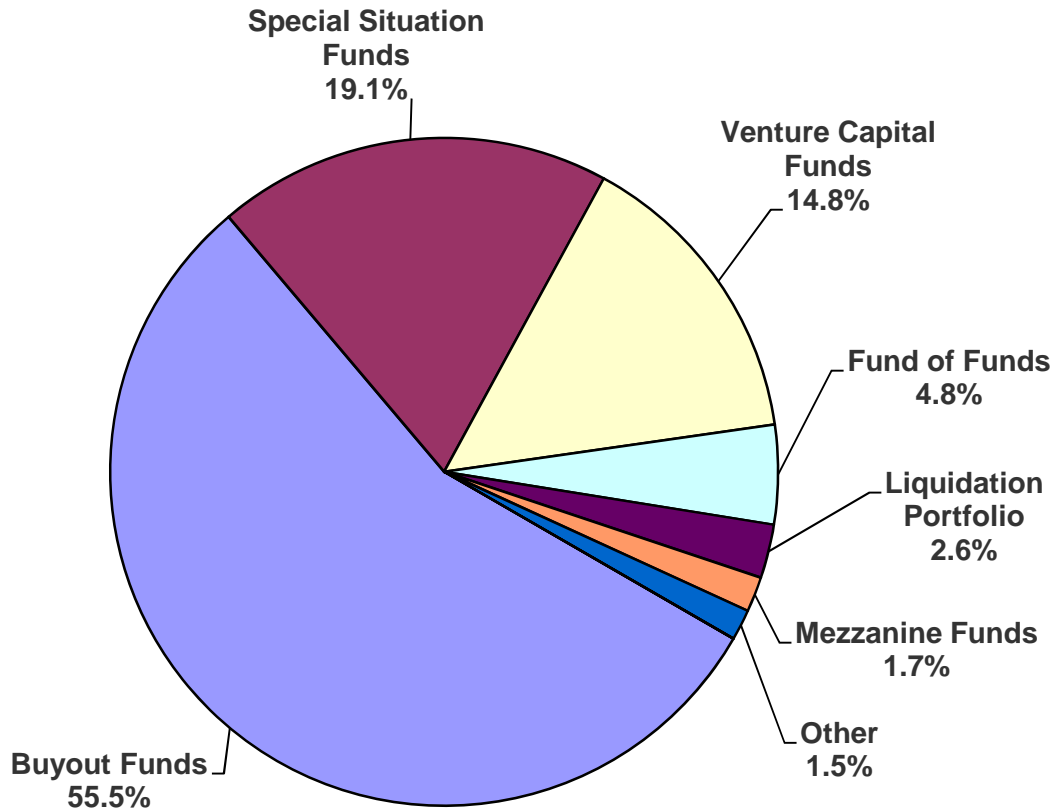
- The Private Equity Division continues to allocate to the other asset classes for portfolio diversification and to capitalize on cyclical market dislocations.
- Recently, the Private Equity Division began evaluating co-investments and secondary opportunities to enhance returns and to average down fees.

Market Environment

- A challenging investment environment persists across regions. The deal pipeline is full of good opportunities, but it is difficult to justify high acquisition multiples for companies with low intrinsic growth rates. The market for new deals is very competitive. Valuations are high, debt is plentiful, and strategic buyers have re-emerged as active acquirers.
- M&A volumes are recovering from a slow first quarter, but strong equity and debt markets continue to support elevated valuations.
- Investing across core geographies and sectors with experienced managers has served the plan well.
- High equity prices, high deal prices, and low cost of debt has resulted in an attractive exit market.
- Transactional volume on the buy side remains low by historical measure due to elevated equity prices.



SMRS Private Equity 6/30/15



Market Value in Millions				
	6/30/15		3/31/15	
Buyout Funds	\$5,481	55.5%	\$5,575	56.4%
Special Situation Funds	1,889	19.1%	1,839	18.6%
Venture Capital Funds	1,462	14.8%	1,394	14.1%
Fund of Funds	473	4.8%	458	4.6%
Liquidation Portfolio	259	2.6%	300	3.0%
Mezzanine Funds	168	1.7%	175	1.8%
Other	143	1.5%	141	1.5%
Total	\$9,875	100.0%	\$9,882	100.0%



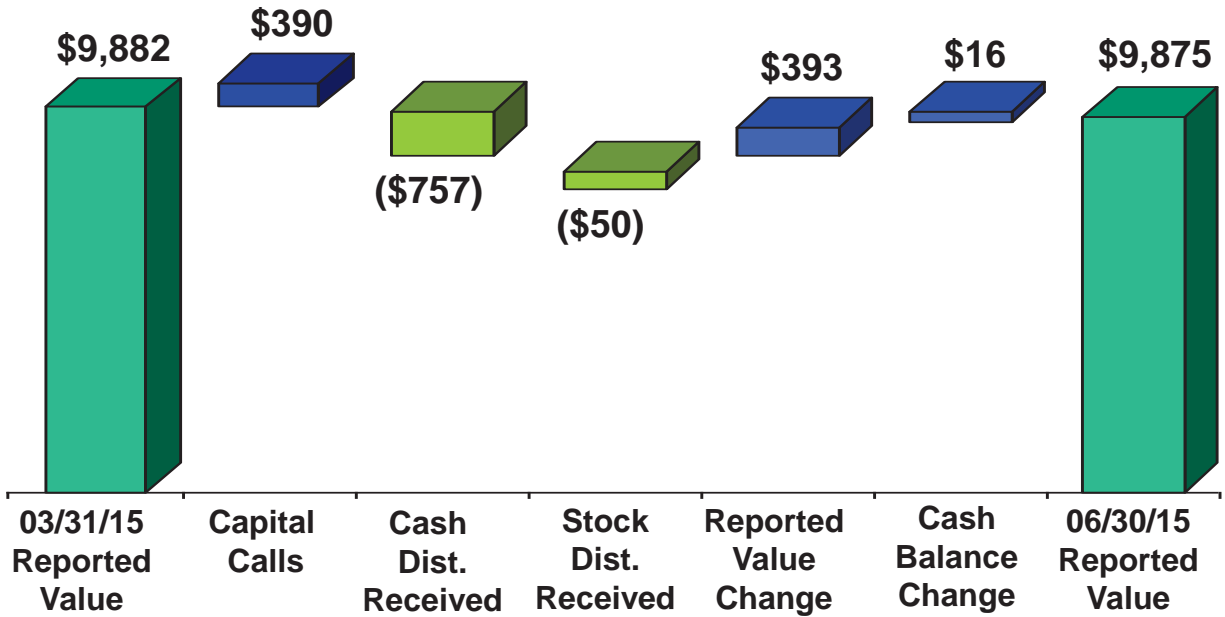
SMRS

Private Equity

6/30/15

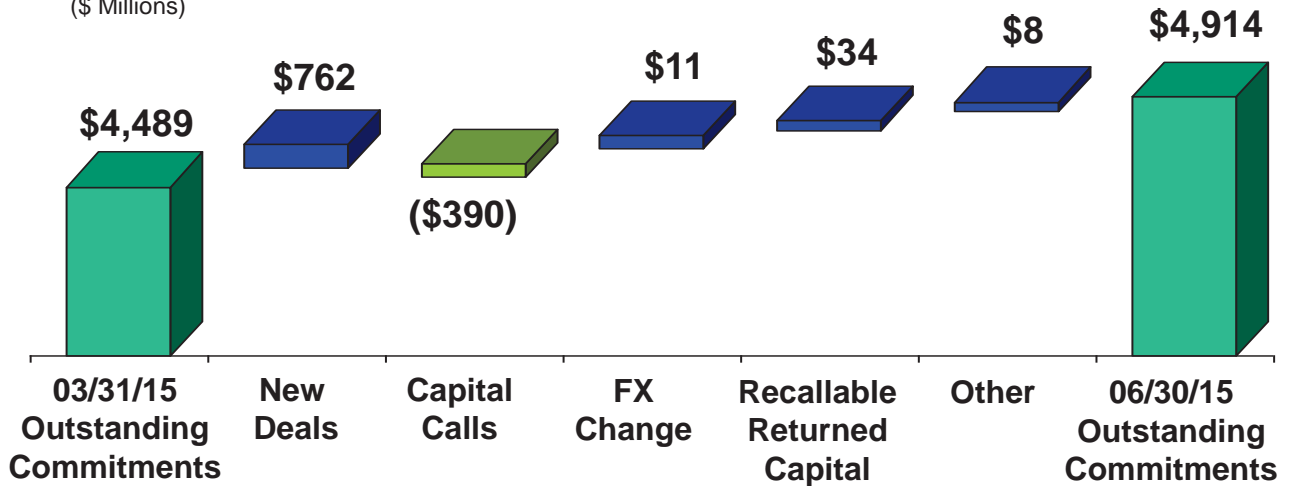
Invested Commitments

(\$ Millions)



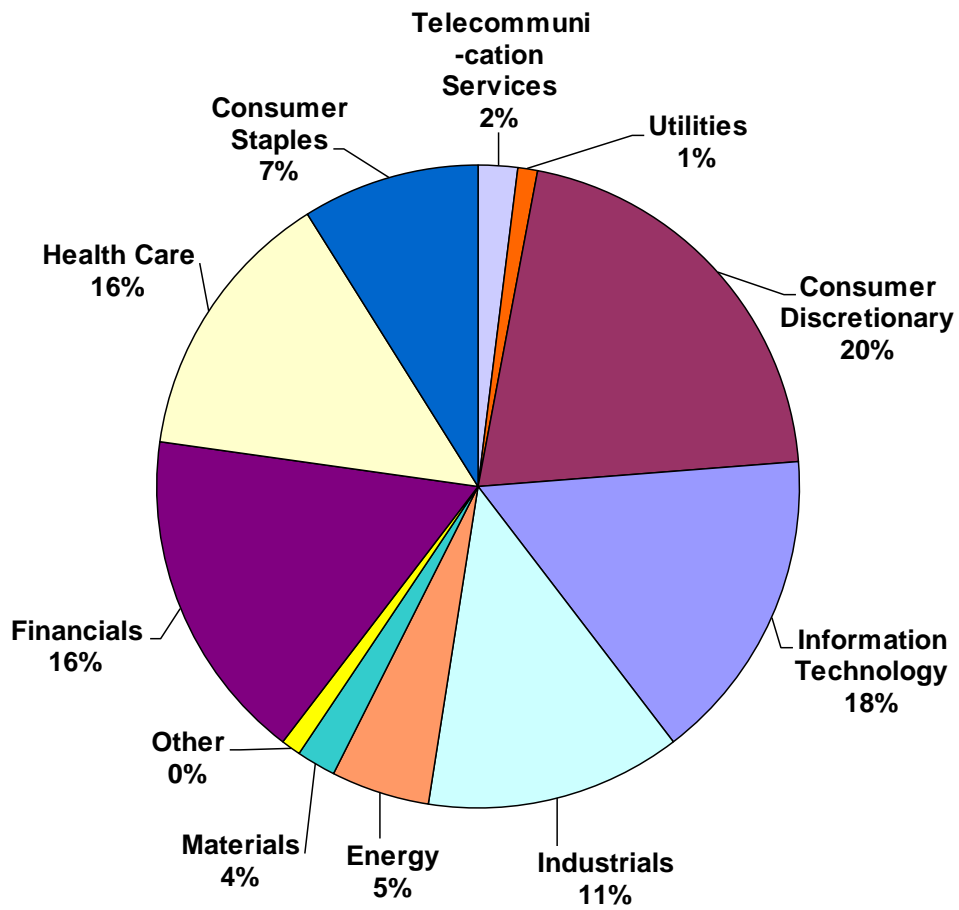
Outstanding Commitments

(\$ Millions)



 **SMRS**
Private Equity
6/30/15

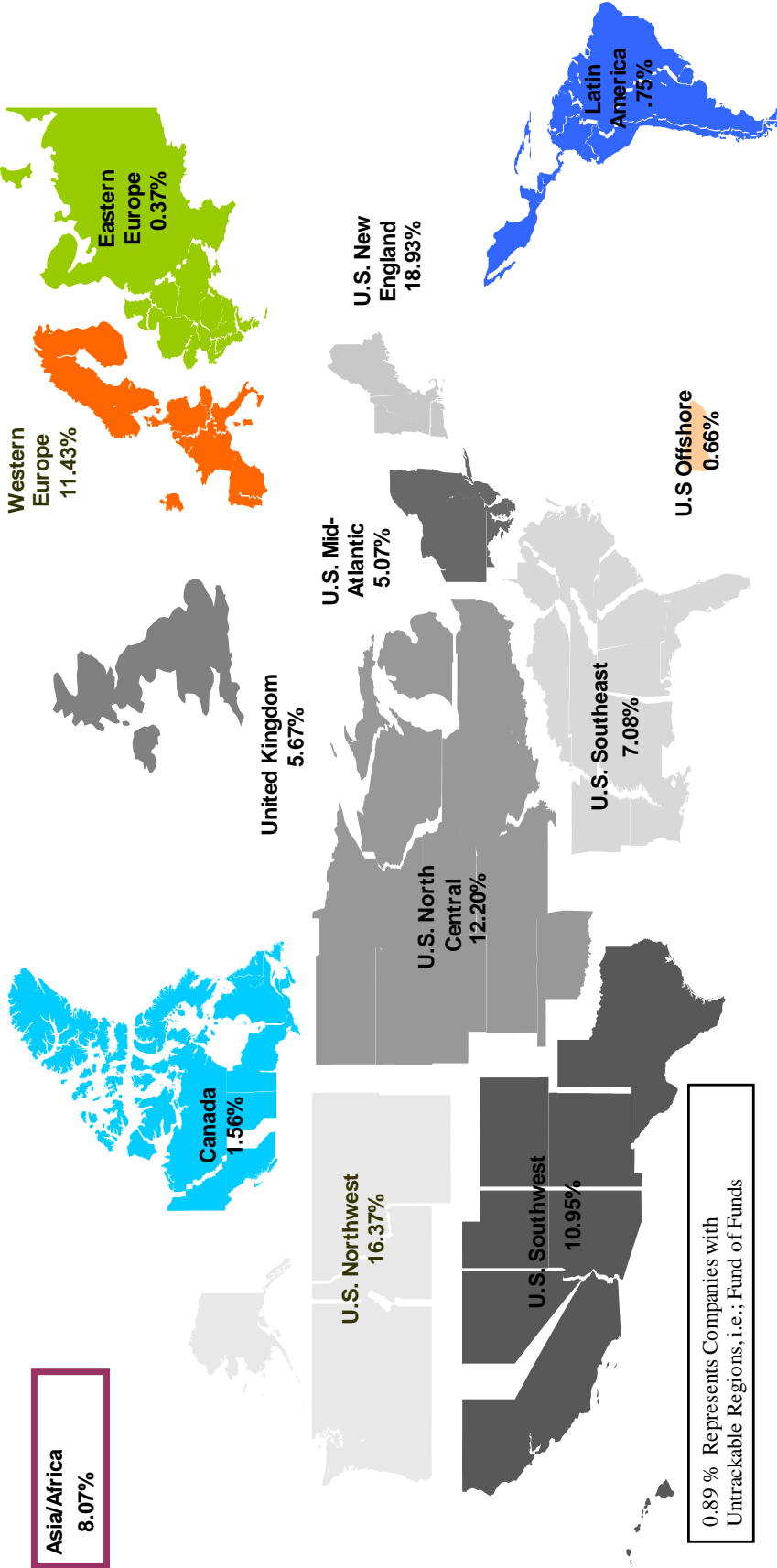
Investments by Industry



These numbers are based on the most recent available General Partner Data; primarily 3/21/15 and are subject to change.


SMRS
Private Equity
6/30/15

Investments by Region



0.89 % Represents Companies with Untrackable Regions, i.e.; Fund of Funds

Geographic Report: North America 73%, Europe 18%, Asia 8%, Other 1%



SMRS

Private Equity

6/30/15

Portfolio by Vintage Year

(\$ Millions)

Asset Vintage	Reported Value	Outstanding Commitment	Total Exposure
1986-98	\$ 58	\$ 16	\$ 74
1999	49	12	61
2000	112	32	144
2001	308	61	369
2002	189	9	198
2003	98	22	120
2004	399	67	466
2005	668	82	750
2006*	2,053	383	2,436
2007	1,476	217	1,693
2008	1,382	331	1,713
2009	173	16	189
2010	335	37	372
2011	589	383	972
2012	837	588	1,425
2013	301	406	707
2014	490	1,044	1,534
2015	216	1,208	1,424
Cash	130	-	130
Act. Small Cap - Stock Dist	12	-	12
Total	\$ 9,875	\$ 4,914	\$ 14,789

*Liquidation portfolio is 2006 vintage

FX Exposure

(\$ Millions)

	Reported Value	Outstanding Commitment	Total Exposure	Total (USD)
Euro (\$1.11/ €)	€ 672	€ 345	€ 1,017	1,133
Pound (\$1.57/ £)	£8	£1	£9	14



Private Equity

6/30/15

Top 10 Sponsors

(\$ Millions)

<u>Asset Type</u>	<u>Reported Value</u>	<u>Outstanding Commitment</u>	<u>Total</u>
Blackstone Capital Partners	\$ 473	\$ 467	\$ 940
KKR	\$ 651	\$ 267	\$ 918
Grosvenor Capital Management	\$ 662	\$ 179	\$ 841
The Carlyle Group	\$ 384	\$ 324	\$ 708
Warburg Pincus Capital	\$ 482	\$ 180	\$ 662
TPG	\$ 438	\$ 212	\$ 650
Advent International	\$ 417	\$ 99	\$ 516
Leonard Green & Partners	\$ 329	\$ 78	\$ 407
Coller Capital	\$ 131	\$ 275	\$ 406
FirstMark Capital	\$ 270	\$ 98	\$ 368
Top 10 Total Value	\$ 4,237	\$ 2,179	\$ 6,416

Cash Weighted Rates of Return*

<u>(Net IRR)</u>	<u>Current Qtr.</u>	<u>1-Year</u>	<u>3-Years</u>	<u>5-Years</u>	<u>10-Years</u>
Buyout	2.2%	6.6%	16.3%	16.0%	14.6%
Venture Capital	0.4%	16.8%	16.1%	19.9%	12.4%
Special Situations	0.3%	2.6%	13.5%	13.5%	9.3%
Fund of Funds	-0.2%	5.9%	11.2%	12.4%	10.9%
Mezzanine Debt	0.3%	5.9%	10.8%	12.6%	15.2%

*These numbers are based on most recent available General Partner reported data; primarily 3/31/15 and are subject to change.



SMRS Private Equity 6/30/15

Net Market Values by Ownership Entity

	Adjusted Reported Value	Unfunded Commitment
Accel Europe I, L.P.	18,928,022	1
Accel Europe II	16,693,577	3,300,000
Accel Growth Fund II, L.P.	13,197,703	1,260,000
Accel Growth Fund III, L.P.	7,089,729	7,140,000
Accel IX, L.P.	10,207,969	3,000,000
Accel VI, L.P.	1,399,665	0
Accel VII, L.P.	2,412,186	5,000,000
Accel VIII, L.P.	2,777,262	4,782,499
Accel VI-S	2,594,173	652,611
Accel X, L.P.	25,092,716	750,000
Accel XI, L.P.	6,899,002	1,680,000
Accel XII, L.P.	2,756,337	4,095,000
Advent Global Private Equity III	983,113	20
Advent Global Private Equity IV	1,791,529	0
Advent Global Private Equity V	29,356,370	10,500,000
Advent International GPE VI-A LP	224,040,820	7,899,980
Advent International GPE VII-B, L.P.	160,957,156	61,400,000
Advent Latin American Private Equity Fund VI, L.P.	262,500	19,737,500
Affinity Asia Pacific Fund II, L.P.	6	5,288,237
Affinity Asia Pacific Fund III, L.P.	85,117,498	15,852,715
Affinity Asia Pacific Fund IV (No.2) L.P.	34,657,903	95,543,651
APA Excelsior V	116,382	545,625
Apax Europe Fund VI	82,778,739	2,227,060
Apax Europe V, L.P.	2,153,581	0
Apax Europe VII, L.P.	96,684,748	3,156,898
Apax Excelsior VI	851,525	1,614,434
Apax US VII	24,636,098	417,509
Apax VIII - B, L.P.	42,524,573	62,136,492
Apollo Investment Fund VIII L.P.	20,586,751	78,425,917
Arboretum Ventures II	1,831,194	280,000
Arboretum Ventures III, L.P.	11,683,002	2,490,000
** Arboretum Ventures IV, L.P.	2,160,000	27,840,000
Ares Corporate Opportunities Fund II	20,416,184	11,508,363
Ares Corporate Opportunities Fund III, LP	89,924,907	12,927,040
Ares Corporate Opportunities Fund IV, L.P.	66,414,432	37,979,702
ASF Norman, LLC Receivable	158,560,947	0
Austin Ventures VIII, L.P.	2,019,185	0

