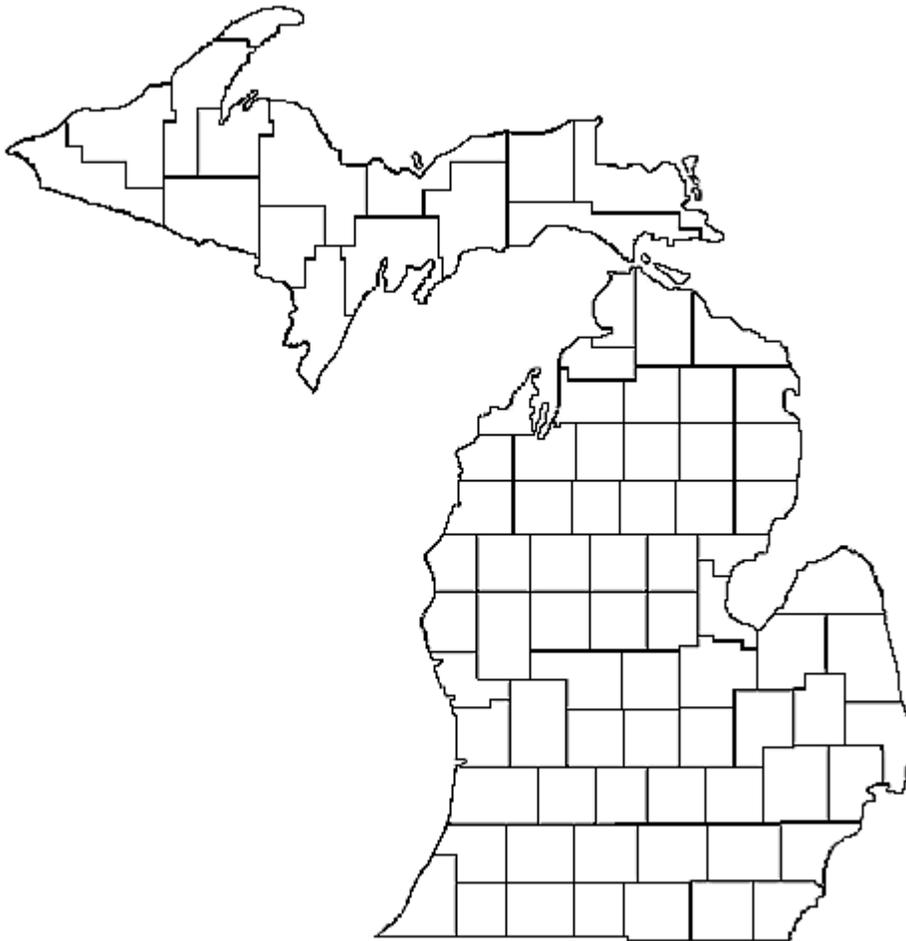


INVESTMENT ADVISORY COMMITTEE MEETING

June 4, 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

JUNE 4, 2015

Agenda



- 9:30 a.m. Call to Order
Nominate IAC Chair
Opening Remarks
- 9:40 a.m. Approval of Minutes of 3/5/15, IAC Meeting
- 9:45 a.m. Executive Summary & Performance for Periods Ending 3/31/15
- 10:00 a.m. Current Asset Allocation Review

Markets Review and Outlook
- 10:15 a.m. Round Table Discussion ~ Key Take-away from each Asset Class

Review of Investment Reports – *Receive and File*
- Absolute and Real Return/Opportunistic
 - Domestic Equity
 - Fixed Income
 - International Equity
 - Private Equity
 - Real Estate & Infrastructure
- Basket Clause – *Receive and File*
- 11:00 a.m. Closing Remarks ~ Adjournment



2015 Meeting Schedule

Thursday, September 3, 2015
Tuesday, December 1, 2015

All meetings start at 9:30 a.m.

www.michigan.gov/treasury

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

MINUTES

INVESTMENT ADVISORY COMMITTEE MEETING

JUNE 4, 2015



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

INVESTMENT ADVISORY COMMITTEE

The Investment Advisory Committee (IAC) held its quarterly meeting on Thursday, March 5, 2015, at the Bureau of Investments, Great Lakes Conference Room, 2501 Coolidge Road, Suite 400, East Lansing, Michigan.