	<u>Adjusted Reported Value</u>	<u>Unfunded Commitment</u>
Avenue Special Situations Fund IV, L.P.	652,551	0
Avenue Special Situations Fund V, L.P.	2,217,945	0
Avenue Special Situations Fund VI (B), L.P.	37,219,899	0
AXA ASF Miller Co-Investment	48,654,238	23,421,187
Axiom Asia Private Capital Fund III, L.P.	14,227,846	20,964,264
Banc Fund VI	5,806,180	0
Banc Fund VII	41,442,865	0
Banc Fund VIII	26,585,820	0
Battery Ventures VI, L.P.	705,313	0
Battery Ventures VII, L.P.	13,644,908	0
Battery Ventures VIII	23,669,466	701,800
BC European Capital IX	54,488,014	28,636,207
BC European Capital VII, L.P.	545,913	0
BC European Capital VIII, L.P.	67,322,755	11,554,254
Berkshire Fund IV, L.P.	35,093	1,898,016
Berkshire Fund V, L.P.	211,242	3,281,560
Berkshire Fund VI, L.P.	36,640,464	6,922,675
Berkshire Fund VII, L.P.	77,816,675	9,393,971
Berkshire Fund VIII, L.P.	73,577,172	52,353,326
Blackstone Capital Partners IV	50,638,720	5,163,842
Blackstone Capital Partners V	163,396,768	17,102,734
Blackstone Capital Partners VI, LP	215,961,236	120,045,801
** Blackstone Capital Partners VII, L.P.	0	300,000,000
Blackstone Capital Partners V-S	24,272,841	712,476
Bridgepoint Europe IV	44,242,932	6,725,810
Brockway Moran & Partners Fund III	6,844,194	3,964,423
Carlyle Europe Partners II	10,884,067	4,128,415
Carlyle Europe Partners III	75,254,247	14,018,054
** Carlyle Europe Partners IV, L.P.	0	111,420,000
Carlyle Partners IV, L.P.	28,809,448	16,009,296
Carlyle Partners V L.P.	213,726,118	60,476,604
Carlyle Partners VI, L.P.	55,532,771	117,765,064
Castle Harlan Partners IV	9,552,702	5,286,319
Castle Harlan Partners V	42,237,142	41,721,990
CCMP Capital Investors II	76,915,603	10,863,087
CCMP Capital Investors III, L.P.	20,457,400	28,995,652
** Centerbridge Capital Partners III, LP	4,766,336	70,233,664
Cerberus SMRS Partners, L.P.	85,252,328	21,804,657
Clarus Life Sciences II, L.P.	30,427,479	4,615,000
Clarus Lifesciences I	13,331,937	4,079,460
Clearstone Venture Partners II (idealab)	3,145,100	0
Clearstone Venture Partners III	29,833,566	1,209,000
CM Liquidity Fund, L.P.	0	25,000,000
CMEA Ventures VI	36,851	1,575,000
CMEA Ventures VII, L.P.	14,973,578	2,000,000
Coller International Partners IV	5,481,850	4,000,000

	<u>Adjusted Reported Value</u>	<u>Unfunded Commitment</u>
Coller International Partners V, L.P.	73,974,235	42,818,069
Coller International Partners VI, L.P.	51,374,854	52,937,132
** Coller International Partners VII, L.P.	0	150,000,000
Crescent Mezzanine Partners VI, L.P.	48,565,612	28,299,288
DLJ Investment Partners II	652,286	0
DLJ Investment Partners III	17,477,071	63,189,384
DLJ Merchant Banking Partners III, L.P.	446,072	1,854,201
DLJ Merchant Banking Ptrs II, L.P.	432,726	1,856,746
Doughty Hanson & Co IV	47,667,740	2,674,811
Doughty Hanson & Co V	45,475,644	32,715,321
Doughty Hanson Co. III L.P.	13,029,368	3,102,822
EDF Ventures III	1,790,985	0
** EnCap Energy Capital Fund X, L.P.	1,672,306	43,327,694
Essex Woodlands Health IV	3,127,957	0
Essex Woodlands Health V	7,484,867	0
Essex Woodlands Health Ventures Fund VIII	70,942,979	3,375,000
Essex Woodlands Health VI	16,904,263	687,500
Essex Woodlands Health VII	56,085,700	0
FirstMark Capital I, L.P.	93,633,387	196,596
FirstMark Capital OF I, L.P.	4,301,291	16,200,000
FirstMark Capital P2, L.P.	168,350,000	81,650,000
Flagship Ventures Fund 2004	16,462,211	0
Flagship Ventures Fund 2007, L.P.	53,326,540	525,000
Flagship Ventures Fund IV, L.P.	56,077,902	3,000,000
Flagship Ventures Fund V	2,100,000	32,900,000
Fox Paine Capital Fund II, LP	21,610,404	15,539,184
FS Equity Partners VII, L.P.	10,657,706	88,228,766
GCM Grosvenor Fund Investment Program I, L.P.	22,867,248	1,454,574
GCM Grosvenor Fund Investment Program II, L.P.	73,208,810	16,736,475
GCM Grosvenor Fund Investment Program III - 2004	96,013,193	5,335,755
GCM Grosvenor Fund Investment Program III - 2006	104,978,844	12,404,165
GCM Grosvenor Fund Investment Program V, L.P.	94,588,841	22,970,844
GCM Grosvenor Fund Investment Program VI, L.P.	11,483,789	22,532,121
GCM Grosvenor SeasPriFIP LP (PIS06-10)	86,353,081	31,368,516
GCM Grosvenor SeasPriFIP LP (PIS14)	62,121,955	51,985,240
GCM Grosvenor SeasPriFIP LP (Seed)	110,519,904	13,933,191
G-II Acquisition Holdings Note	6,479,046	0
Glencoe Capital Michigan Opportunities Fund, LP	49,440,365	12,746,056
Globespan Capital Partners IV (Jafco)	19,399,264	0
Globespan Capital Partners V, LP	48,497,646	5,250,000
Green Equity Investors IV	47,625,468	1,136,036
Green Equity Investors V	201,382,717	23,917,648
Green Equity Investors VI, L.P.	79,819,631	53,126,685
Grotech Partners V	142,873	0
Grotech Partners VI	8,032,490	0
GSO Capital Opportunities Fund II, L.P.	18,377,446	23,774,605

	<u>Adjusted Reported Value</u>	<u>Unfunded Commitment</u>
H.I.G. Bayside Debt & LBO Fund II, LP	11,295,846	3,833,333
H.I.G. Brightpoint Capital Partners II	310,588	0
H.I.G. Capital Partners IV, L.P.	23,806,851	0
H.I.G. Europe Capital Partners L.P.	24,366,202	1,015,758
HarbourVest Dover Street VIII, L.P.	40,807,087	27,000,000
HarbourVest Int'l III Direct	1,680,758	1,000,000
HarbourVest Int'l III Partnership	5,107,497	1,200,000
HarbourVest V Partnership	358,538	300,000
HarbourVest VI - Direct Fund LP	5,258,886	750,000
HarbourVest VI Partnership	18,951,339	2,000,000
Healthcare Venture VI	675,430	0
Healthcare Venture VII	5,838,403	0
Healthcare Venture VIII	28,439,193	2,900,000
** HVST - TOPE LLC	11,700,000	0
Insight Venture Partners Growth-Buyout Coinvestment Fund, L.F	8,500,000	41,500,000
Insight Venture Partners IX, L.P.	15,152,897	84,000,000
InterWest Partners IX	10,949,770	800,000
JAFCO America Technology Fund III	463,182	0
JP Morgan Partners Global Investors	8,476,368	2,288,095
JPMorgan Global Investors Sell-down	7,887,833	11,734,847
Kelso Investment Associates IX, L.P.	0	100,000,000
Kelso Investment Associates VII	7,171,742	4,970,176
Kelso Investment Associates VIII	134,246,053	29,363,272
Khosla Ventures III, L.P.	70,028,173	3,000,000
Khosla Ventures IV, L.P.	55,175,751	10,250,000
Khosla Ventures V, L.P.	13,764,915	36,000,000
KKR 2006 Fund, L.P.	220,960,135	8,059,689
KKR Asia	56,458,325	3,312,989
KKR Asian Fund II, L.P.	20,414,323	34,481,318
KKR China Growth Fund	33,364,468	21,085,891
KKR E2 Investors (Annex) Fund	6,324,393	587,747
KKR European Fund II	40,244,131	0
KKR European Fund III	94,597,807	22,139,073
KKR European Fund IV L.P.	8,504,375	116,413,425
KKR European Fund LP 1	3,064,502	0
KKR Millennium Fund	84,041,507	0
KKR North America Fund XI, L.P.	82,586,632	61,199,269
Lightspeed Venture Partners VI	2,182,736	0
Lightspeed Venture Partners VII, L.P.	46,471,068	510,436
Lion Capital Fund I (HME II)	100,091	11,289,087
Lion Capital Fund II	12,331,744	4,814,264
Lion Capital Fund III, L.P.	88,826,571	9,170,317
Matlin Patterson Global Opportunities Partners	37,306	0
MatlinPatterson Global Opportunities Partners II	2,299,012	92,719
MatlinPatterson Global Opportunities Partners III	70,030,624	6,828,461
Menlo Ventures IX, L.P.	8,394,288	0

	<u>Adjusted Reported Value</u>	<u>Unfunded Commitment</u>
Menlo Ventures VIII	353,281	0
Menlo Ventures X, L.P.	45,639,496	0
Menlo Ventures XI, L.P.	63,558,682	3,000,000
MeriTech Capital Partners II, L.P.	2,614,173	1,850,000
Meritech Capital Partners III, L.P.	21,713,170	600,000
Meritech Capital Partners IV, L.P.	19,704,959	425,000
Meritech Capital Partners V, L.P.	3,177,198	16,550,000
Michigan Growth Capital Partners II, L.P.	115,955,377	70,589,631
Michigan Growth Capital Partners, LP	152,934,097	21,716,228
Midtown Fund III, L.P.	1,685,089	0
Midtown II Liquidating Trust	2,344,625	0
MPM BioVentures III	7,210,699	0
New Leaf Growth Fund I, L.P.	88,858,614	24,500,000
New Leaf Ventures II, L.P.	21,840,143	350,000
New Leaf Ventures III, L.P.	4,500,000	33,000,000
Nordic Capital VI, L.P.	35,788,400	0
Nordic Capital VII	61,824,197	10,180,113
Nordic Capital VIII, L.P. (Alpha)	20,278,318	23,972,314
North Castle Partners III	3,588,951	429,407
Oak Investment Partners X, L.P.	11,582,140	0
Oak Investments Partners IX, L.P.	2,026,000	0
Oaktree Opportunities Fund X, L.P.	0	30,000,000
Oaktree Opportunities Fund Xb, L.P.	0	70,000,000
OCM Opportunities Fund IX, L.P.	72,129,943	3,750,000
OCM Opportunities Fund VII (B), L.P.	6,332,626	25,127,447
OCM Opportunities Fund VII, L.P.	8,841,704	0
OCM Opportunities Fund VIII B, L.P.	35,957,111	0
OCM Opportunities Fund VIII, L.P.	21,936,941	0
OCM Principal Opportunities Fund IV	25,767,877	5,002,377
Ocqueoc Holdings, LLC	0	0
One Liberty Fund III	775,196	0
One Liberty Fund IV	1,803,877	0
One Liberty Ventures 2000	8,985,400	0
Paine & Partners Capital Fund III, LP	137,955,480	5,746,532
Parthenon Investors II	4,092,548	3,186,779
Parthenon Investors III	65,883,678	4,518,428
Parthenon Investors IV, L.P.	18,265,283	22,365,500
Peninsula Capital Fund III	2,354	1,400,000
Peninsula Capital Fund IV	12,841,526	2,201,026
** Peninsula Fund VI, L.P.	0	40,000,000
Permira Europe III LP	1,782,782	0
Permira IV, L.P.	65,140,502	4,902,480
Phoenix Equity Partners IV	12,123,765	940,026
Primus Capital Fund V	6,625,805	712,500
Providence Equity Partners V, L.P.	46,584,860	13,040,010
Providence Equity Partners VI, L.P.	184,966,468	25,913,671

	<u>Adjusted Reported Value</u>	<u>Unfunded Commitment</u>
Public Pension Capital, LLC	1,569,264	48,430,736
Questor Partners Fund II	18,818,373	5,883,006
RFE Investment Partners VII, LP	21,518,081	173,332
RFE Investment Partners VIII, L.P.	16,523,137	14,037,760
RFE IV Venture	603,638	0
Rhone Partners V, L.P.	0	111,420,000
Riverside Capital Appreciation Fund VI, LP	27,013,177	47,611,273
Riverside Micro Cap Fund I, LP	32,033,274	6,597,419
Riverside Micro-Cap Fund II, L.P.	53,689,143	2,735,834
Riverside Micro-Cap Fund III, L.P.	26,248,178	16,474,252
Silver Lake Partners II	12,784,721	3,531,586
Silver Lake Partners III	93,867,834	19,303,187
Silver Lake Partners IV, L.P.	19,267,439	37,622,196
SM/TCP L.P.	21,691,831	28,261,110
Sprout Capital IX	714,141	0
TCW Shared Op Fund III	1,700,455	0
TCW Shared Op Fund IV	18,845	4,524,779
TCW Shared Op Fund V	0	11,653,868
TCW/Crescent Mezzanine Partners III, L.P.	5,458,111	4,552,763
TCW/Crescent Mezzanine Partners IV, L.P.	12,425,955	6,030,737
TCW/Crescent Mezzanine Partners V, LLC	52,398,701	15,515,915
The Huron Fund III, L.P.	29,685,279	5,392,500
The Huron Fund IV, L.P.	8,567,847	25,624,346
The Shansby Group 4	3,072,129	520,829
The Shansby Group 5 (TSG5)	103,353,435	8,578,686
TPG IV (Texas Pacific Group IV)	17,829,698	211,725
TPG Partners III, LP	10,038,446	2,087,002
TPG Partners VI, L.P.	219,525,431	25,886,460
TPG Partners, VII, L.P.	0	150,000,000
TPG V (Texas Pacific Group V)	191,124,814	34,323,972
Trilantic Capital Partners V (North America) Fund A, L.P.	15,445,381	32,433,343
TSG6, L.P.	93,876,796	55,169,246
Tullis - Dickerson Capital II	6,264,098	0
Tullis - Dickerson Capital III	11,217,389	0
Turnbridge Capital Partners I , LP	16,516,233	82,281,345
Unitas Asia Opportunity Fund	447,143	0
Unitas Asia Opportunity Fund II	15,234	26,604,144
Unitas Asia Opportunity Fund III	52,806,802	28,139,051
Veritas Capital Fund V, L.P.	16,600,000	58,400,000
Veritas V Co-Investors, L.P.	5,000,000	20,000,000
Vista Equity Partners Fund V, L.P.	22,154,219	27,237,368
Warburg Pincus Energy MCIP, L.P.	4,984,499	19,260,932
Warburg Pincus Energy, L.P.	6,097,356	92,861,406
Warburg Pincus Equity Partners, L.P.	11,930,131	0
Warburg Pincus International Partners	14,176,603	0
Warburg Pincus Private Equity IX	45,545,422	0

	Adjusted Reported Value	Unfunded Commitment
Warburg Pincus Private Equity VIII, L.P	26,210,503	0
Warburg Pincus Private Equity X, L.P.	224,462,507	0
Warburg Pincus Private Equity XI, L.P.	149,080,977	67,861,406
Weiss, Peck & Greer V (adm: Opus Capital)	227,374	386,240
WestAm COREplus Private Equity QP	6,005,776	2,086,719
WestAm Special Private Equity Partners	6,561,136	2,317,427
Wind Point Partners III	2,175,872	0
Wind Point Partners IV	64,103	1,541,518
Wind Point Partners V, L.P.	17,590,894	0
Wind Point Partners VI	36,173,360	6,496,689
Wind Point Partners VII	74,169,846	12,660,559
Total Private Equity	\$ 9,731,915,480	\$ 4,913,806,588
Cash	105,776,009	-
Active Small Cap Cash	24,782,996	-
Active Small Cap	11,853,618	-
Income Accruals	321,822	-
Grand Total	\$ 9,874,649,925	\$ 4,913,806,588

* Total Private Equity amounts do not include Cash and Active Small Cap

** New Commitments made during quarter reported

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

ABSOLUTE AND REAL RETURN REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

SEPTEMBER 3, 2015



**James L. Elkins
Senior Investment Manager
Short-Term, Absolute and Real Return Division**

EXECUTIVE SUMMARY

Absolute Return

MPSERS Plan	1-Year	3-Years	5-Years	7-Years	10-Years
Absolute Return	5.2%	8.5%	6.1%	N/A	N/A
HFRI FOF Conservative*	4.1%	5.6%	3.7%	N/A	N/A

*One month lag on the index

- The strategy of the Absolute Return portfolio is to further diversify the total plan holdings targeting returns above investment grade fixed income with lower volatility than the equity portfolio. The portfolio utilizes a diverse mix of managers that invest both long and short to target specific exposures and hedge out unwanted risk.
- Multi-Strategy/Event – The strategy was positive for the quarter. Given the increase in M&A volumes, many managers benefitted from global M&A activity, most notably in the oil and gas, healthcare, and technology sectors. Acquisition activity especially in healthcare and media was particularly notable across the portfolio and the more event focused strategies benefitted from this tailwind. Managers continue to monitor potential investments related to the energy space and identify ways to invest in the capital structures of companies poised for rebounds in the next 18-24 months.
- Credit – The credit strategy was positive for the quarter primarily led by distressed strategies, with mortgage and structured credit managers also contributing to performance. The market’s view of underlying collateral across both the RMBS and CMBS spaces remained largely unchanged. Fixed income relative value strategies were flat on the quarter with realizations pushed out on the back of heightened volatility in the context of a less liquid credit space. In addition, market makers are less willing to hold balance sheet risk, which has limited liquidity of underlying securities. Credit trading managers benefitted from tactical trading and several idiosyncratic positions worked well. Finally, mortgage structured credit returns were strong, as managers benefitted from positive carry and higher marks on some securities. Given tighter spreads and limited liquidity in the market, the outlook for corporate credit remains uncertain but managers continue to pursue idiosyncratic and niche opportunities in credit.
- Equity – Performance over the quarter can be characterized by three key themes: 1) continued strength in global M&A activity; 2) a slight uptick in IPO activity across the U.S.; and 3) volatility across global equity markets. Within this backdrop, the equity strategy delivered strong positive performance for the quarter from both absolute return and alpha standpoints. Managers generated alpha despite some difficulty around sector rotations over the quarter, especially in energy; and benefitted most from exposures in healthcare and TMT sectors given the Supreme Court’s decision to enforce the Affordable Care Act.
- Diversifying – Performance for diversifying strategies was mixed for the quarter. Global Macro managers’ performance was primarily driven by both the selloff in government bonds and increased volatility in the U.S. dollar. As events unfolded around Greece, we saw a flight to quality particularly among core Europe and U.S. government bonds which generally hurt EM macro managers. Despite having minimal exposure to Greece, many managers overestimated the likelihood of a deal getting done prior to the referendum. The CTA managers had a tough quarter primarily driven by commodity and fixed income models. Commodity managers also struggled primarily driven by energy exposure and volatility in the agriculture space. For

commodities, our managers continue to source exposures with less directional risk and new opportunities with close links to the physical markets and trade houses.

- In terms of strategy allocations, we remain cautious on taking material directional risks in the portfolio but believe that the divergence in central bank policies will continue to present good opportunities on both the long and short sides. While short alpha has been elusive recently, the environment for generating alpha on both sides could potentially improve throughout 2015 and benefit the short opportunity set. We continue to favor market neutral strategies and continue to observe the macro opportunity set while looking for attractive bottoms up opportunities.
- During the quarter, no new commitments were closed.

Real Return and Opportunistic

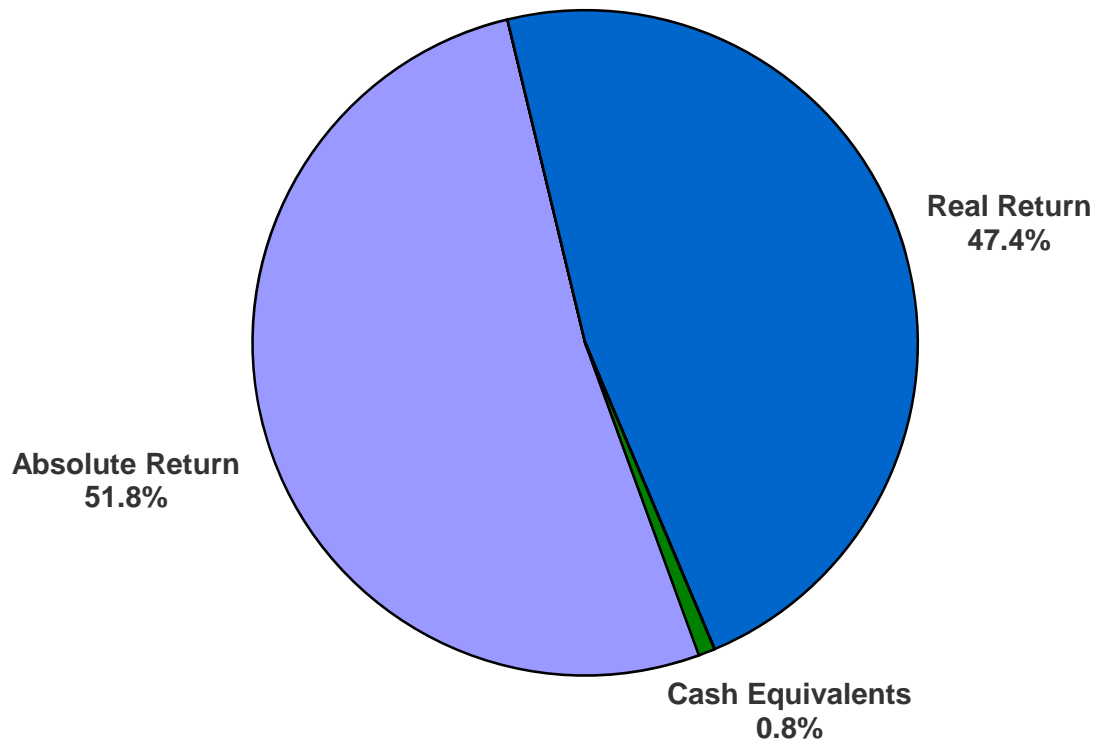
MPSERS Plan	1-Year	3-Years	5-Years	7-Years	10-Years
Real Return and Opport.	7.5%	12.4%	10.8%	N/A	N/A
Custom Benchmark	6.6%	7.2%	7.5%	N/A	N/A

- The strategy of the Real Return & Opportunistic portfolio is to provide an inflation hedge or to gain exposure to attractive opportunities that may not fit in another plan portfolio.
- Senior Secured Credit – Markets were volatile throughout June due to a regression in the Greek debt negotiations and an increase in the probability that Greece might exit the Eurozone. However, technical support in the loan market remained strong as continued demand from CLO vehicles offset the decline in outstanding loans and the outflows from retail loan funds. The S&P/LSTA Leveraged Loan Index and Merrill Lynch U.S. High Yield Master II Index returned 0.69% and -0.05% respectively, for the quarter. New CLO vehicles created loan demand through the quarter that outweighed retail outflows with the quarter’s total loan demand at \$28.7 billion as compared to a \$2.3 billion decline in the amount of loans outstanding.
- Direct Lending – During the second quarter our managers saw numerous opportunities to deploy more capital and also realized improvements on some of the current loans’ marks. As regulators begin to fully enforce leverage guidelines for banks, new dynamics are beginning to produce attractive loan deals for larger players in the space. We are also seeing encouraging fragmentation in the middle market as GE, one of the major participants, looks to sell its business.
- Energy Funds – While spot WTI crude prices were up 25% and spot natural gas prices were up 5.7% for the quarter, long-dated oil and gas commodity prices increased only slightly during the quarter. The division’s energy exposure (5.2% of the Real Return and Opportunistic Portfolio) received slightly positive marks due to an increase in commodity prices. With only approximately 20% of our energy commitments presently invested, a substantial amount of uncalled commitments remain ready to capitalize on opportunities presented by lower energy prices should they persist.
- During the quarter, one new commitment was closed:
 - \$250 million Lakewater LLC, Series V ~ Global Resources




SMRS

Absolute, Real Return and Opportunistic 6/30/15



Market Value in Millions				
	<u>6/30/15</u>		<u>3/31/15</u>	
Absolute Return	\$4,342	51.8%	\$4,182	52.2%
Real Return	3,979	47.4%	3,618	45.2%
Cash Equivalents	70	0.8%	210	2.6%
Total Investments	<u>\$8,391</u>	<u>100.0%</u>	<u>\$8,010</u>	<u>100.0%</u>



SMRS
Absolute Return
6/30/15

Net Market Values by Entity

	<u>Net Market Value</u>
Apollo Offshore Credit Strategies Fund Ltd.	\$ 141,623,990
Brevan Howard Multi-Strategy Fund, L.P.	83,564,439
Drawbridge Opportunities Fund	185,054,796
Elliott International Limited	104,934,812
* EnTrust White Pine Partners L.P.	366,119,411
FrontPoint Multi-Strategy Fund Series A, L.P.	1,983,871
JM IV, LP	56,875,788
Mastic Commodity Fund LTD	592,245
MP Securitized Credit Master Fund, L.P.	66,079,016
* Sand Hill, LLC	650,833,340
Spartan Partners L.P.	7,489,254
* <u>Tahquamenon Fund L.P.</u>	<u>2,676,301,608</u>
Total Market Value	<u><u>\$4,341,452,570</u></u>

* Fund of Funds

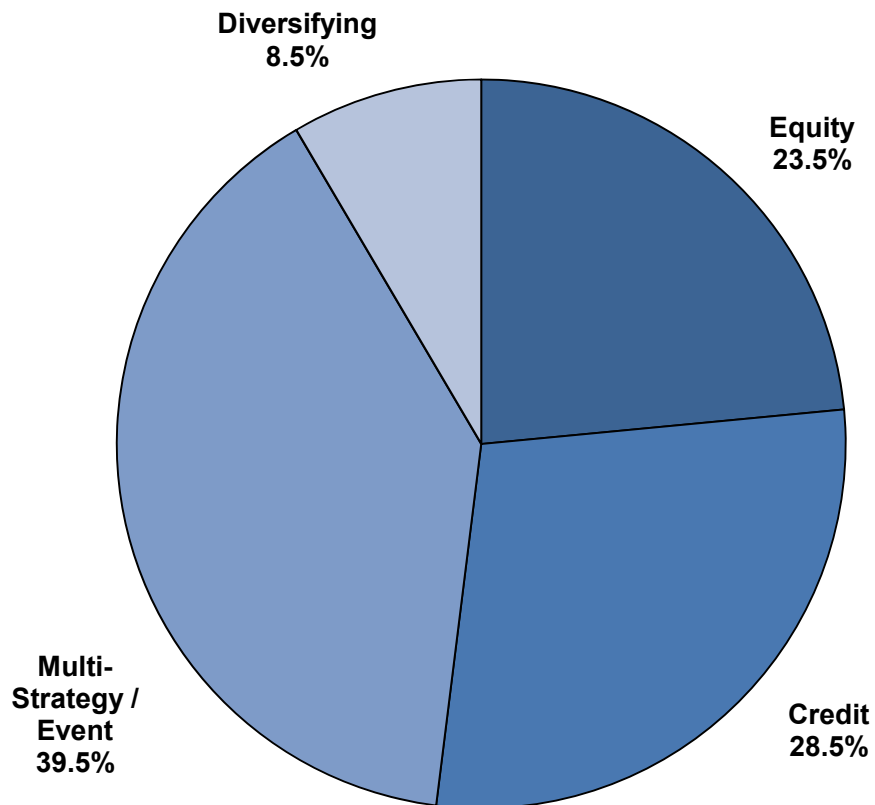


SMRS

Absolute Return

6/30/15

Investments By Strategy



Strategy Breakdown			
Underlying Funds:	101	Median Position Size:	0.4%
Strategies:	4	Average Position Size:	1.0%
Relationships:	11	Largest Position Size:	7.8%



SMRS

Real Return and Opportunistic

6/30/15

Net Market Value by Entity

	<u>Net Market Value</u>	<u>Unfunded Commitment</u>
* Abernathy Fund I, LLC	\$ 292,469,660	\$ 84,697,831
Apollo Credit Opportunities Fund III LP	47,033,594	46,357,099
Apollo European Principal Finance Fund II	36,706,779	22,424,834
Apollo Financial Credit Investments Fund II	207,877,842	212,269,359
Apollo HK TMS Investments Holdings LP	33,019,644	-
Apollo Offshore Credit Fund Ltd	273,231,728	-
Apollo Offshore Structured Credit Recovery Fund II	62,363,765	-
Apollo Offshore Structured Credit Recovery Fund III	117,213,853	107,523,694
Blackstone Strategic Capital Holdings LP	13,172,258	114,159,057
Blue Peninsula Fund LP	18,360,000	90,800,000
Carlyle Intl Energy Partners LP	6,649,859	41,285,908
Carlyle Energy Mezzanine Opportunity Fund	-	50,000,000
* Content Holdings LLC	473,453,372	97,790,542
Elegantree Fund SPC	45,606,044	-
Energy Recapitalization and Restructuring Fund LP	39,877,512	66,055,408
ERR Michigan Holdings LP	8,093,100	2,958,010
* Fairfield Settlement Partners, LLC	60,679,456	57,376,418
FCO MA MI LP	10,000,000	190,000,000
Fortress MSR Opportunities Fund I A LP	120,647,779	-
* Galaxie Ave. Partners, LLC	99,900,000	-
GSO Credit Alpha Fund LP	10,698,618	89,597,497
Highbridge Principal Strategies - Specialty Loan Fund III	134,176,768	-
Hopen Life Sciences Fund II	4,649,140	4,400,000
JP Morgan Global Maritime Investment Fund LP	67,717,923	48,435,986
KANG Fund LP	17,135,375	-
KKR EI&G Fund	23,652,769	40,158,232
KKR Lending Partners I LP	73,064,999	17,796,918
KKR Lending Partners II LP	34,326,620	67,568,851
Lakewater LLC, Series 1	170,782,500	24,852,698
Lakewater LLC, Series 2	307,759,076	44,673,509
Lakewater LLC, Series 3	331,000,580	-
Lakewater LLC, Series 4	45,786,167	36,063,578
Lakewater LLC, Series 5	-	250,000,000
Merit Energy Partners LP	839,478	34,154,497
MidCap FinCo Holdings LTD	122,717,650	176,455,004
Napier Park Aircraft Leasing Vehicle I, LLC	29,154,299	69,667,620
Orion Mine Finance Fund 1A LP	6,626,140	41,253,268
Orion Mine Finance Fund I LP	65,274,847	57,151,179
Renaissance Venture Cap Fund II LP	3,998,212	20,500,000
REOG Fund II Coinvest LP	6,605,604	18,290,577
Ridgewood Energy Oil & Gas II	60,177,844	71,008,011
Ridgewood Energy Oil & Gas III	1,135,722	223,864,278
SJC Direct Lending Fund I, LP	55,013,756	17,525,075
SJC Direct Lending Fund II, LP	261,546,551	120,286,271
* Social Network Holdings, LLC	169,897,390	-
Varo Coinvestment LP	8,593,945	-
Warwick Energy Partners III	-	50,000,000
Income Accruals	394,521	
Total Market Value	\$ 3,979,082,739	\$ 2,707,401,207

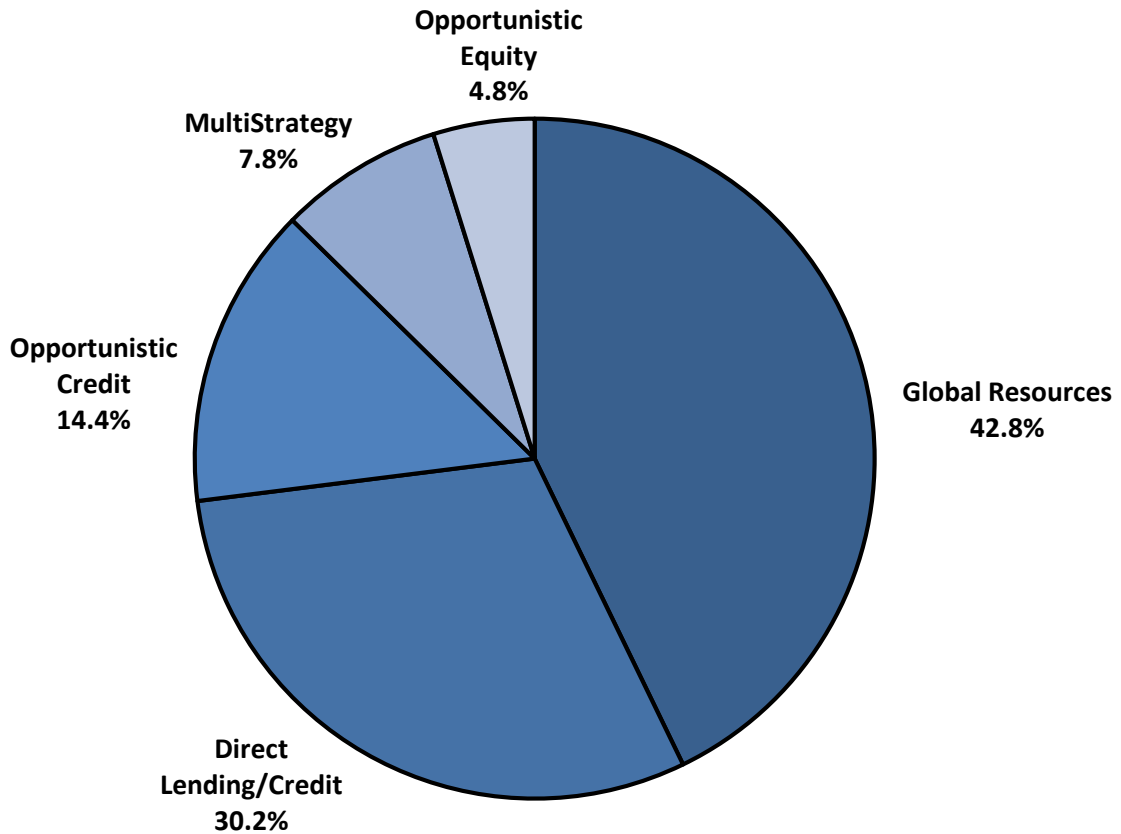
* Fund of Funds



SMRS

Real Return and Opportunistic 6/30/15

Investments By Strategy



Investment Strategy	
Global Resources	\$1,703,335,756
Direct Lending/Credit	\$1,201,387,901
Opportunistic Credit	\$571,417,901
MultiStrategy	\$310,829,660
Opportunistic Equity	\$191,717,000

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

DOMESTIC EQUITY REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

SEPTEMBER 3, 2015



**Jack A. Behar, CFA
Senior Investment Manager
Stock Analysis Division**

EXECUTIVE SUMMARY

Performance

Total Domestic Equity, Gross	1-Year	3-Years	5-Years	7-Years	10-Years
Annualized Returns	7.3%	18.4%	17.3%	9.9%	8.2%
S&P 1500	7.3%	17.5%	17.4%	9.6%	8.1%
Peer Median Return	6.1%	16.5%	16.4%	9.1%	7.8%
Percent Rank vs. Peers	35	15	38	28	30

Total Domestic Equity, Net	1-Year	3-Years	5-Years	7-Years
Annualized Returns	7.2%	18.3%	17.1%	9.7%
S&P 1500	7.3%	17.5%	17.4%	9.6%
Lipper Multi Core	5.1%	17.0%	15.9%	8.6%

Total Active Equity, Net	1-Year	3-Years	5-Years	7-Years
Annualized Returns	7.0%	18.8%	17.0%	9.7%
S&P 1500	7.3%	17.5%	17.4%	9.6%
Lipper Multi Core	5.1%	17.0%	15.9%	8.6%
Percent Rank vs. Lipper Multi Core	38	28	41	29

- Total domestic equity matched the S&P 1500 on a one year basis, while three, seven, and ten year numbers all came in ahead of the benchmark. This put domestic equity in or close to the top third of its peer group over nearly all time periods going back ten years.
 - Total domestic equity also now has a 25 basis points (bps) per year cost advantage over its peers, improving the above peer comparison on a net of fees basis by this amount over the past year and going forward.
- Total active equity, net of fees, underperformed the benchmark on a one and five year basis, while outperforming over three and seven years. This performance put SMRS in the top half of its peer group in all time periods, and in the top third over the past three and seven years.
 - Two internally managed funds, SMRS All Cap GARP and SMRS Large Cap Core, comprising \$3.5 billion in assets, currently rank in the top 1% and the top 10% respectively of their respective Lipper fund peer groups on an inception to date basis.
 - A third internally managed fund, SMRS Large Cap Growth, comprising nearly \$1.7 billion in assets, ranks in the top quartile of its peer group over one, three, five, and seven years. Moreover, it has outperformed the S&P 500 Growth benchmark by nearly 300 bps annualized over the past three years.
- External management appears to have turned the corner with respect to performance, coming in 60 bps ahead of the S&P 1500 over the past year, and 30 bps ahead of the benchmark over the past three years.

- We believe that this portfolio's value orientation, low-cost structure, and strong stable of managers has helped to position it for current and future outperformance.
- Fisher Investments, Seizert Capital Partners, LA Capital All Cap Growth, Clarkston Capital Small Cap and Munder Concentrated SMID Cap all rank in the top quartile (or better) of their respective peer groups on an inception to date basis.

Strategy Update

- Total active equity's portfolio trades at an estimated 25% discount to the S&P 1500 on the basis of normalized earnings, with less volatility and similar rates of growth going forward.
 - We expect total active equity's PE ratio to at least partially converge with that of the S&P 1500 over the next five years, driving annualized outperformance.
 - If PE ratios do not converge, we nonetheless expect long term outperformance on the basis of a higher net dividend yield (dividends + buybacks) than the benchmark alongside similar or faster rates of earnings reinvestment.
 - Total active equity remains over-weighted to both the financial sector and to defensive stocks.

Market Environment and Outlook

- At ~19x normalized earnings, equity markets are somewhat rich relative to history, but remain reasonably priced for an environment where bond yields stay abnormally low.
- Assuming a 3.4% normalized dividend yield and 5% long-term expected earnings growth, and no PE multiple expansion or contraction, the S&P 1500 is poised to return approximately 8.4% over the long-term.
 - This compares to the 30-year U.S. Treasury at 3.1%, and a historical average return for the S&P 500 of 9.6%.



SMRS

Domestic Equities

6/30/15

	Amount	% of Total
Passive	(in thousands)	
S&P 500	\$7,531,669	
S&P 400	<u>766,936</u>	
Sub Total	\$8,298,605	44.8%
Internal Active		
Large-Cap Core	\$2,576,952	
Large-Cap Growth	1,708,716	
All-Cap GARP	1,044,926	
Concentrated Equity Fund	429,279	
Large-Cap Value	107,453	
Absolute Return Income Fund	103,843	
Tactical Asset Allocation	68,733	
Concentrated All-Cap Growth	<u>29,589</u>	
Sub Total	\$6,069,491	32.8%
External Active		
Fisher All-Cap Value	\$1,114,266	
Seizert Capital Partners All-Cap Core	701,547	
Los Angeles Capital All-Cap Growth	406,915	
Los Angeles Capital Deep Value	399,857	
Bivium Capital	264,551	
Clarkston Small-Cap Core	259,438	
Attucks Asset Management	252,460	
Clarkston Large-Cap	251,551	
GW Capital All-Cap Value	173,299	
Munder Mid-Cap Core	168,226	
Northpoint All-Cap Core	<u>160,356</u>	
Sub Total	\$4,152,466	22.4%
TOTAL	<u>\$18,520,562</u>	<u>100.0%</u>

Note: All dollar amounts are expressed in millions.

Combined Active Equity Portfolio, Return Expectations 6/30/15

Return Assumption Estimates

	<u>Expected Return ****</u>	<u>Normal Dividend Yield **</u>	<u>LT Growth Rate ***</u>
SAD Combined Active Equity	9.6%	4.8%	4.8%
S&P 1500 All-Cap	8.4%	3.4%	5.0%
S&P 500 Large-Cap	8.3%	3.6%	4.8%
S&P 500 Historical Average	9.6%		
S&P 400 Mid-Cap	8.4%	1.9%	6.5%
S&P 600 Small-Cap	8.1%	1.1%	7.0%
US 30-Year Treasury	3.1%	3.1%	0.0%

Normal Dividend Yield Decomposition

	<u>Normal Price/Earnings</u>	<u>Normal Earnings Yield*</u>	<u>Normal Payout Ratio</u>	<u>Normal Dividend Yield**</u>
SAD Combined Active Equity	14.4	6.9%	70%	4.8%
S&P 1500 All-Cap	19.3	5.2%	66%	3.4%
S&P 500 Large-Cap	19.1	5.2%	68%	3.6%
S&P 400 Mid-Cap	22.0	4.5%	41%	1.9%
S&P 600 Small-Cap	22.4	4.5%	24%	1.1%

Portfolio and Benchmark Risk Estimates

	<u>Expected Return ****</u>	<u>Standard Deviation</u>	<u>Expected Return/Volatility</u>
SAD Combined Active Equity	9.6%	11.7%	0.8
S&P 1500 All-Cap	8.4%	12.1%	0.7
S&P 500 Large-Cap	8.3%	12.1%	0.7
S&P 400 Mid-Cap	8.4%	12.5%	0.7
S&P 600 Small-Cap	8.1%	14.1%	0.6
US 30-Year Treasury	3.1%	23.0%	0.1

*Earnings Yield = Earnings/Price

**Includes Share Buybacks

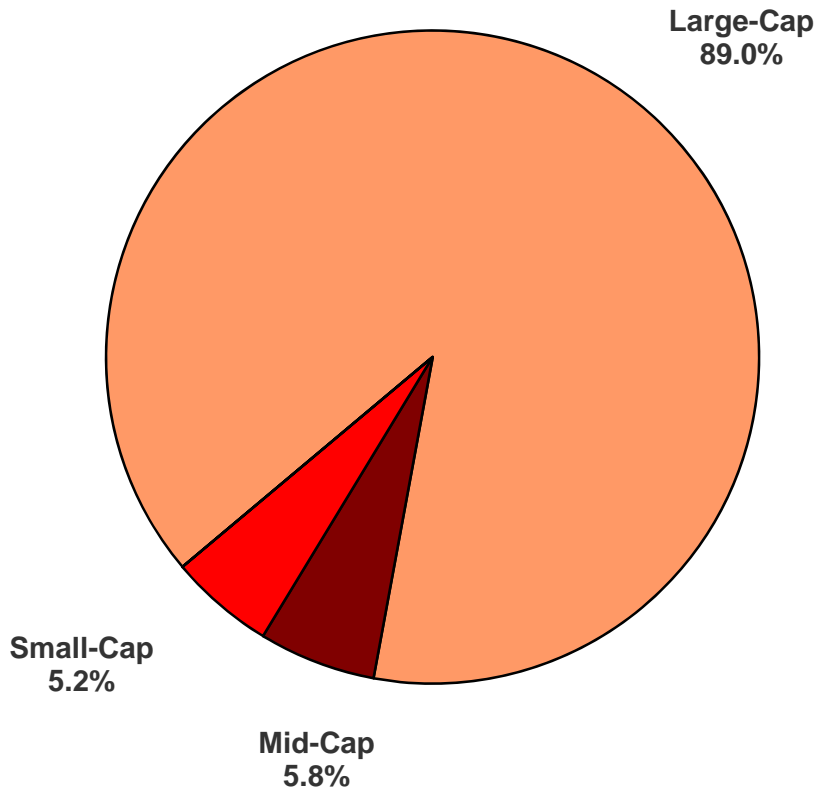
***LT Growth Rate Calculation: Return on Equity * (1-Dividend Payout Ratio)

****Expected Return Formula: Dividend Yield + LT Growth Rate



SMRS

Domestic Equity Exposure By Market Cap 6/30/15



Market Value in Millions			
<u>6/30/15</u>			
	<u>Assets</u>	<u>Percent</u>	<u>S&P 1500</u>
Large-Cap (>\$10B)	\$16,484	89.0%	85.6%
Mid-Cap (>\$4 <\$10B)	1,074	5.8%	8.4%
Small-Cap (<\$4B)	963	5.2%	6.0%
Total Domestic Equity	<u><u>\$18,521</u></u>	<u><u>100.0%</u></u>	<u><u>100.0%</u></u>



SMRS

All Domestic Equities Composite

6/30/15

Date:	<u>6/30/15</u>	<u>3/31/15</u>	<u>12/31/14</u>	<u>9/30/14</u>
Assets (\$million):	\$18,521	\$18,807	\$19,164	\$18,311
Numbers of Securities:	1,209	1,186	1,244	1,295
Active Share:	34%	32%	32%	30%

Benchmark: S&P 1500

Description: The Domestic Equities Composite combines both the SMRS' All Actively Managed Composite and its index funds.

Characteristics:	<u>SMRS</u>	<u>S&P 1500</u>
Weighted Average Capitalization (\$billion):	\$129.6	\$119.8
Trailing 12-month P/E:	17.0x	19.3x
Forecast P/E:	15.6x	17.5x
Price/Book:	2.3x	2.6x
Beta:	0.98	1.01
Dividend Yield:	2.1%	1.9%
3-5 Year EPS Growth Estimate:	10.8%	11.1%
Return on Equity:	13.5%	13.5%

TOP TEN HOLDINGS - All Domestic Equities 6/30/15

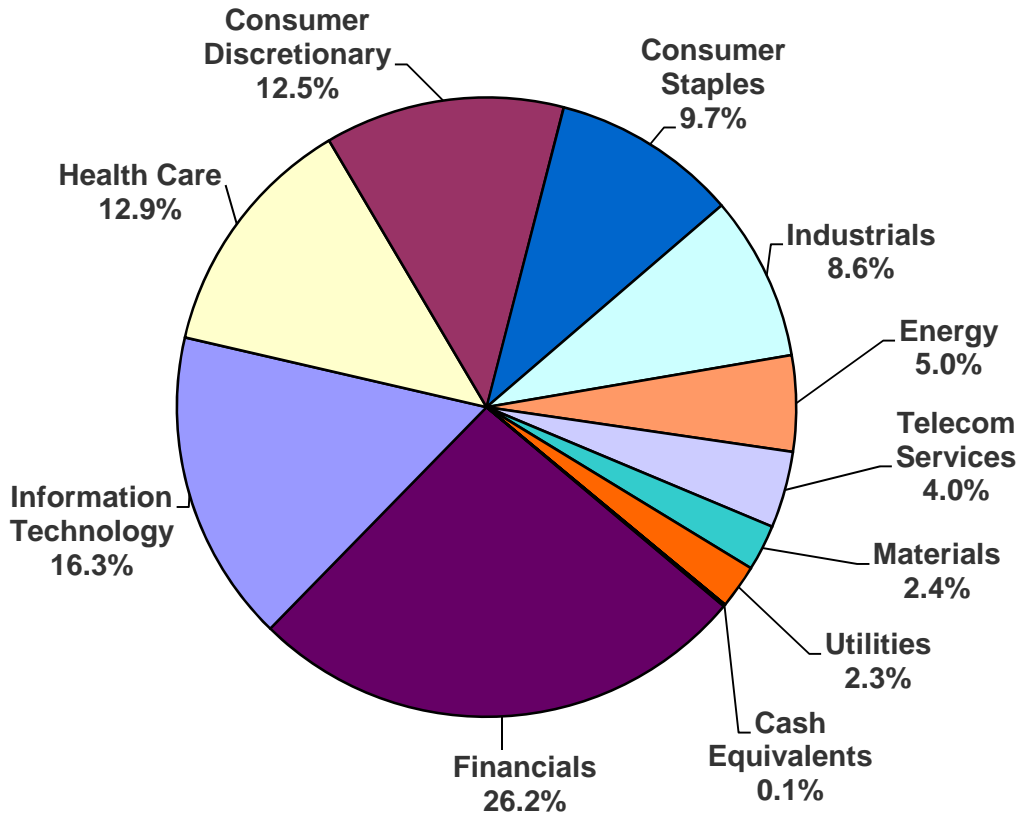
	<u>Portfolio Weight</u>	<u>Total Shares</u>	<u>6/30/15 Price</u>	<u>YTD15 Total Return</u>	<u>Market Value</u>
U.S. Bancorp	4.0%	16,924,396	\$43.40	-2.3%	\$734,518,786
Apple, Inc.	3.8%	5,625,905	\$125.43	14.5%	705,629,135
Verizon Communications, Inc.	3.5%	13,750,738	\$46.61	2.0%	640,921,898
Wells Fargo & Co.	2.8%	9,286,654	\$56.24	4.0%	522,281,421
SPDR S&P 500 ETF Trust	2.4%	2,189,950	\$205.85	1.1%	450,801,208
Wal-Mart Stores, Inc.	2.4%	6,155,496	\$70.93	-16.4%	436,609,331
JPMorgan Chase & Co.	1.7%	4,738,873	\$67.76	9.7%	321,106,034
Aflac, Inc.	1.6%	4,840,687	\$62.20	3.1%	301,090,731
Gilead Sciences, Inc.	1.5%	2,443,092	\$117.08	24.7%	286,037,211
CVS Health Corp.	<u>1.4%</u>	2,455,053	\$104.88	9.7%	<u>257,485,959</u>
TOTAL	<u>25.1%</u>				<u>\$4,656,481,715</u>



SMRS

All Domestic Equity By Sector

6/30/15



Market Value in Millions				
6/30/15				
	Assets	Percent	Benchmark	Difference
Financials	\$4,851	26.2%	18.1%	8.1%
Information Technology	3,026	16.3%	18.6%	-2.3%
Health Care	2,381	12.9%	14.8%	-1.9%
Consumer Discretionary	2,308	12.5%	13.0%	-0.5%
Consumer Staples	1,805	9.7%	8.7%	1.0%
Industrials	1,596	8.6%	10.8%	-2.2%
Energy	929	5.0%	7.4%	-2.4%
Telecom Services	747	4.0%	2.1%	1.9%
Materials	452	2.4%	3.5%	-1.1%
Utilities	418	2.3%	3.0%	-0.7%
Total Investments	\$18,513	99.9%	100.0%	
Cash Equivalents	8	0.1%	0.0%	0.1%
Total	\$18,521	100.0%	100.0%	

Benchmark: S&P 1500



SMRS

All Actively Managed Composite

6/30/15

Date:	<u>6/30/15</u>	<u>3/31/15</u>	<u>12/31/14</u>	<u>9/30/14</u>
Assets (\$million):	\$10,222	\$10,502	\$10,360	\$9,913
Numbers of Securities:	872	836	901	983
Active Share:	61%	59%	60%	56%

Benchmark: S&P 1500

Description: The Actively Managed Composite is designed to add consistent alpha by investing in managers with value-added, but diverse strategies. While the expectation is that most will outperform over time, the composite is designed such that they do so during differing parts of the business cycle.

Characteristics:	<u>SMRS</u>	<u>S&P 1500</u>
Weighted Average Capitalization (\$billion):	\$135.6	\$119.8
Trailing 12-month P/E:	15.8x	19.3x
Forecast P/E:	14.5x	17.5x
Price/Book:	2.1x	2.6x
Beta:	0.96	1.01
Dividend Yield:	2.2%	1.9%
3-5 Year EPS Growth Estimate:	10.6%	11.1%
Return on Equity:	13.3%	13.5%

TOP TEN HOLDINGS - All Actively Managed 6/30/15

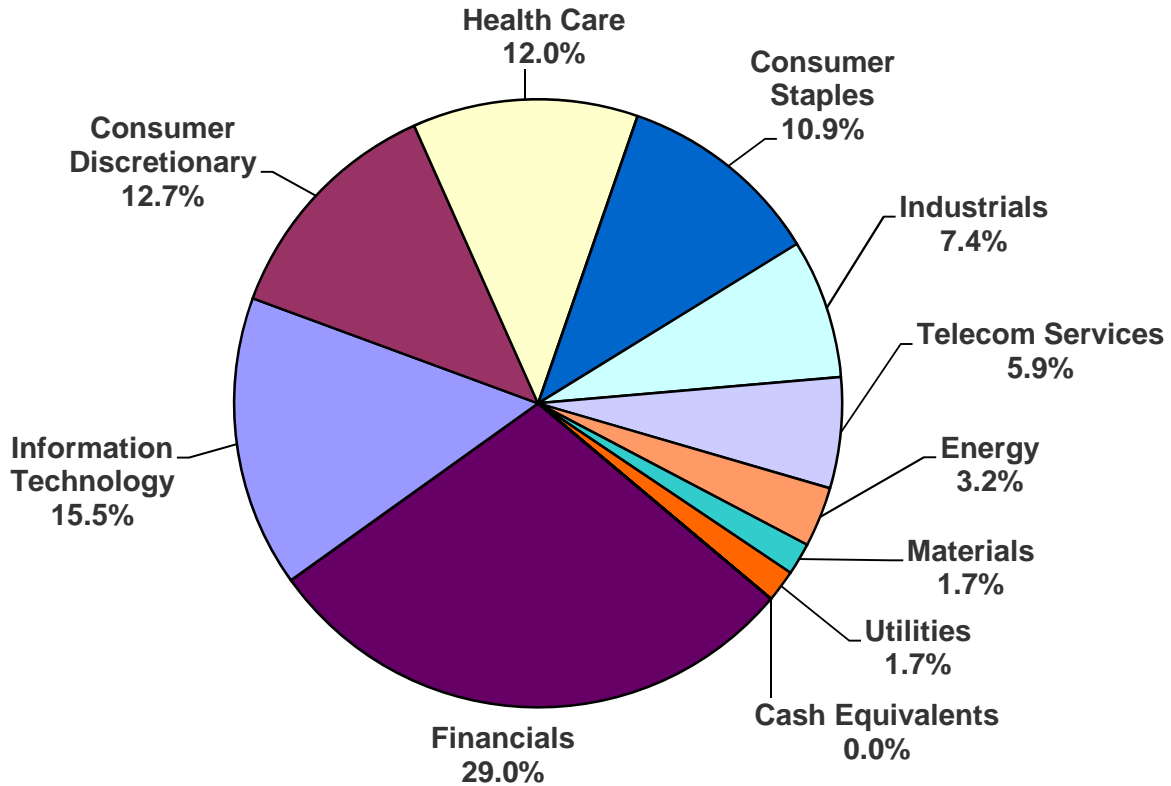
	<u>Portfolio Weight</u>	<u>Total Shares</u>	<u>6/30/15 Price</u>	<u>YTD15 Total Return</u>	<u>Market Value</u>
U.S. Bancorp	6.9%	16,231,158	\$43.40	-2.3%	\$704,432,257
Verizon Communications, Inc.	5.5%	12,102,259	\$46.61	2.0%	564,086,292
Wells Fargo & Co.	4.1%	7,391,514	\$56.24	4.0%	415,698,747
Apple, Inc.	4.0%	3,272,868	\$125.43	14.5%	410,499,469
Wal-Mart Stores, Inc.	3.8%	5,509,162	\$70.93	-16.4%	390,764,861
Aflac, Inc.	2.8%	4,659,539	\$62.20	3.1%	289,823,326
Gilead Sciences, Inc.	2.1%	1,871,180	\$117.08	24.7%	219,077,754
JPMorgan Chase & Co.	2.1%	3,173,558	\$67.76	9.7%	215,040,290
CVS Health Corp.	2.0%	1,972,814	\$104.88	9.7%	206,908,732
Home Depot, Inc.	<u>1.9%</u>	1,758,474	\$111.13	7.0%	<u>195,419,216</u>
TOTAL	<u>35.3%</u>				<u>\$3,611,750,944</u>



SMRS

All Active Domestic Equity By Sector

6/30/15



Market Value in Millions				
6/30/15				
	Assets	Percent	Benchmark	Difference
Financials	\$2,967	29.0%	18.1%	10.9%
Information Technology	1,582	15.5%	18.6%	-3.1%
Consumer Discretionary	1,300	12.7%	13.0%	-0.3%
Health Care	1,223	12.0%	14.8%	-2.8%
Consumer Staples	1,113	10.9%	8.7%	2.2%
Industrials	759	7.4%	10.8%	-3.4%
Telecom Services	600	5.9%	2.1%	3.8%
Energy	328	3.2%	7.4%	-4.2%
Materials	176	1.7%	3.5%	-1.8%
Utilities	172	1.7%	3.0%	-1.3%
Total Investments	\$10,220	100.0%	100.0%	
Cash Equivalents	2	0.0%	0.0%	0.0%
Total	\$10,222	100.0%	100.0%	

Benchmark: S&P 1500

**SMRS Internal/External Manager Performance – Net of Fees
6/30/15**

Total Domestic Equity Performance - Gross

	<u>Market Value</u>	<u>1-Year</u>	<u>3-Years</u>	<u>5-Years</u>	<u>7-Years</u>	<u>10-Years</u>
Total Domestic Equity	\$18,520,853,348	7.3%	18.4%	17.3%	9.8%	8.2%
S&P 1500		7.3%	17.5%	17.4%	9.6%	8.1%
Peer Median Return		6.1%	16.5%	16.4%	9.1%	7.8%
<i>Excess Return</i>		0.0%	1.0%	-0.1%	0.2%	0.1%

Total Domestic Equity Performance - Net of Fees

	<u>Market Value</u>	<u>1-Year</u>	<u>3-Years</u>	<u>5-Years</u>	<u>7-Years</u>
Total Domestic Equity	\$18,520,853,348	7.2%	18.3%	17.1%	9.7%
S&P 1500		7.3%	17.5%	17.4%	9.6%
Lipper Multi Core		5.1%	17.0%	15.9%	8.6%
<i>Excess Return</i>		-0.1%	0.8%	-0.3%	0.0%

Total Active Equity Performance - Net of Fees

	<u>Market Value</u>	<u>1-Year</u>	<u>3-Years</u>	<u>5-Years</u>	<u>7-Years</u>
Total Active Equity	\$10,222,245,986	7.0%	18.8%	17.0%	9.7%
S&P 1500		7.3%	17.5%	17.4%	9.6%
Style & Risk Adjusted Benchmark		7.6%	16.4%	17.0%	9.3%
Lipper Multi Core		5.1%	17.0%	15.9%	8.6%
<i>Excess Return</i>		-0.4%	1.3%	-0.4%	0.1%
<i>Alpha</i>		-0.6%	2.4%	0.0%	0.3%
<i>Pct. Rank vs. Lipper Multi Core</i>		38	28	41	29

Manager Performance - Net of Fees

	<u>Market Value</u>	<u>1-Year</u>	<u>3-Years</u>	<u>5-Years</u>	<u>7-Years</u>	<u>Inception</u>	<u>Inception</u>
						<u>Date</u>	<u>Date</u>
Total Internal Active	\$6,001,017,858	6.1%	18.4%	16.6%	9.5%	N/A	N/A
S&P 500		7.4%	17.3%	17.3%	9.4%		
Style & Risk Adjusted Benchmark		7.4%	16.0%	16.8%	9.2%		
Lipper Large-Cap Core		5.9%	16.5%	16.0%	8.5%		
<i>Excess Return</i>		-1.4%	1.1%	-0.7%	0.1%		
<i>Alpha</i>		-1.4%	2.3%	-0.2%	0.3%		
<i>Pct. Rank vs. Lipper Large-Cap Core</i>		56	16	40	23		
Total External Active	\$4,152,495,186	7.9%	17.8%	16.8%	8.9%	N/A	N/A
S&P 1500		7.3%	17.5%	17.4%	9.6%		
Style & Risk Adjusted Benchmark		6.1%	15.1%	16.6%	10.0%		
Lipper Multi Core		5.1%	17.0%	15.9%	8.6%		
<i>Excess Return</i>		0.6%	0.3%	-0.7%	-0.8%		
<i>Alpha</i>		1.8%	2.6%	0.2%	-1.1%		
<i>Pct. Rank vs. Lipper Multi Core</i>		23	43	47	50		

**Manager Performance - Net of Fees
6/30/15**

	Market Value	1-Year	3-Years	5-Years	7-Years	Inception	Inception Date
SMRS Large-Cap Core	\$2,576,952,418	7.5%	21.6%	17.7%	10.9%	7.8%	8/31/07
S&P 500		7.4%	17.3%	17.3%	9.4%	6.8%	
Style & Risk Adjusted Benchmark		7.4%	16.2%	16.6%	9.1%	6.2%	
Lipper Large-Cap Core		5.9%	16.5%	16.0%	8.5%	6.2%	
<i>Excess Return</i>		0.0%	4.3%	0.3%	1.5%	1.0%	
<i>Alpha</i>		0.1%	5.4%	1.1%	1.8%	1.7%	
<i>Pct. Rank vs. Lipper Large-Cap Core</i>		28	1	12	6	10	
SMRS Large-Cap Growth	\$1,708,992,738	13.5%	20.2%	19.0%	11.0%	9.5%	5/31/05
S&P 500 Growth Index		10.1%	17.8%	18.7%	10.5%	9.1%	
Style & Risk Adjusted Benchmark		9.3%	17.5%	18.8%	10.5%	9.1%	
Lipper Large Growth		10.6%	18.0%	17.7%	9.5%	9.0%	
<i>Excess Return</i>		3.5%	2.4%	0.4%	0.4%	0.4%	
<i>Alpha</i>		4.3%	2.8%	0.3%	0.5%	0.3%	
<i>Pct. Rank vs. Lipper Large-Cap Growth</i>		17	11	23	21	34	
Fisher All-Cap	\$1,114,265,625	11.8%	16.5%	15.4%	9.6%	10.3%	10/31/04
S&P 1500/S&P 600 Value Blend		7.3%	17.7%	16.9%	10.7%	8.9%	
Style & Risk Adjusted Benchmark		7.3%	16.9%	19.1%	11.0%	9.9%	
Lipper Multi Core		5.1%	17.0%	15.9%	8.6%	8.0%	
<i>Excess Return</i>		4.5%	-1.2%	-1.5%	-1.1%	1.4%	
<i>Alpha</i>		4.5%	-0.4%	-3.7%	-1.4%	0.4%	
<i>Pct. Rank vs. Lipper Multi Core</i>		4	63	64	30	7	
SMRS All-Cap Garp	\$1,044,925,837	9.1%	17.9%	--	--	16.8%	4/30/11
S&P 1500 Super Composite		7.3%	17.5%	--	--	13.2%	
Style & Risk Adjusted Benchmark		6.0%	16.2%	--	--	12.8%	
Lipper Multi Core		5.1%	17.0%	--	--	11.5%	
<i>Excess Return</i>		1.8%	0.4%	--	--	3.5%	
<i>Alpha</i>		3.0%	1.6%	--	--	3.9%	
<i>Pct. Rank vs. Lipper Multi Core</i>		14	41	--	--	1	
Seizert Capital Partners	\$701,547,285	2.6%	19.9%	18.5%	--	16.4%	11/30/09
S&P 1500/S&P 400 Value Blend		7.3%	17.5%	18.8%	--	18.2%	
Style & Risk Adjusted Benchmark		4.9%	16.1%	16.6%	--	14.9%	
Lipper Multi Core		5.1%	17.0%	15.9%	--	14.4%	
<i>Excess Return</i>		-4.7%	2.4%	-0.3%	--	-1.8%	
<i>Alpha</i>		-2.3%	3.8%	1.9%	--	1.5%	
<i>Pct. Rank vs. Lipper Multi Core</i>		76	15	10	--	15	
Concentrated Equity	\$429,274,109	-17.4%	--	--	--	3.4%	5/31/13
S&P 1500 Super Composite		7.3%	--	--	--	14.9%	
Style & Risk Adjusted Benchmark		5.1%	--	--	--	16.3%	
Lipper Multi Core		5.1%	--	--	--	14.0%	
<i>Excess Return</i>		-24.7%	--	--	--	-11.6%	
<i>Alpha</i>		-22.5%	--	--	--	-12.9%	
<i>Pct. Rank vs. Lipper Multi Core</i>		100	--	--	--	99	
LA Capital All-Cap Growth	\$406,915,011	12.4%	20.4%	19.0%	10.7%	11.5%	5/31/05
S&P 1500 Growth		10.0%	17.9%	18.7%	10.6%	9.2%	
Style & Risk Adjusted Benchmark		7.7%	16.2%	17.5%	10.3%	10.1%	
Lipper Multi-Cap Growth		9.4%	17.8%	17.2%	9.3%	9.2%	
<i>Excess Return</i>		2.4%	2.5%	0.3%	0.0%	2.3%	
<i>Alpha</i>		4.8%	4.2%	1.5%	0.3%	1.5%	
<i>Pct. Rank vs. Lipper Multi-Cap Growth</i>		23	17	22	31	8	

**Manager Performance - Net of Fees
6/30/15**

	Market Value	1-Year	3-Years	5-Years	7-Years	Inception	Inception Date
LA Capital Deep Value	\$399,857,507	--	--	--	--	-0.2%	4/1/15
S&P 1500 Value		--	--	--	--	0.1%	
Style & Risk Adjusted Benchmark		--	--	--	--	0.3%	
Lipper Multi-Cap Value		--	--	--	--	-0.3%	
<i>Excess Return</i>		--	--	--	--	-0.3%	
<i>Alpha</i>		--	--	--	--	-0.4%	
<i>Pct. Rank vs. Lipper Multi-Cap Growth</i>		--	--	--	--	47	
Bivium Capital Partners	\$264,550,930	9.6%	17.1%	17.2%	9.3%	6.1%	11/30/07
S&P 1500 Super Composite		7.3%	17.5%	17.4%	9.6%	6.4%	
Style & Risk Adjusted Benchmark		5.8%	16.4%	17.7%	9.9%	6.8%	
Lipper Multi Core		5.1%	17.0%	15.9%	8.6%	5.6%	
<i>Excess Return</i>		2.3%	-0.4%	-0.2%	-0.3%	-0.3%	
<i>Alpha</i>		3.8%	0.7%	-0.5%	-0.6%	-0.7%	
<i>Pct. Rank vs. Lipper Multi Core</i>		11	58	37	40	40	
Clarkston Capital Small-Cap	\$259,438,348	15.7%	--	--	--	15.1%	1/1/14
S&P 600		6.7%	--	--	--	6.7%	
Style & Risk Adjusted Benchmark		6.3%	--	--	--	6.0%	
Lipper Small-Cap Core		4.0%	--	--	--	5.2%	
<i>Excess Return</i>		9.0%	--	--	--	8.5%	
<i>Alpha</i>		9.4%	--	--	--	9.1%	
<i>Pct. Rank vs. Lipper Small-Cap Core</i>		1	--	--	--	1	
Attucks Asset Management	\$252,459,650	2.9%	15.8%	15.7%	7.9%	5.9%	11/30/07
S&P 1500 Super Composite		7.3%	17.5%	17.4%	9.6%	6.4%	
Style & Risk Adjusted Benchmark		6.7%	16.3%	17.1%	10.0%	7.4%	
Lipper Multi Core		5.1%	17.0%	15.9%	8.6%	5.6%	
<i>Excess Return</i>		-4.5%	-1.6%	-1.7%	-1.7%	-0.5%	
<i>Alpha</i>		-3.9%	-0.5%	-1.4%	-2.1%	-1.5%	
<i>Pct. Rank vs. Lipper Multi Core</i>		73	68	61	70	47	
Clarkston Capital Large-Cap	\$251,551,429	--	--	--	--	1.0%	4/1/15
S&P 500		--	--	--	--	0.3%	
Style & Risk Adjusted Benchmark		--	--	--	--	0.1%	
Lipper Large-Cap Core		--	--	--	--	0.1%	
<i>Excess Return</i>		--	--	--	--	0.7%	
<i>Alpha</i>		--	--	--	--	1.0%	
<i>Pct. Rank vs. Lipper Large-Cap Core</i>		--	--	--	--	17	
GW Capital	\$173,299,287	-8.6%	--	--	--	1.1%	1/1/14
S&P 1500 Value		4.4%	--	--	--	7.8%	
Style & Risk Blended Benchmark		4.0%	--	--	--	10.7%	
Lipper Multi-Cap Value		1.8%	--	--	--	5.9%	
<i>Excess Return</i>		-13.0%	--	--	--	-6.6%	
<i>Alpha</i>		-12.5%	--	--	--	-9.6%	
<i>Pct. Rank vs. Lipper All-Cap Value</i>		94	--	--	--	89	
Munder Mid-Cap Core	\$168,225,764	17.4%	21.2%	19.3%	--	21.7%	4/30/09
S&P 400 Mid-Cap Growth		9.0%	18.4%	18.4%	--	21.8%	
Style & Risk Adjusted Benchmark		5.8%	15.2%	16.4%	--	19.0%	
Lipper Mid-Cap Growth		9.1%	17.7%	17.0%	--	19.9%	
<i>Excess Return</i>		8.4%	2.8%	0.9%	--	-0.1%	
<i>Alpha</i>		11.6%	6.0%	2.8%	--	2.6%	
<i>Pct. Rank vs. Lipper Mid-Cap Core</i>		2	7	13	--	18	

Manager Performance - Net of Fees
6/30/15

	<u>Market Value</u>	<u>1-Year</u>	<u>3-Years</u>	<u>5-Years</u>	<u>7-Years</u>	<u>Inception</u>	<u>Inception Date</u>
NorthPointe All-Cap Core	\$160,356,185	6.7%	17.2%	14.3%	8.6%	7.4%	10/31/04
NorthPointe Blended Benchmark		6.7%	18.8%	17.5%	11.1%	9.2%	
Style & Risk Adjusted Benchmark		5.4%	16.4%	18.6%	10.8%	9.9%	
Lipper Multi Core		5.1%	17.0%	15.9%	8.6%	8.0%	
<i>Excess Return</i>		<i>0.0%</i>	<i>-1.6%</i>	<i>-3.2%</i>	<i>-2.5%</i>	<i>-1.8%</i>	
<i>Alpha</i>		<i>1.3%</i>	<i>0.8%</i>	<i>-4.3%</i>	<i>-2.2%</i>	<i>-2.5%</i>	
<i>Pct. Rank vs. Lipper Multi Core</i>		<i>42</i>	<i>57</i>	<i>79</i>	<i>55</i>	<i>68</i>	
SMRS Large-Cap Value	\$107,452,922	1.5%	14.3%	14.0%	7.0%	2.8%	7/31/07
S&P 500 Value Index		4.6%	16.8%	16.0%	8.3%	4.2%	
Style & Risk Adjusted Benchmark		5.5%	14.6%	15.2%	8.1%	4.6%	
Lipper Large Value		4.0%	16.6%	15.4%	8.1%	4.5%	
<i>Excess Return</i>		<i>-3.0%</i>	<i>-2.6%</i>	<i>-2.0%</i>	<i>-1.3%</i>	<i>-1.5%</i>	
<i>Alpha</i>		<i>-4.0%</i>	<i>-0.4%</i>	<i>-1.2%</i>	<i>-1.1%</i>	<i>-1.8%</i>	
<i>Pct. Rank vs. Lipper Large-Cap Value</i>		<i>85</i>	<i>86</i>	<i>83</i>	<i>72</i>	<i>91</i>	
SMRS Absolute Return Income Fund	\$103,830,553	-1.5%	10.8%	12.7%	--	13.7%	1/31/09
60% S&P500/40% Barclays AGG		5.3%	11.0%	11.8%	--	11.5%	
Style & Risk Adjusted Benchmark		7.3%	13.8%	11.4%	--	10.4%	
Lipper Mixed Target Allocation Moderate/Growth Blend		1.9%	9.8%	10.2%	--	10.9%	
<i>Excess Return</i>		<i>-6.7%</i>	<i>-0.2%</i>	<i>1.0%</i>	<i>--</i>	<i>2.2%</i>	
<i>Alpha</i>		<i>-8.7%</i>	<i>-3.0%</i>	<i>1.3%</i>	<i>--</i>	<i>3.3%</i>	
<i>Pct. Rank vs. Lipper Mixed Target Allocation</i>		<i>91</i>	<i>39</i>	<i>9</i>	<i>--</i>	<i>5</i>	
Concentrated All-Cap Growth	\$29,589,282	-15.8%	--	--	--	-1.3%	5/31/13
S&P 600		6.7%	--	--	--	16.6%	
Style & Risk Adjusted Benchmark		6.3%	--	--	--	11.9%	
Lipper Small-Cap Core		4.0%	--	--	--	14.2%	
<i>Excess Return</i>		<i>-22.6%</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-17.9%</i>	
<i>Alpha</i>		<i>-22.1%</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-13.2%</i>	
<i>Pct. Rank vs. Lipper Small-Cap Core</i>		<i>99</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>100</i>	

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

FIXED INCOME REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

SEPTEMBER 3, 2015



**Daniel J. Quigley
Senior Investment Manager
Long-Term Fixed Income Division**

EXECUTIVE SUMMARY

Performance

MPSERS Plan	1-Year	3-Years	5-Years	7-Years	10-Years
Long-Term Fixed Income	2.5%	2.9%	4.1%	5.5%	5.2%
Barclays Aggregate	1.9%	1.8%	3.4%	4.6%	4.4%
Peer Median Return	1.9%	2.7%	4.9%	5.3%	5.1%
Rank vs. Peers	28	39	63	39	35

- Long-Term Fixed Income outperformed the Barclay's Aggregate benchmark and its peer group on a one-year basis. The fixed income portfolio has outperformed the benchmark across all time periods. This outperformance was aided by an overweight to corporate bonds and structured securities that offered a comparatively higher coupon return. The shorter duration of the portfolio hindered relative performance on a one-year basis as long-term interest rates fell.

Strategy Update

- Allocation to Long-Term Fixed Income has remained stable for the last twelve months.
- Long-Term Fixed Income continues to look to increase the overall rate of return by maintaining an overweight to investment grade credit within the internally managed portfolio. The fixed income portfolio also maintains out-of-benchmark exposure to high yield credit managers (7.4% of portfolio assets) and securitized credit mandates (15.7% of portfolio assets). This strategy increases the credit risk of the portfolio, however, this risk is offset by lower interest rate risk due to the portfolio's lower duration.
- The portfolio addresses liquidity concerns by maintaining an allocation to U.S. Treasuries and U.S. TIPS (17.1% of portfolio assets). This government bond allocation also increases the portfolio's diversification.
- As opportunities present themselves, Long-Term Fixed Income will look to diversify from Barclay's Aggregate and Barclay's Investment Grade Credit focused investment strategies. This is due to the increase in the duration of these benchmarks as well as the fact that the Barclay's Aggregate Index is increasingly comprised of U.S. Government securities. These changes will occur at the margin as the overall characteristics of the fund will continue to meet the diversification requirements of a core bond portfolio.

Market Environment and Outlook

- The U.S. Treasury yield curve has flattened on a year-over-year (YOY) basis as long-term interest rates have declined while short-term interest rates have increased. Lower global growth expectations have contained long-term interest rates while the anticipation of future Federal Reserve monetary tightening has increased short-term rates. The 2-year/10-year U.S. Treasury spread has decreased by nearly 40 basis points (bps) YOY to 1.7% as of June 30th.
- U.S. investment grade credit spreads widened over the past year by 15 bps to 146 bps. A major driver of this widening was the large amount of corporate bond issuance as year-to-date issuance is on a record pace.

- High-yield spreads widened by 7 bps during the past year. The energy and metals and mining sectors were the main contributors to this widening as weakness in the commodity markets persist.
- European interest rates continued to be a dominant story during the quarter. Concerns about Greece's ability to pay on its debt obligations, and a potential Greek exit from the European Union (EU), prompted interest rates to increase for other Mediterranean countries like Spain, Portugal, and Italy. The yield on Portugal's 10-year bonds increased by 130 bps during the quarter to roughly 3%. These bonds widened by nearly 90 bps versus the corresponding 10-year U.S. Treasuries during the quarter due to increased fears of contagion as the Greek situation deteriorated.
- The portfolio remains defensively positioned for interest rate increases. The duration remains short of the benchmark as we focus on intermediate securities. We have offset this short position by holding a larger allocation to securitized and corporate debt securities in order to increase the interest income of the portfolio.

Conclusion

- Given the current level and shape of the yield curve, it seems appropriate to focus on intermediate duration securities. This area of the yield curve offers the best risk-adjusted return in this environment. We will continue to target investments that offer attractive yield pick-up for the portfolio, but will do so within our existing allocation to corporate bonds. We will also look to maintain our overweight to securitized assets within the portfolio.



SMRS

Long-Term Fixed Income

6/30/15

	Amount	% of Total
Core	(in millions)	
LTFID Internal	\$4,597	
Dodge & Cox	<u>246</u>	
Sub Total	\$4,843	67.4%
Credit		
Prudential	<u>\$205</u>	
Sub Total	\$205	2.9%
Securitized Debt		
Principal Global	\$384	
Met West Securitized Ops	694	
Napier Park ABS Income	<u>50</u>	
Sub Total	\$1,128	15.7%
High Yield		
Columbia Management	\$318	
Prudential High Yield	<u>215</u>	
Sub Total	\$533	7.4%
Tactical		
Pyramis	\$265	
Loomis Core Plus	<u>207</u>	
Sub Total	\$472	6.6%

TOTAL

\$7,181

100.0%



SMRS

Fixed Income Holdings Portfolio Characteristics

Benchmark: Barclays Aggregate

6/30/15

<u>Characteristic</u>	<u>Portfolio</u>	<u>Benchmark</u>	<u>Relative (%)</u>
Average Life	6.5	7.5	87
Average Life w/Cash Equiv.	6.5	7.5	87
Duration (Yrs)	5.2	5.9	88
Duration (Yrs) w/Cash Equiv.	5.2	5.9	88
Coupon (%)	3.6	3.3	108
Yield to Maturity (%)	3.4	2.4	143
Moody's Credit Rating	A3	Aa2	
S&P Credit Rating	BBB	AA-	

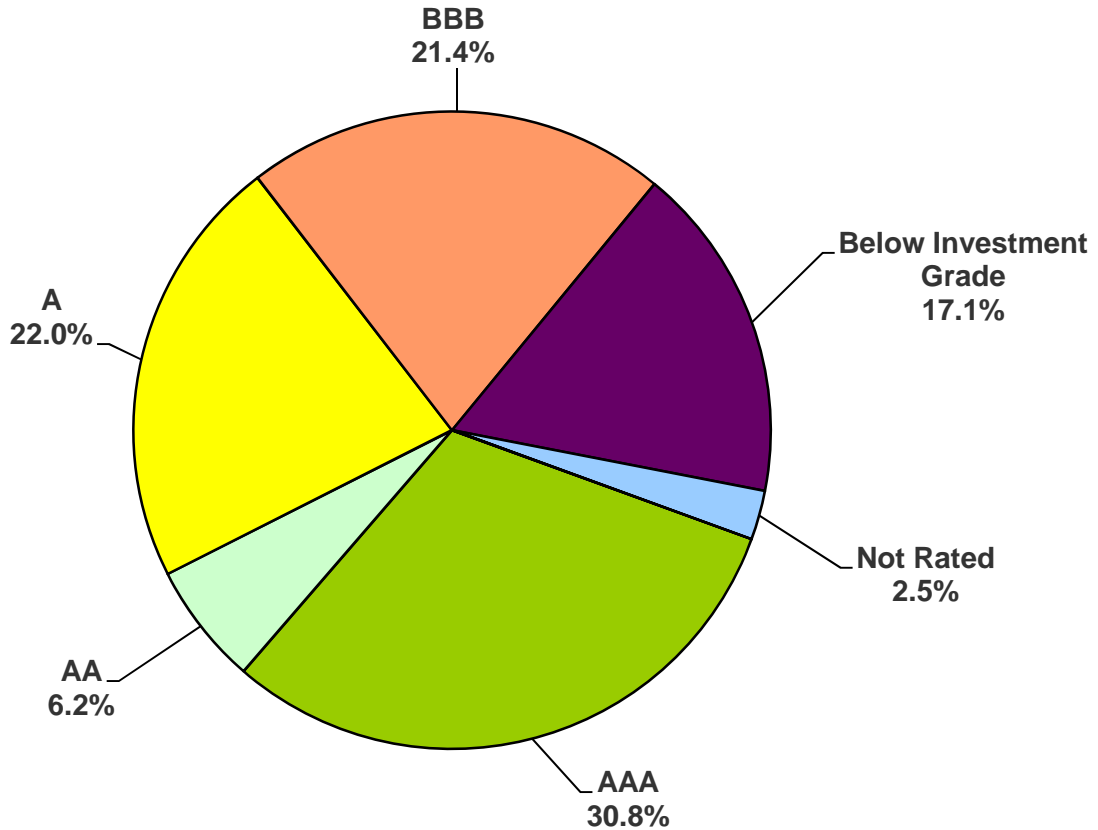


SMRS

Fixed Income By Rating

Total U.S. Long-Term Fixed Income

6/30/15



Market Value in Millions				
6/30/15				
	<u>Assets</u>	<u>Percent</u>	<u>Benchmark</u>	<u>Difference</u>
AAA	\$2,214	30.8%	71.7%	-40.9%
AA	442	6.2%	5.4%	0.8%
A	1,576	22.0%	11.7%	10.3%
BBB	1,538	21.4%	10.4%	11.0%
Not Rated	182	2.5%	0.1%	2.4%
* Below Investment Grade	1,229	17.1%	0.7%	16.4%
Total Investments	\$7,181	100.0%	100.0%	

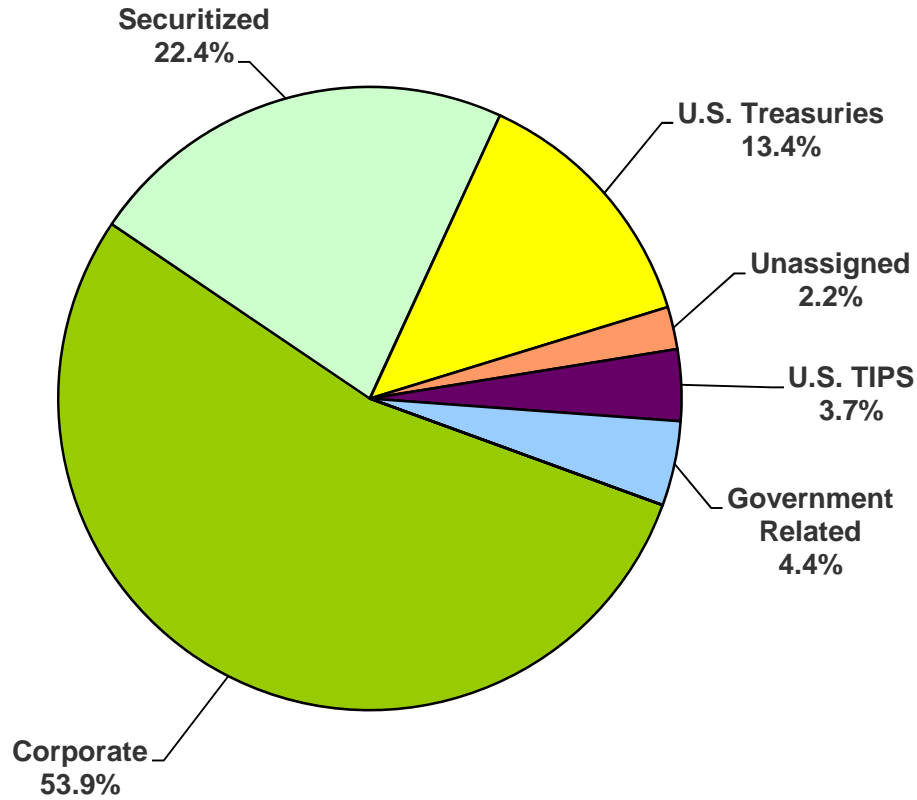
* Comprised of approximately 9.9% High Yield Credit and 7.2% High Yield RMBS/ABS

Benchmark: Barclays US Aggregate



SMRS

Fixed Income By Asset Type Total U.S. Long-Term Fixed Income 6/30/15



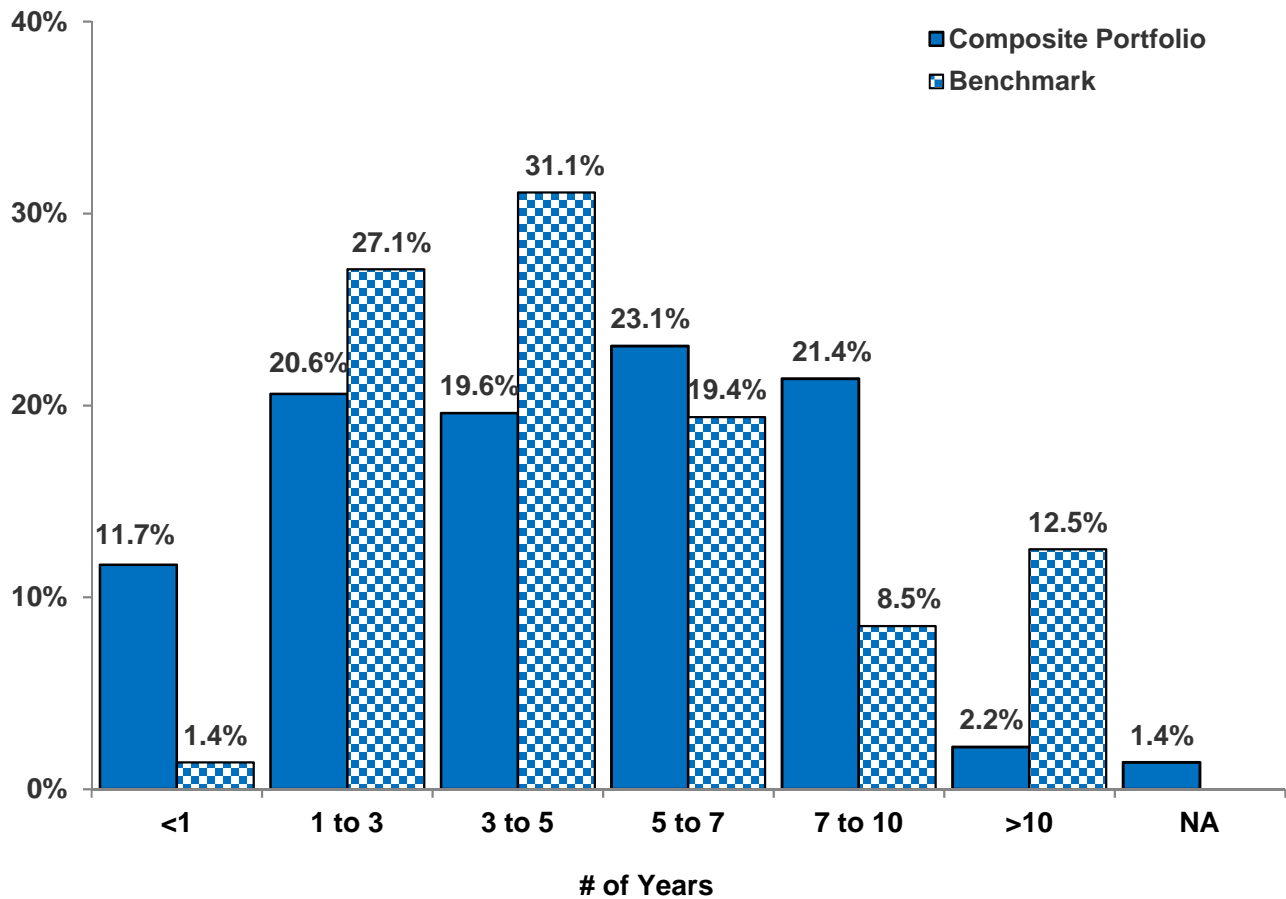
Market Value in Millions				
6/30/15				
	<u>Assets</u>	<u>Percent</u>	<u>Benchmark</u>	<u>Difference</u>
Corporate	\$3,867	53.9%	23.7%	30.2%
Securitized	1,608	22.4%	30.8%	-8.4%
U.S. Treasuries	966	13.4%	36.1%	-22.7%
Unassigned	161	2.2%	0.0%	2.2%
U.S. TIPS	265	3.7%	0.0%	3.7%
Government Related	314	4.4%	9.4%	-5.0%
Total Investments	<u>\$7,181</u>	<u>100.0%</u>	<u>100.0%</u>	

Benchmark: Barclays US Aggregate



SMRS

Duration Distribution Fixed Income Composite Versus Benchmark 6/30/15



Source: Factset

Market Value in Millions					
Duration	Assets	Portfolio Weight	Benchmark Weight	Portfolio Duration	Benchmark Duration
<1	\$838	11.7%	1.4%	0.4	0.9
1 to 3	1,478	20.6%	27.1%	2.1	2.0
3 to 5	1,404	19.6%	31.1%	4.0	4.0
5 to 7	1,662	23.1%	19.4%	6.1	6.0
7 to 10	1,538	21.4%	8.5%	7.9	8.0
>10	161	2.2%	12.5%	14.7	15.3
NA	100	1.4%	0.0%	0.0	0.0
Total	\$7,181	100.0%	100.0%	5.2	5.9

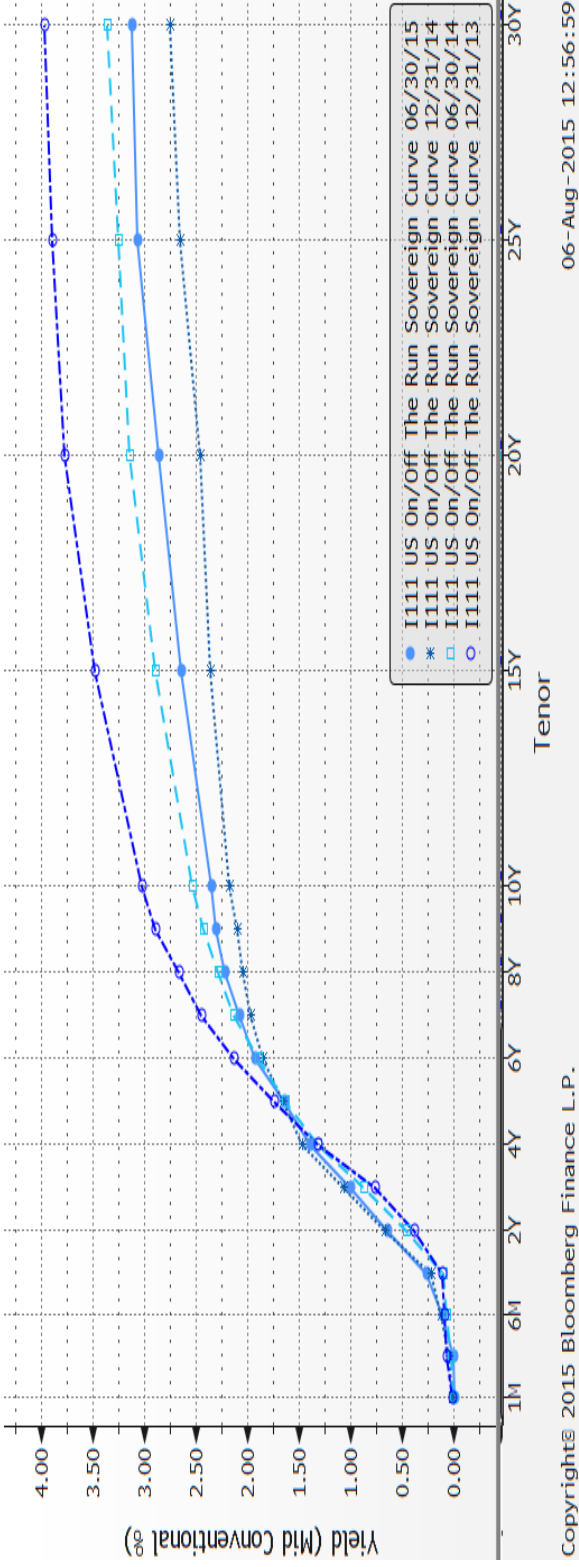
SMRS Internal/External Manager Performance – Net of Fees

6/30/15

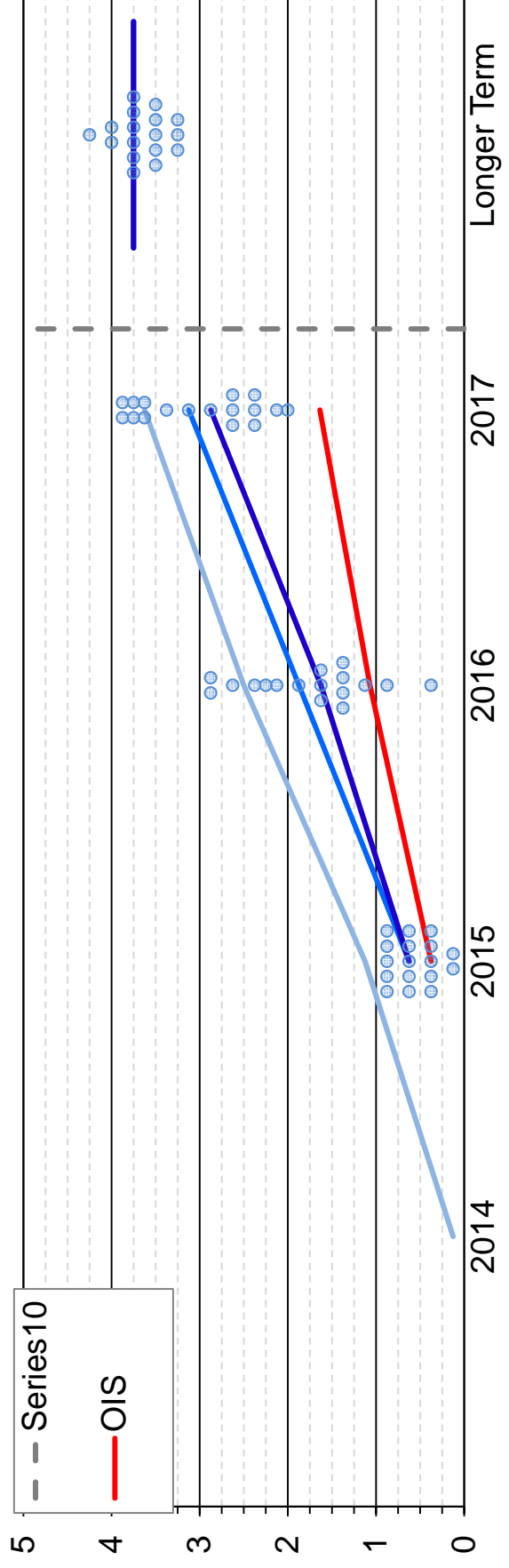
Total Fixed Income Performance, Net of Fees (MPSERS)

	<u>Market Value</u>	<u>1-Year</u>	<u>3-Years</u>	<u>5-Years</u>	<u>7-Years</u>	<u>10-Years</u>
Total Fixed Income	\$7,181,479,345	2.5%	2.9%	4.1%	5.5%	5.2%
<i>Barclays Aggregate Bond Index</i>	<i>N/A</i>	<i>1.9%</i>	<i>1.8%</i>	<i>3.4%</i>	<i>4.6%</i>	<i>4.4%</i>
Internal Fixed Income	\$4,596,929,544	2.7%	2.4%	3.6%	5.3%	5.2%
External Fixed Income	\$2,584,549,801	2.2%	3.5%	4.9%	5.8%	--
MetWest Securitized Opportunities	694,305,842	2.0%	--	--	--	--
Principal CMBS	383,890,441	3.8%	11.2%	14.7%	8.0%	--
Pyramis Tactical Bond Fund	265,175,060	4.7%	--	--	--	--
Prudential Investment Grade	205,090,854	1.1%	3.8%	5.6%	7.3%	--
Dodge & Cox Core	245,993,466	1.6%	3.5%	4.4%	5.8%	--
Loomis Sayles CorePlus	206,836,484	-0.3%	--	--	--	--
Napier Park ABS Income	50,085,000	N/A				
<i>Barclays Aggregate Bond Index</i>	<i>N/A</i>	<i>5.7%</i>	<i>3.1%</i>	<i>4.4%</i>	<i>4.7%</i>	<i>4.9%</i>
Columbia Management High Yield	318,324,576	1.9%	--	--	--	--
Prudential High Yield	214,848,079	1.5%	--	--	--	--
<i>Barclays US HY BA/B 2% Cap</i>	<i>N/A</i>	<i>0.7%</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>

U.S. Yield Movement

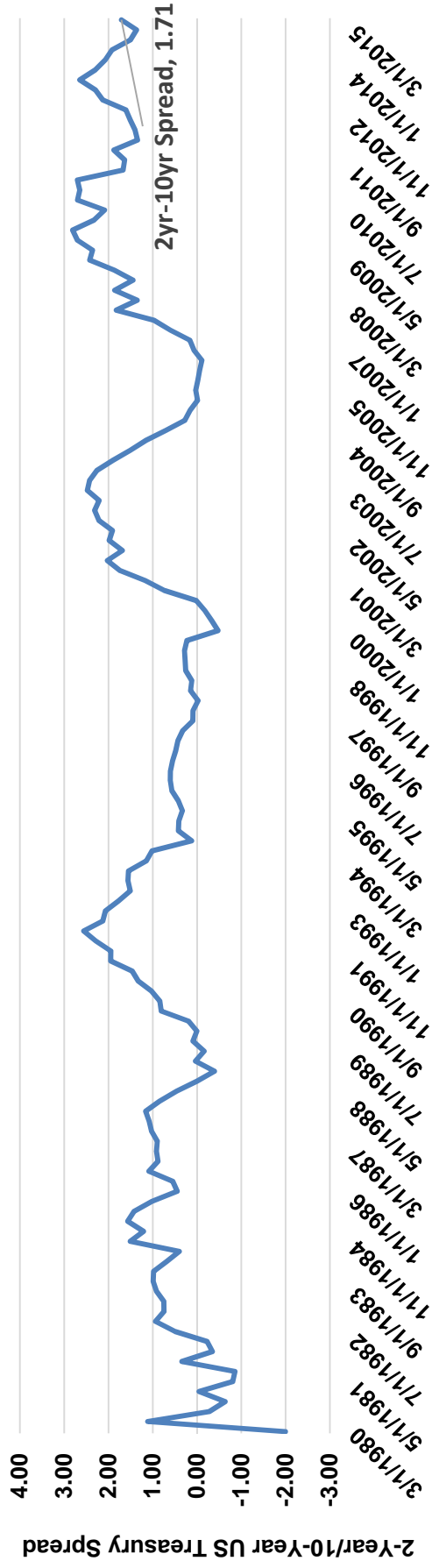


FOMC DOT PLOT

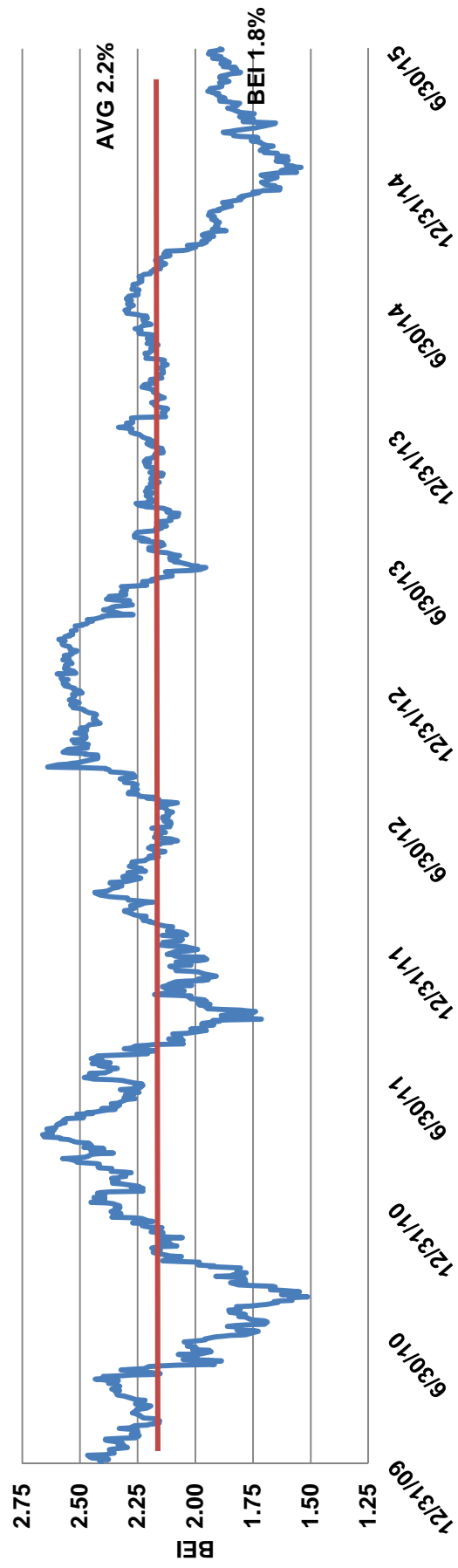


Source: Factset, Bloomberg

2-Year - 10-Year Spread

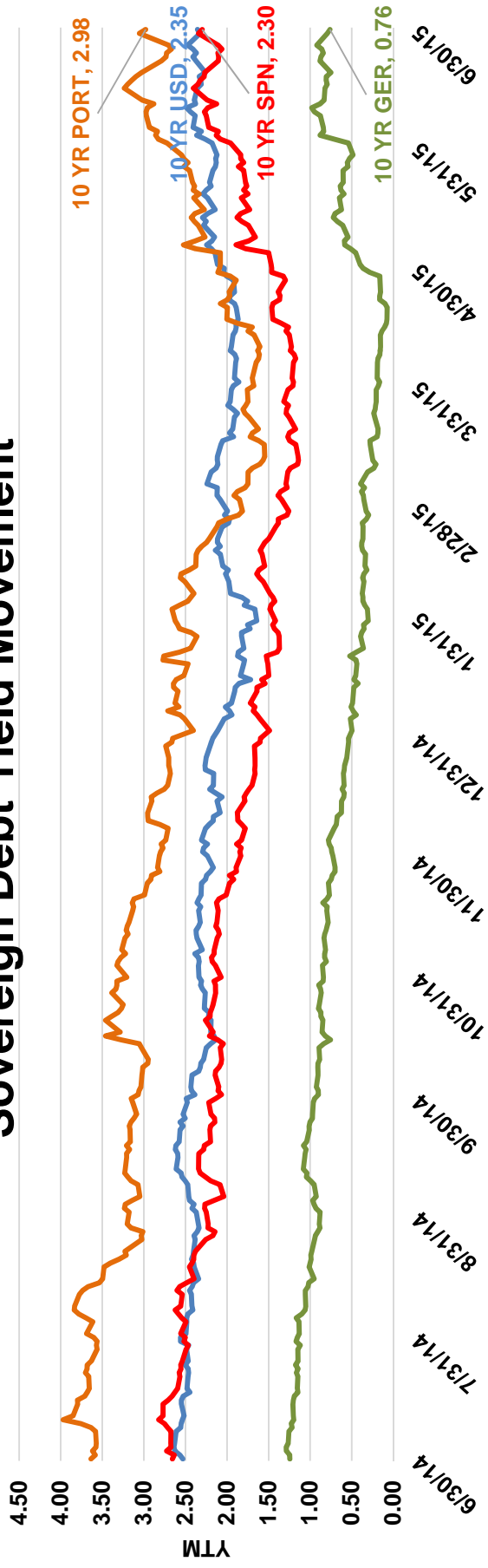


10-Year U.S. Treasury Breakeven Inflation

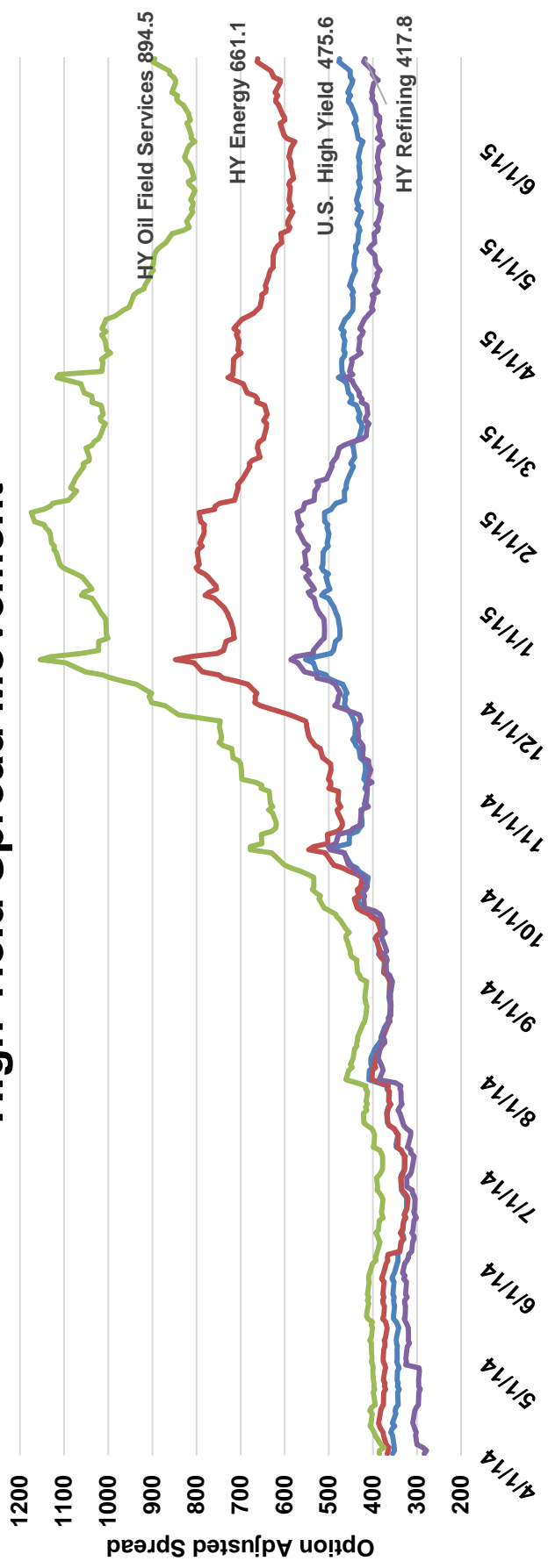


Source: Bloomberg

Sovereign Debt Yield Movement



High Yield Spread Movement

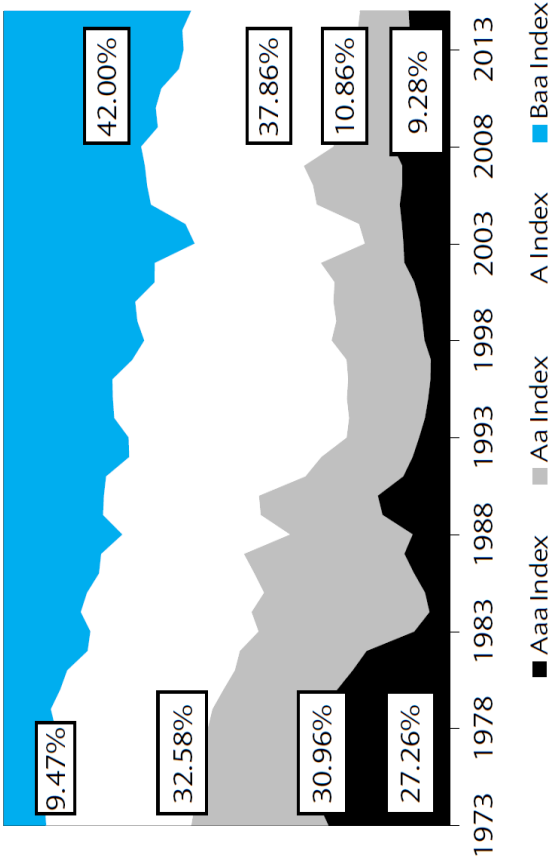
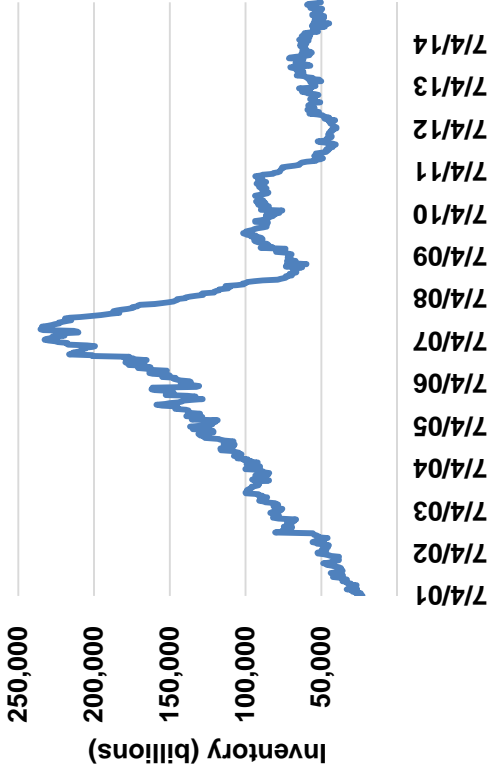


Source: Bloomberg

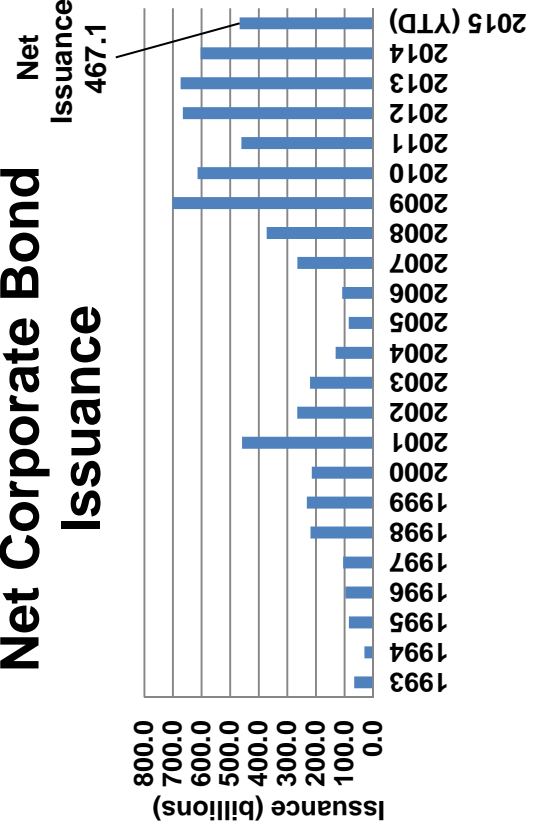
Conflicting Signals for Bond Market Liquidity

Quality Analysis of Barclays Credit Index, 1973-2015

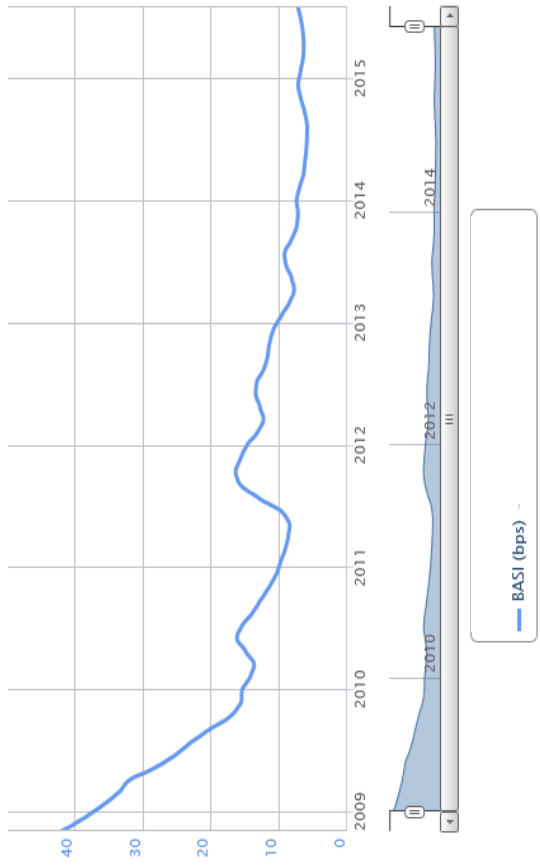
Primary Dealer Corporate Bond Inventory



Net Corporate Bond Issuance



High Grade Bid/Ask Spreads



**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

INTERNATIONAL EQUITY REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

SEPTEMBER 3, 2015



**Richard J. Holcomb, CFA
Senior Investment Manager
Quantitative Analysis Division**

EXECUTIVE SUMMARY

Performance

MPSERS Plan	1-Year	3-Years	5-Years	7-Years	10-Years
Annualized Returns	-1.7%	11.0%	9.2%	2.7%	5.1%
Benchmark Return	-5.3%	9.8%	7.7%	1.8%	4.2%
Peer Median Return	-3.0%	11.9%	9.7%	2.6%	6.2%
Rank vs. Peers	28	66	68	38	84

- International equity returns exceeded U.S. equity returns slightly in the second quarter as underlying companies benefited from weak home currencies and central bank stimulus. Developed market performance led emerging markets for the trailing year, but were similar in the quarter. Currency levels stabilized and the Euro exceeded the U.S. dollar by 3.7% even with Greek concerns. Australian, Canadian, and emerging markets were negatively impacted by energy and commodity price declines and slower Chinese demand. Significant geopolitical risks remain unresolved, and political reforms are advancing quite slowly. In June, volatility spiked reflecting the spectacular rise and collapse of Chinese mainland A share securities. Our international portfolio returns have exceeded their internal benchmark over all time periods.
- Performance comparisons with peer group returns remain difficult for longer periods. Peers have had a lower allocation to emerging markets when those markets underperformed developed markets, and often report global manager exposures, including a U.S. component, as international holdings. The portfolio has maintained a high allocation to passive strategies over time, and that strategy choice underperformed active strategies in several periods. The advantages of equity indexing, including broader exposures, reduced overall risk and variance, and lower management costs have been very beneficial.
- The internally managed stock plus funds experienced a correction in dividend stocks in the quarter, but outperformed their benchmarks over longer periods. All counterparties used for swap agreements, and the fixed income securities held as collateral, continue to be rated investment grade.
- Indexed investments represent 33.4% of international equity exposure, and had a return of 1.9% in the second quarter and -2.8% for the year. The positive performance can be attributed to an overweight of small capitalization stocks in the selection of index fund exposure components.
- Active developed market fund managers had a return of 2.1% for the quarter and -1.3% for the year. Manager returns are well diversified, and reflect a combination of fundamental analysis driven and quantitative enhancement strategies. The resulting cumulative exposure is designed to produce a positive ensemble alpha through multiple expert processes.

- Total emerging market equity returns were negatively impacted by exposure to the Research Affiliates Fundamental Index (RAFI) fundamental factor subset index over the past year. The RAFI is a value style strategy with a long time horizon, deep value characteristics and an implicit political risk sensitivity.

Outlook

- The outlook for international equities is positive based on slow improvement in the European economy, no serious long lasting disruption of trade resulting from geopolitical tensions, continued European Central Bank support of liquidity through QE actions, and attractive relative valuation with the U.S. market. Emerging markets have been negatively affected by lower energy and commodity prices, and slower export growth. Many economic concerns appear to be discounted, but may be tested further when U.S. interest rates are raised by the Federal Reserve. Political instability and currency devaluation are and will remain important issues.
- External managers, diversified by style, are starting to benefit from a better environment for active stock selection with wider universe return dispersion. Value style factor performance has been challenged periodically, and small and mid-cap international stocks are experiencing greater volatility. Stock Plus absolute return strategies are expected to be impacted by increasing interest rate concerns, but through focus on security selection and tactical opportunities will earn returns in excess of overlay costs. A new PIMCO Emerging Market Stock Plus fund, targeting the MSCI EM Index, was added at the end of March for greater management flexibility.
- Emerging markets will continue to benefit from growing local consumer demand trends. Positive governance, regulation, and financial system changes will improve investment opportunities in many countries. However, political instability, systemic corruption, rule of law, and unfavorable tax regimes will remain concerns. Announced infrastructure projects should stimulate emerging market economies, and China's plans for an Asian Infrastructure Investment Bank could be very supportive of regional and global trade. Commodity headwinds will abate with economic recoveries in developed countries.

Investment Plan

- Move toward longer-term objectives as a slow global recovery develops and relative valuations of international markets remain positive.
- Take advantage of opportunities to enhance returns in stock plus strategies. Collaborate with internal fixed income and equities staff for an effective hybrid approach to security research and selection.
- Prepare for derivative market changes and focus on further development of counterparty relationships as a strategic advantage.



SMRS

International Equities

6/30/15

Markets	Indexed	Stock Plus	Active	Total	% of Total
Developed Markets - Large/Mid Cap					
SSgA S&P Developed Ex-US Large/Mid Cap	\$1,045				
Vanguard Developed Markets (FTSE)	579				
Internal Intl DM Stock Plus		\$1,632			
PIMCO Intl (EAFE) Stock Plus AR		1,037			
Wellington Intl Research Equity			\$611		
Baillie Gifford ACWI Ex-US Alpha			375		
Marathon London Intl			357		
T. Rowe Price Intl Core Equity			228		
Lazard Wilmington Intl Equity			225		
Sub Total Developed Large/Mid Cap	\$1,624	\$2,669	\$1,796	\$6,089	65.6%
Developed Markets - Small Cap					
SSgA S&P EPAC Small Cap	\$797				
Templeton Intl Small Companies			\$209		
MFS Intl Small Cap Equity			190		
SSgA Intl Small Cap Alpha			182		
Sub Total Developed Small Cap	\$797	\$0	\$581	\$1,378	14.9%
Total Developed Markets	\$2,421	\$2,669	\$2,377	\$7,467	80.6%
Emerging Markets - All Cap					
Vanguard Emerging Markets (FTSE)	\$664				
Internal Intl EM Stock Plus		\$122			
PIMCO EM RAFI Stock Plus AR		291			
PIMCO EM MSCI Stock Plus AR		201			
LA Capital EM Equity			\$325		
Wellington EM Local Equity			204		
Sub Total Emerging All Cap	\$664	\$614	\$529	\$1,807	19.5%

TOTAL

\$3,085

\$3,283

\$2,906

\$9,274

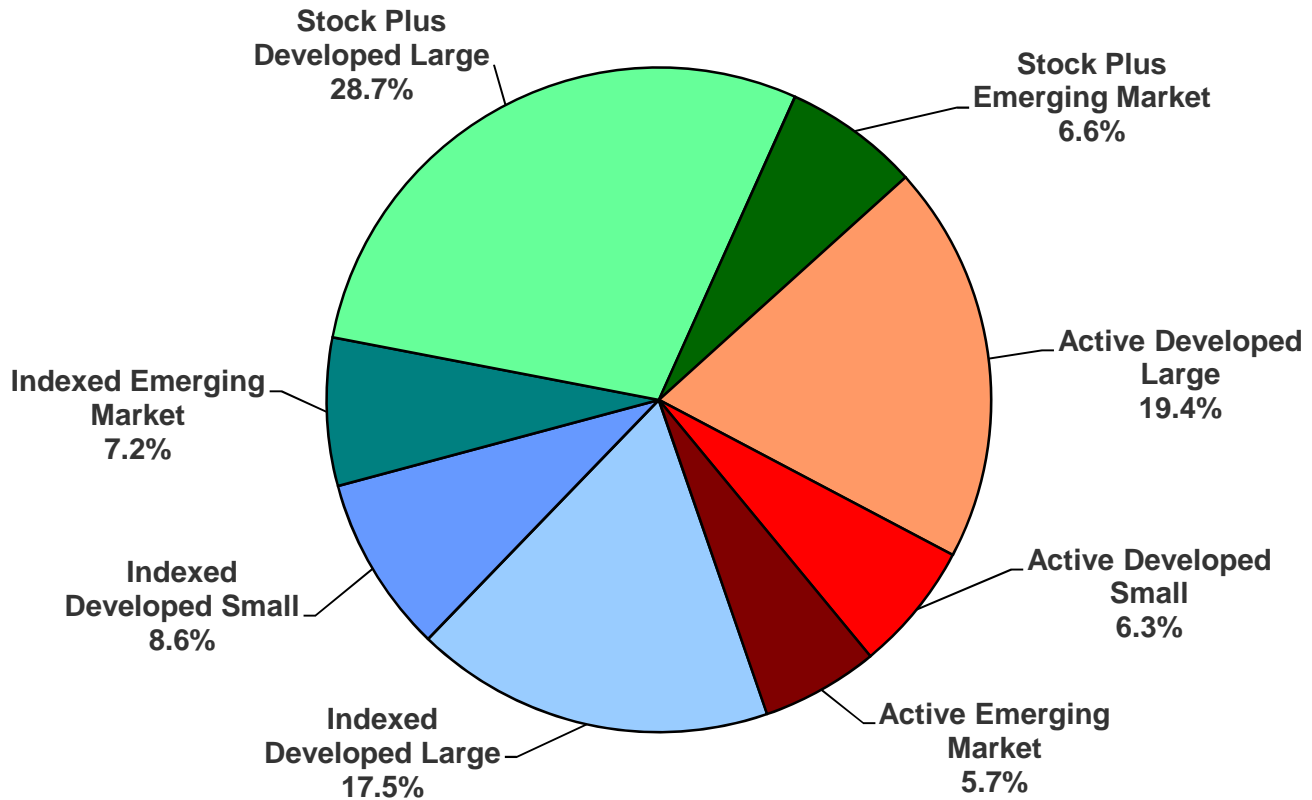
100.0%

Note: All dollar amounts are expressed in millions



SMRS

International Equity Exposure By Category 6/30/15



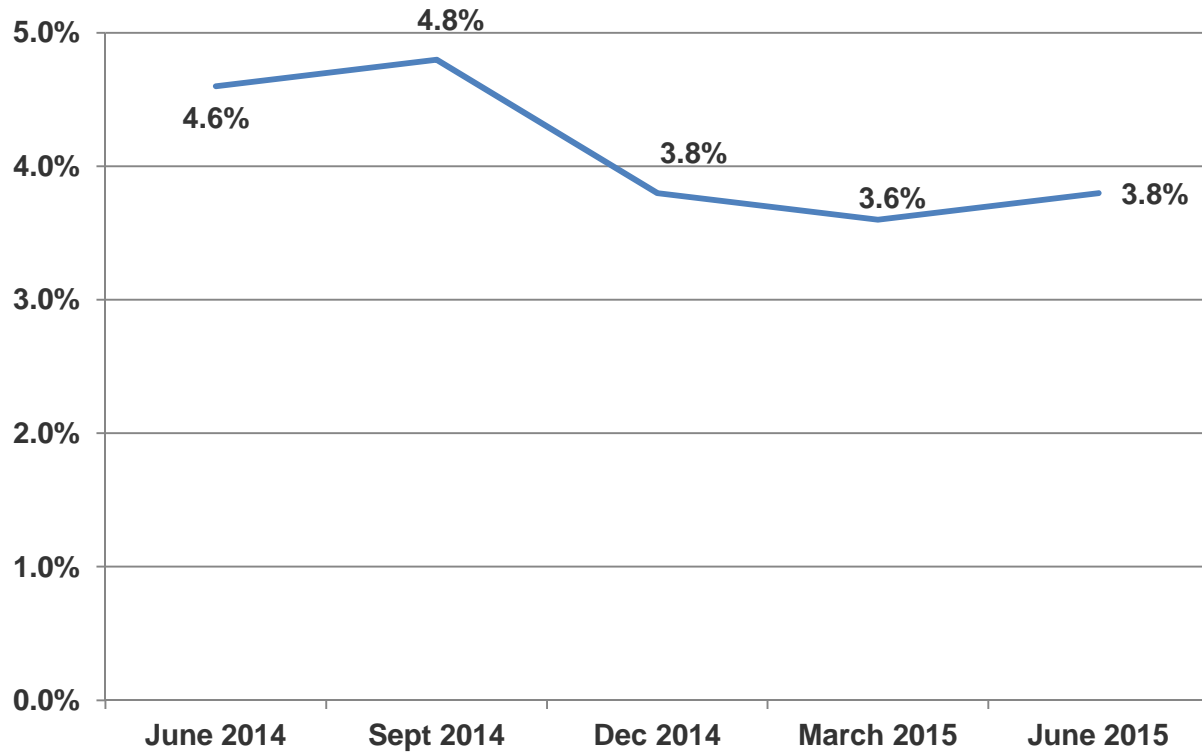
	Market Value in Millions			
	6/30/15		3/31/15	
Indexed				
Developed Large	\$1,624	17.5%	\$1,613	17.6%
Developed Small	797	8.6%	761	8.3%
Emerging Market	664	7.2%	653	7.1%
Total Indexed Equity	\$3,085	33.3%	\$3,027	33.0%
Stock Plus				
Developed Large	\$2,669	28.7%	\$2,681	29.3%
Emerging Market	614	6.6%	610	6.7%
Total Stock Plus Equity	\$3,283	35.3%	\$3,291	36.0%
Active				
Developed Large	\$1,796	19.4%	\$1,760	19.2%
Developed Small	581	6.3%	563	6.1%
Emerging Market	529	5.7%	525	5.7%
Total Active Equity	\$2,906	31.4%	\$2,848	31.0%
Total International Equity	\$9,274	100.0%	\$9,166	100.0%

Michigan Department of Treasury, Bureau of Investments



SMRS

Emerging Market Allocation SMRS Versus Benchmark 6/30/15



Investments by Region

<u>Date</u>	<u>EM Allocation SMRS Relative to Benchmark*</u>
June 2014	4.6%
Sept 2014	4.8%
Dec 2014	3.8%
March 2015	3.6%
June 2015	3.8%

*As measured by Factset Equity Analytics



SMRS

Active International Equities Composite

6/30/15

Date:	<u>6/30/15</u>	<u>3/31/15</u>
Assets (\$million):	\$2,906	\$2,848
Numbers of Securities:	1,684	1,686
Active Share:	55%	59%

Benchmark: S&P 1500

Description: The Active International Equities Composite represents the profile of cumulative investments by active international managers with developed market large and small cap, and emerging market mandates. The manager returns are well diversified and reflect a combination of fundamental analysis driven and quantitative management approaches. The cumulative exposure, supported by multiple expert processes, is constructed to produce a positive, long-term ensemble alpha with control of assumed risk.

Characteristics:	<u>SMRS</u>	<u>ACWI ex USA</u>
Weighted Average Capitalization (\$billion):	\$6.1	\$13.1
Trailing 12-month P/E:	18.9x	16.9x
Forecast P/E:	16.4x	15.4x
Price/Book:	1.8x	1.7x
Beta:	0.93	1.00
Dividend Yield:	2.5%	2.5%
3-5 Year EPS Growth Estimate:	12.3%	10.4%
Return on Equity:	9.9%	10.0%

TOP TEN HOLDINGS – Active International Equities 6/30/15

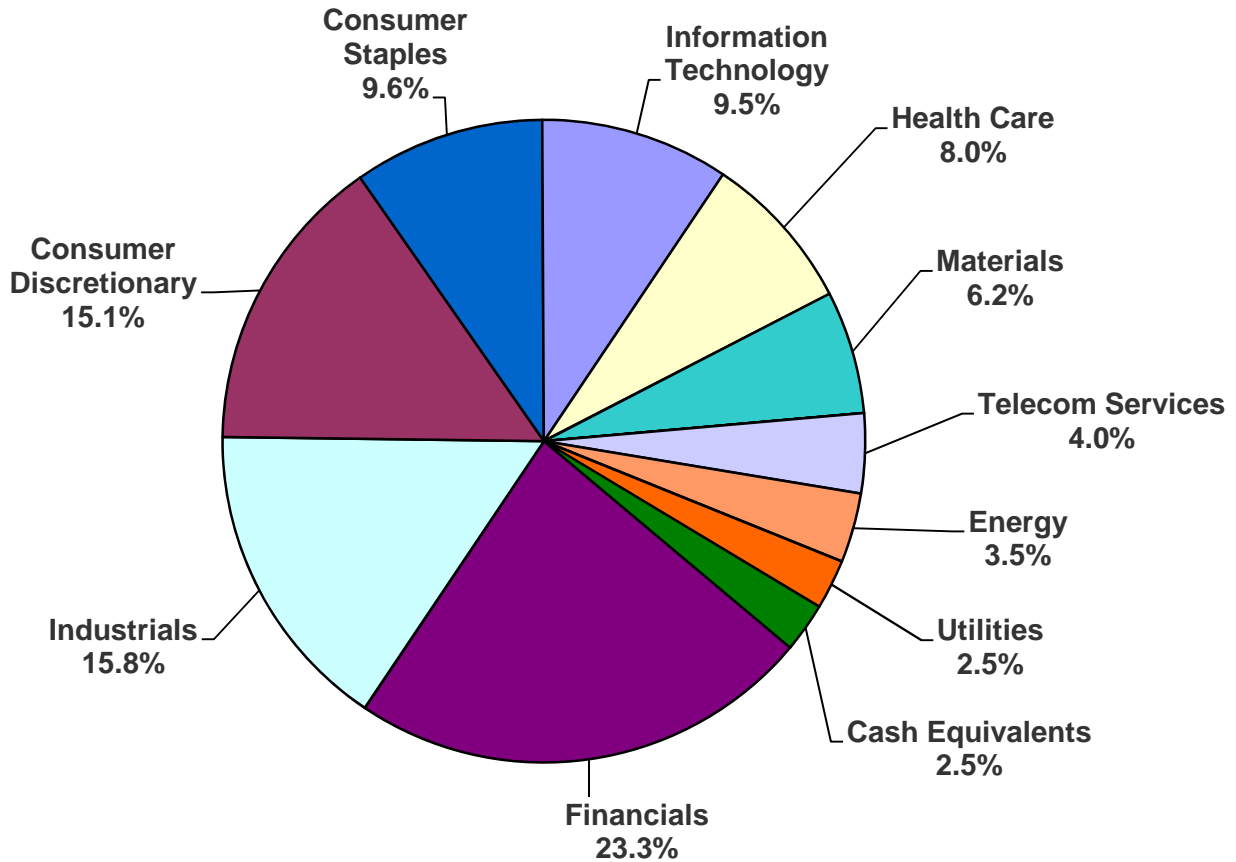
	Portfolio Weight	Market Value
Novartis AG	1.1%	\$30,465,822
Samsung Electronics	0.8%	22,443,530
Taiwan Semiconductor	0.8%	21,017,630
Naspers	0.7%	18,884,376
British American Tobacco	0.6%	18,125,341
Anheuser-Busch InBev	0.6%	16,025,529
China Construction Bank	0.5%	15,346,429
BNP Paribas	0.5%	15,248,328
Nestle	0.5%	14,499,386
Tencent Holdings	<u>0.5%</u>	<u>14,017,157</u>
TOTAL	<u>6.6 %</u>	<u>\$186,073,526</u>



SMRS

Active International Equity By Sector

6/30/15



Market Value in Millions

6/30/15

	<u>Assets</u>	<u>Percent</u>	<u>Benchmark</u>	<u>Difference</u>
Financials	\$677	23.3%	27.9%	-4.6%
Industrials	459	15.8%	11.0%	4.8%
Consumer Discretionary	439	15.1%	11.8%	3.3%
Consumer Staples	279	9.6%	9.9%	-0.3%
Information Technology	276	9.5%	7.4%	2.1%
Health Care	232	8.0%	9.1%	-1.1%
Materials	180	6.2%	7.4%	-1.2%
Telecom Services	116	4.0%	5.2%	-1.2%
Energy	102	3.5%	7.0%	-3.5%
Utilities	73	2.5%	3.3%	-0.8%
Total Investments	\$2,833	97.5%	100.0%	
Cash Equivalents	73	2.5%	0.0%	2.5%
Total	\$2,906	100.0%	100.0%	

Benchmark: MSCI ACWI ex USA

International Manager Performance – Net of Fees
6/30/15

Manager Performance, Net of Fees

	<u>Market Value</u>	<u>1-Year</u>	<u>3-Years</u>	<u>5-Years</u>	<u>7-Years</u>	<u>Inception Date</u>
PIMCO Inter. Stocks Plus TR Strategy	\$1,036,632,167	-4.7%	12.9%	--	--	10/1/10
MSCU EAFE Net Div. Index (unhedged)		-4.2%	12.0%	--	--	
Wellington Inter. Research Equity	\$610,750,624	-2.9%	12.4%	10.6%	2.7%	12/1/05
S&P BMI World Ex-US Index		-4.4%	12.0%	9.9%	2.8%	
PIMCO Emerging	\$290,867,344	-9.8%	3.0%	--	--	10/1/10
MSCI Emerging Market Index		-5.1%	3.7%	--	--	
Baillie Gifford ACWI Ex-US Alpha Strategy	\$374,803,000	-0.2%	11.1	--	--	3/1/12
MSCI ACWI Ex-US		-5.3%	9.4%	--	--	
Marathon-London Inter. Fund	\$356,717,230	-0.4%	14.4%	--	--	2/1/12
MSCI EAFE Index		-4.2%	12.0	--	--	
LA Capital Emerging Market	\$324,825,498	-3.0%	4.1%	6.0%	--	12/8/09
MSCI Emerging Market Index		-5.1%	3.7%	3.7%	--	
T Rowe Price Inter. Core	\$228,242,965	-1.5%	--	--	--	4/1/14
MSCI EAFE Index		-4.2%	--	--	--	
Lazard Wilmington Inter. Equity Portfolio	\$224,550,000	-1.0%	--	--	--	5/1/14
MSCI EAFE Net Div. Index (unhedged)		-4.2%	--	--	--	
Templeton Inter. Smaller Companies Fund	\$209,236,708	-0.9%	13.7%	--	--	6/1/12
MSCI All Country World Index Ex-US Small-Cap		-3.1%	12.3%	--	--	
MFS Inter. Small-Cap Equity Fund	\$189,968,119	-2.2%	12.2%	--	--	5/1/12
MSCI All Country World Index Ex-US Small-Cap		-3.1%	12.3%	--	--	
Wellington Emerging Local Equity	\$203,649,399	-2.3%	8.0%	--	--	12/1/11
MSCI Emerging Market Index		-5.1%	3.7%	--	--	
SSGA Small-Cap Inter. Alpha Strategy	\$182,374,634	-1.7%	17.0%	14.3%	5.2%	5/1/07
S&P Developed Ex-US Small-Cap		-1.6%	14.9%	12.0%	4.8%	
Pimco EM Stock Plus	\$200,611,090	--	--	--	--	4/1/15
MSCI Emerging Market Index		--	--	--	--	

International Indexed Manager Performance, Net of Fees
6/30/15

	<u>Market Value</u>	<u>1-Year</u>	<u>3-Years</u>	<u>5-Years</u>	<u>7-Years</u>	<u>Inception Date</u>
SSgA PMI Fund	\$1,045,094,130	-5.0%	10.9%	9.2%	--	4/1/10
S&P Developed Ex US Large/Midcap		-4.9%	11.4%	9.4%	--	
Vanguard Developed Markets Fund	\$579,401,884	-3.9%	--	--	--	4/1/10
FTSE Developed Ex-NA Net*		4.0%	--	--	--	
SSgA EMI Fund – Europe/Pacific	\$796,683,069	0.6%	16.2%	12.8%	--	4/1/10
S&P EPAC Small-Cap		-1.6%	14.9%	12.0%	--	
Vanguard Emerging Market	\$664,260,741	-2.4%	4.2%	--	--	7/1/09
FTSE Emerging Index**		-2.2%	4.6%	--	--	

*Benchmark change as of 5/28/13.

**Benchmark change as of 6/27/13.

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

**REAL ESTATE AND
INFRASTRUCTURE REVIEW**

INVESTMENT ADVISORY COMMITTEE MEETING

SEPTEMBER 3, 2015



**Brian C. Liikala
Senior Investment Manager
Real Estate and Infrastructure Division**

EXECUTIVE SUMMARY

Performance

MPSERS Plan	1-Year	3-Years	5-Years	7-Years	10-Years
Annualized Return	14.8%	13.1%	13.1%	2.0%	6.0%
NCREIF NPI	11.5%	10.2%	11.3%	4.0%	6.8%
Peer Median Return	11.9%	12.4%	13.5%	2.4%	6.2%
Rank vs. Peers	32	43	54	51	54

- Total Real Estate and Infrastructure Division (REID) value was \$5.7 billion with a total one-year return of 14.8%. Strong performance was the result of increased rental income and valuations in apartments, hospitality, and industrial warehouse. Credit strategies have also bolstered the overall performance.

Strategy Update

- The REID strategy focused on developing apartments and industrial buildings in select urban markets, investing in under-managed office properties in markets that have strong economic fundamentals, adding value through leasing and improved management, and credit strategy investing thru mezzanine debt opportunities and transitional properties yielding attractive cash flow and total returns. Also, REID has gained exposure in Europe where pricing and returns are favorable.
- The REID has been selling core assets at historically low capitalization rates where increases in rental income is expected to be limited. The REID is also working with its advisors in executing the disposition of non-strategic properties in secondary markets at attractive values.
- The REID has approximately \$1.5 billion in unfunded commitments. New commitments closed during the quarter include:
 - \$160 million in Domain GVA-1, LLC, a mezzanine loan program on multifamily properties managed by the Related Group.
 - \$100 million in MIP Holdco, LLC, a separate account managed by Transwestern focusing on industrial warehouse in the United States.
 - \$64.5 million in Northpark-Land Associates, LLLP, a separate account managed by Domain Capital Advisors for the development of a mixed-use property in Atlanta, GA.
 - \$50 million in True North Real Estate Fund III, a closed ended, commingled fund investing in high-yield real estate debt instruments and select equity opportunities.
 - \$50 million in ArcLight Energy Partners Fund VI, LP, an energy fund focusing on power generation, energy production, and midstream operations primarily in North America.

- \$50 million in GSO Energy Select Opportunities Fund, LP, a North American energy infrastructure fund, managed by Blackstone Group.
- \$30 million in IPF II LP, managed by JP Morgan, focusing on middle-market, for-sale residential in India.

Market Environment

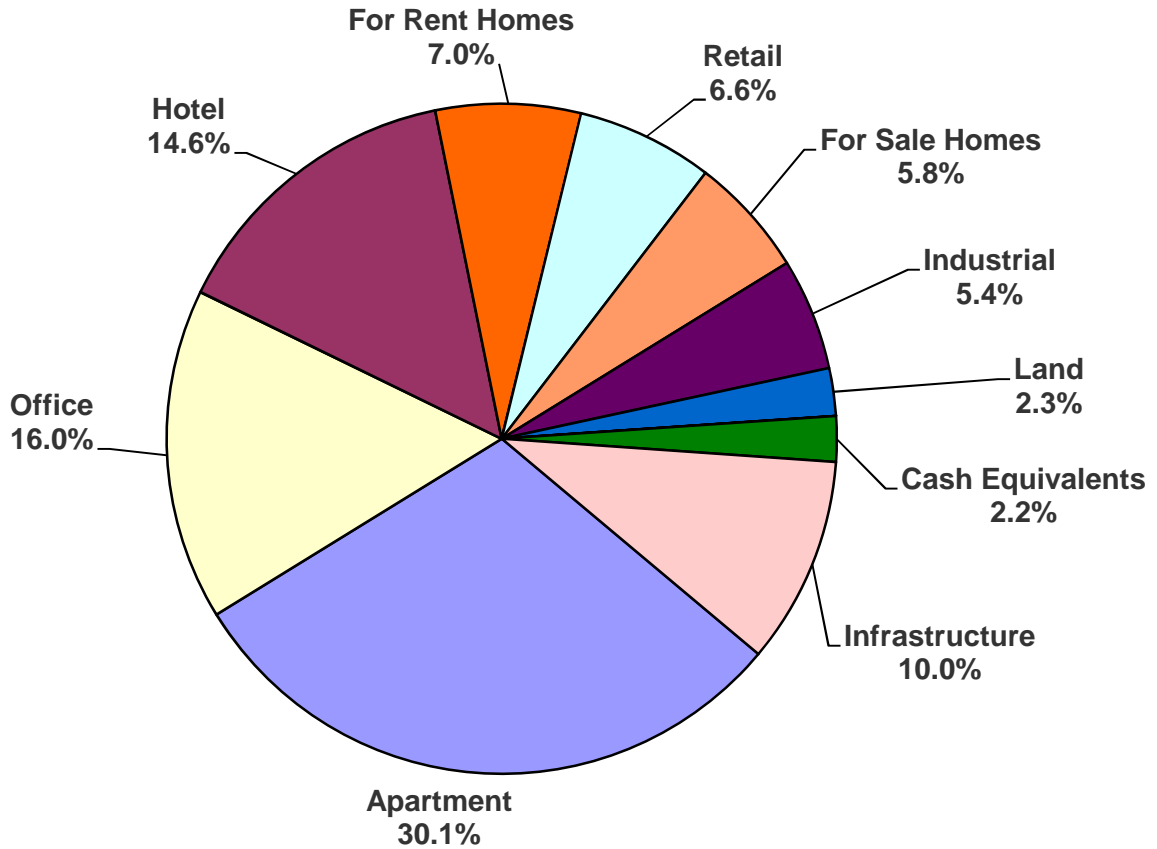
- High quality, cash flowing, core assets continue to be in high demand as investors, both domestic and international, seek current yield and long-term hold protection from volatility. In major markets including New York, San Francisco, and Boston, properties are trading at near record low capitalization rates. Secondary markets are being targeted by investors seeking higher yields. Development of apartments and condominiums in major urban markets has increased. Office and industrial construction has started in the major markets, the highest starts since 2007. Debt is fully available and competitive between lenders, resulting in low interest rates and attractive terms to borrowers.
- Fund flows to the infrastructure sector continue to remain robust, as investor interest in the asset class continues to grow with several funds raising over \$5 billion in capital. Opportunities include North American energy where distressed pricing is appearing, power generation, European transportation, and emerging market fundamental infrastructure projects.
- In the commercial mortgage-backed securities (CMBS) market, spreads over the swap rate for AAA-rated securities increased 4 basis points (bps) from the prior quarter and now stand at 93 bps. Commercial Mortgage Alert reported that CMBS issuance is projected to be over \$120 billion for 2015. A wave of refinancing for 2007 ten year vintage loans is on the horizon. New banking rules by the federal government could impact the number of lenders in the market in 2016. This could make it difficult for borrowers to refinance properties, but provide opportunities for non-bank lenders. Expect cost of borrowing to rise.



SMRS

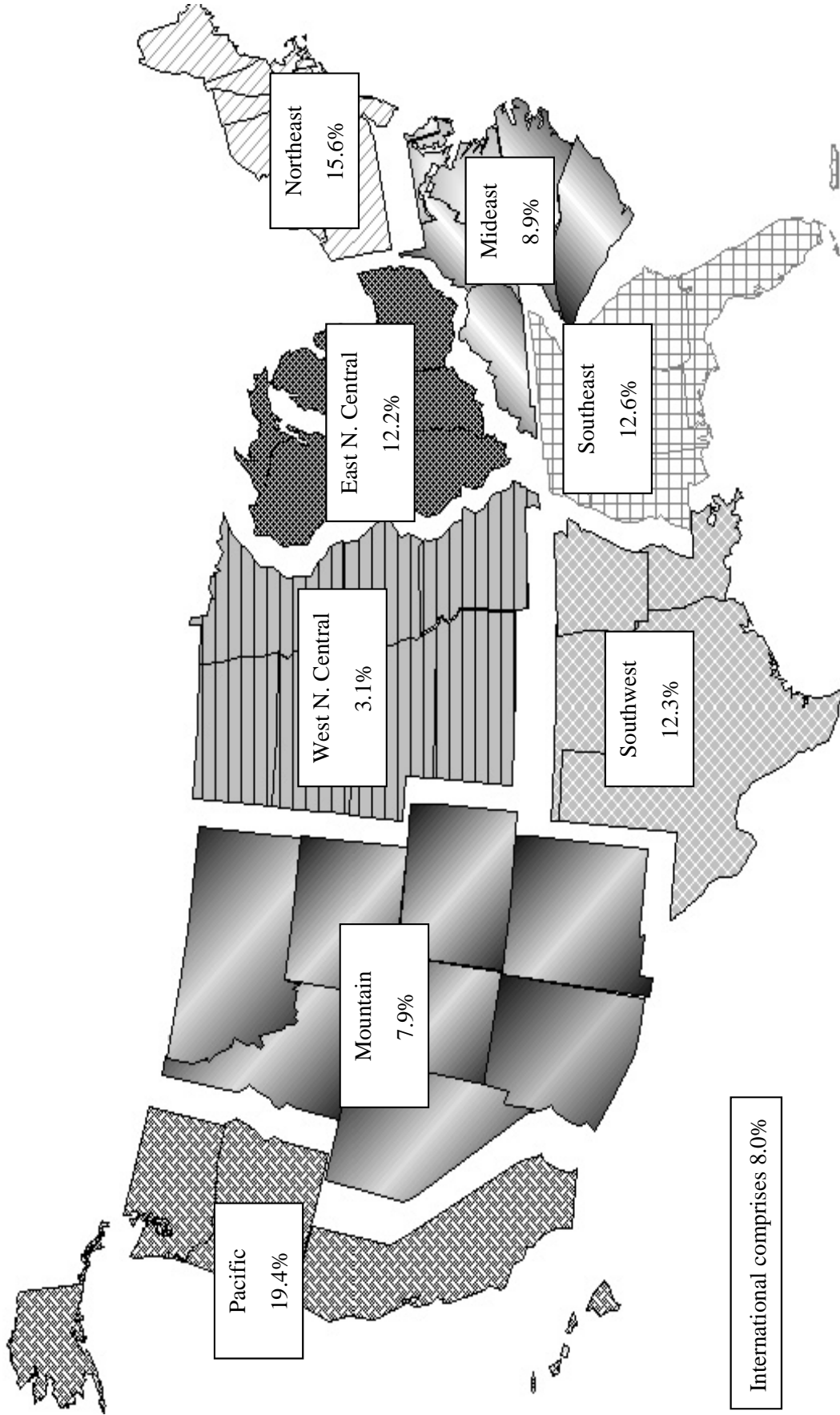
Real Estate and Infrastructure

6/30/15



Market Value in Millions				
	6/30/15		3/31/15	
Apartment	\$1,702	30.1%	\$1,689	30.4%
Office	908	16.0%	881	15.9%
Hotel	825	14.6%	896	16.1%
Infrastructure	564	10.0%	553	10.0%
For Rent Homes	397	7.0%	388	7.0%
Retail	374	6.6%	373	6.7%
For Sale Homes	329	5.8%	292	5.3%
Industrial	307	5.4%	309	5.6%
Land	133	2.3%	133	2.4%
	<u>\$5,539</u>	<u>97.8%</u>	<u>\$5,514</u>	<u>99.4%</u>
Cash Equivalents	<u>125</u>	<u>2.2%</u>	<u>36</u>	<u>0.6%</u>
Total Investments	<u>\$5,664</u>	<u>100.0%</u>	<u>\$5,550</u>	<u>100.0%</u>

SMRS
Real Estate by Region
Based on Net Market Value
 (excludes cash & cash equivalents)
 6/30/15



Geographic regions defined by NCREIF, whose property index composition is: Pacific 30.5%, Mountain 5.5%, West N. Central 1.5%, Southwest 10.7%, East N. Central 8.0%, Southeast 9.6%, Northeast 21.2%, Midwest 13.0%



SMRS
Real Estate and Infrastructure
6/30/15

**Top Ten
Advisors or Entity**

<u>Advisor or Entity</u>	<u>Net Market Value</u>
MWT Holdings, LLC (SHLP)	\$ 1,138,445,598
Clarion Partners (formerly ING Clarion)	599,841,730
Blackstone Group	564,342,118
Kensington Realty Advisors, Inc.	323,132,956
CIM Group, Inc.	259,740,680
Principal Real Estate Investors	228,111,641
Bentall Kennedy LP	227,867,430
Five Star Realty Partners, LLC	209,613,024
KBS Realty Advisors	156,645,852
GCM Customized Fund Investment Group	145,901,470
	\$ 3,853,642,499

**Occupancy
by Property Type**

	Apartment	Office	Industrial	Retail	Hotel
SMRS Portfolio	95.8%	88.0%	90.5%	94.4%	72.5%
National Average	93.2%	86.5%	90.2%	93.9%	61.1%



SMRS
Net Market Values by Ownership Entity
6/30/15

REAL ESTATE

	Net Market Value	Unfunded Commitment
801 Grand Avenue Capital, LLC	\$ 83,829,146	\$ 0
AGL Annuity Contract GVA 0016	268,100,759	0
Avanath Affordable Housing I, LLC	26,439,120	2,492,748
Avanath Affordable Housing II, LLC	18,094,012	10,735,365
Beacon Capital Strategic Partners IV, LP	13,845,863	0
Beacon Capital Strategic Partners V, LP	10,058,103	2,500,000
Blackstone R/E IH3 Co-Inv Partners	397,356,199	0
Blackstone Real Estate Partners V, LP	44,925,919	2,087,026
Blackstone Real Estate Partners VI, LP	69,798,025	4,080,193
Blackstone Real Estate Partners VIII, LP	0	75,000,000
Capri Select Income II	102,350	0
Capri Urban Investors, LLC	20,618,456	0
CIM Fund III, LP	110,675,580	0
CIM Fund VIII, LP	28,901,781	73,263,891
CIM Urban REIT, LLC	91,857,513	0
CIM VI (Urban REIT), LLC	28,305,806	0
City Lights Investments, LLC	26,933	0
Clarion Gables Multifamily Trust	25,000,000	0
Cobalt Industrial REIT	2,931,530	0
Cobalt Industrial REIT II	3,766,266	0
CPI Capital Partners N.A., LP	2,379,473	0
CPI Capital Partners N.A., Secondary, LP	6,775,681	0
Crown Small Cap Real Estate	3,031,448	22,000,000
Devon Real Estate Conversion Fund, LP	5,673,001	0
* Domain GVA-1, LLC	113,010,146	173,357,030
Domain Hotel Properties, LLC	407,322,127	0
Dynamic Retail Trust	74,655,253	0
Gateway Capital R/E Fund II, LP	62,413,184	1,276,875
Great Lakes Property Group Trust	307,847,162	0
Invesco Mortgage Recovery Feeder Fund	26,402,317	140,620
Invesco Mortgage Recovery Fund II, LP	18,798,620	56,727,273
* IPF II LP	3,534,103	26,465,897
JBC North LaSalle, LLC	6,500,000	15,600,000
JBC Opportunity Fund III, LP	16,182,244	0
JP Morgan India Property Fund II, LLC	16,942,510	24,957,089
KBS/SM Fund III, LP	101,330,299	0
L-A Saturn Acquisition	15,006,599	0
Landmark Real Estate Partners V, LP	19,910,535	3,900,000
LaSalle Asia Opportunity Fund II, LP	274,906	0
LaSalle Asia Opportunity Fund III, LP	22,422,119	1,250,000
Lion Industrial Trust	146,185,126	0
Lion Mexico Fund, LP	21,334,477	0
Lowe Hospitality Investment Partners	907,861	0
Lubert-Adler Real Estate Fund VII, LP	17,356,429	56,250,000
MERS Acquisitions, Ltd.	125,745,132	0
MG Alliance, LLC	14,806,609	0
* MIP Holdco, LLC	0	100,000,000
Morgan Stanley R/E Fund V - International	4,310,665	0

	Net Market Value	Unfunded Commitment
Morgan Stanley R/E Fund VI - International	36,115,600	0
Morgan Stanley R/E Fund V - U.S.	13,410,966	0
Morgan Stanley R/E Special Situations Fund III	58,492,487	0
MWT Holdings, LLC	1,138,445,598	47,800,000
* Northpark-Land Associates, LLLP	29,766,148	64,500,000
Orange Investors LLC	25,231,315	0
Paladin Realty Brazil Investors III (USA), LP	34,297,280	0
Paladin Realty Latin America Investors IV-CI, LP	12,921,031	31,055,360
Principal Separate Account	144,282,495	0
Proprium RE Spec Situations Fund LP	11,326,801	16,992,682
Rialto Real Estate Fund, LP	35,037,311	0
Rialto Real Estate Fund II, LP	46,130,717	0
Rialto Mezzanine Partners Fund	61,656,763	12,500,000
SM Brell II, LP	55,315,553	0
Stockbridge Real Estate Fund II-C, LP	33,212,360	0
Strategic LP	198,598,760	43,600,000
TPG RE Finance Trust	88,763,735	11,236,264
Trophy Property Development LP	54,977,028	7,408,100
True North High Yield Investment Fund II	30,788,618	5,000,000
* True North Real Estate Fund III	0	50,000,000
Venture Center, LLC	38,989,379	0
Western National Realty Fund II, LP	21,732,111	0
	\$ 4,975,183,443	\$ 942,176,413
Short-Term Investments and Other	104,382,339	0
Total Real Estate Investments	\$ 5,079,565,782	\$ 942,176,413

INFRASTRUCTURE

* ArcLight Energy Partners Fund VI, LP	\$ 0	\$ 50,000,000
ASF VI Infrastructure B LP	7,431,061	22,226,507
ASF Como Co-Investment LP	31,298,173	20,385,080
Balfour Beatty Infrastructure Partners, LP	22,989,757	27,407,779
Blackstone Energy Partners, LP	52,261,975	6,998,340
Blackstone Energy Partners II	0	85,000,000
Brookfield Infrastructure Fund II-B, LP	31,371,381	17,523,000
Customized Infrastructure Strategies, LP	87,954,988	8,678,303
Dalmore Capital Fund	68,225,923	0
First Reserve Energy Infrastructure Fund II, LP	3,341,927	70,758,379
GCM Grosvenor Infrastructure Investment Program, LP	51,605,925	0
GCM Grosvenor Customized Infrastructure Strategies II, LP	6,340,557	53,659,443
* GSO Energy Select Opportunities Fund LP	0	50,000,000
JP Morgan AIRRO India Sidecar Fund US, LLC	74,689,958	5,033,815
JP Morgan AIRRO Fund II US, LLC	13,309,480	83,384,246
KKR Eagle Co-Invest GP LTD	15,417,457	14,582,543
KKR Global Infrastructure Investors, LP	69,232,641	11,215,625
StonePeak Infrastructure Fund LP	28,771,779	50,522,173
	\$ 564,242,982	\$ 577,375,233
Short-Term Investments and Other	20,035,342	0
Total Infrastructure Investments	\$ 584,278,324	\$ 577,375,233
TOTAL INVESTMENTS	\$ 5,663,844,106	\$ 1,519,551,646

* New or additional commitment made during the quarter reported

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

BASKET CLAUSE REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

SEPTEMBER 3, 2015



**Karen M. Stout, CPA, CGFM, Administrator
Trust Accounting Division**



SMRS

Basket Clause Investments

6/30/15

<u>Asset Class</u>	<u>Value</u>
Total Absolute Return	\$4,341,452,570
Total Real Return and Opportunistic	842,014,423
Total International Equity	324,825,498
Total Long-Term Fixed Income	<u>40,277,940</u>
Total Basket Clause Investments	<u>\$5,548,570,431</u>

The basket clause investments at June 30, 2015, were \$5.5 billion or 9.0% of the total portfolio value of \$61.7 billion.

The Public Employee Retirement System Investment Act, 1965 PA 314, MCL 38.1132 *et seq*, authorizes the State Treasurer to invest up to 30% of the system's assets in investments "not otherwise qualified under the act." MCL 38.1140d(1). Commonly referred to as Section 20d (after the authorizing section of PA 314) or Basket Clause investments, this provision gives the State Treasurer the flexibility to take advantage of market opportunities not specifically authorized in PA 314 while conserving protections against imprudent investment.

Disclaimer



This presentation was given solely for the purpose of explaining the structure, investment process, and returns for the State of Michigan Retirement Systems. It should not be interpreted in any way as financial advice.