Members Present:

Nick A. Khouri, Chairman
James Nicholson – via phone
L. Erik Lundberg - via phone
Allan Pohl, LARA
John Roberts, DTMB

In attendance from the Department of Treasury:

Treasurer R. Kevin Clinton,
Robert L. Brackenbury
Karen Stout
Dan Quigley
Dick Holcomb
Camille Wood
Janet Sudac

Jon M. Braeutigam
Jim Elkins
Brian Liikala
Amanda Ellis
Ann Storberg
Ann Stange
Emma Khavari

Gregory J. Parker
Peter Woodford
Jack Behar
Woody Tyler
David Klauka
Marge McPhee

Others in attendance:

Max Kotary
Karl Borgquist
June Morse

Steve Cummings
Kevin Sullivan

Tim McEnery
Joe Hernandez

Call to Order

- Chairman Khouri called the March 5, 2015, IAC meeting to order at 9:29 a.m. and thanked everyone for attending the meeting.
- Chairman Khouri noted that almost every asset class did well in 2014.
- He reflected on the performance of the plan and congratulated staff on the positive returns for 2014.
- Chariman Khouri thanked staff for the modifications made to the IAC book noting it's easy to read and nicely done.

Approval of Minutes of December 3, 2014

- Chairman Khouri asked for a motion to approve the minutes of the September 5, 2014, IAC meeting. Mr. Jim Nicholson so moved, seconded by Mr. John Roberts; there were no objections – so approved.

Executive Summary – Performance Section

- Mr. Jon Braeutigam discussed the performance section of the Executive Summary and noted that over the past ten, five, and one year periods the fund returns have substantially exceeded the peer median.
- Mr. Braeutigam explained that the plan (SMRS) has somewhat more equity exposure than peers and U.S. equity markets are positive roughly 70% of the time.
- Mr. Braeutigam discussed peer comparison, benchmarks, and the plan's funded status.
- There was a discussion regarding peer rankings and percentages.
- Mr. Braeutigam touched on additional challenges such as lower interest rates, levels of liquidity, and the percent of the fund in legal commitments. He cautioned that future long-term returns are expected to moderate.

Executive Summary – Asset Allocation, Capital Markets, and Economic Backdrop Sections

- Mr. Greg Parker reviewed the Asset Allocation Section of the Executive Summary noting that the plan is still very much underweight relative to peers in fixed income and becoming more underweight, given the fund's 8% actuarial rate of return target.
- The U.S. equity market had a great year with double-digit returns, which was much better than cash. The U.S. outperformed non-U.S., and large cap outperformed small cap.
- The economic backdrop shows the U.S. economy doing better than the rest of the world.
- There was \$1.5 billion in new commitments during the last quarter. These commitments vary in funding duration.
- New commitment information was added to the Executive Summary of the IAC book to provide transparency. This information is also located under each asset class section.

Guest Speaker - Mr. Max Kotary, Partner of Aon Hewitt

- Mr. Max Kotary, Partner, began his presentation noting that the performance of the plan was favorable relative to both its policy benchmark and to its peers for 2014.
- Mr. Kotary explained total fund attribution beginning with the performance of the fund during 2014 versus the total fund benchmark and total value added. He explained how the total value added was calculated.
- He discussed asset allocation relative to policy.
- Mr. Kotary laid out the framework of measuring asset allocation relative to the average peer noting that how the plan performed relative to policy is a large part of this formula.
- He explained the policy weight of the different asset classes in comparison to the peer average allocation weight noting the weight difference and excess return.
- Mr. Kotary noted that the portfolio beat the average peer in 2014 by about 4.5%. The performance of the plan was very good in 2014.

- There was a good discussion on several points of interest and Mr. Kotary answered several questions during his presentation.

Markets Review and Outlook

- Mr. Greg Parker reported on the markets. The total market value of the fund, as of December 31, 2014, was \$60.7 billion.
- Mr. Parker discussed the U.S. dollar strength stating that the dollar has been stronger in the past; while it is strengthening, it is not yet as strong as in the past.
- The U.S. 10-year Treasury is yielding higher than most developed market sovereign debt. Capital is likely to flow into the U.S. through the Treasury which will create a stronger U.S. market than most other developed markets. This leads to two main observations:
 1. When the dollar weakens the price of oil goes up and when the dollar strengthens the price of oil goes down. This has been the case since about 2003. A stronger dollar will lead to weakening in oil prices.
 2. As the dollar strengthens, the S&P 500 tends to outperform MSCI EAFE by about 8% and when the dollar is weakening it tends to underperform MSCI EAFE by about 6%. So if the dollar is strengthening, there may also be outperformance of the U.S. relative to foreign developed markets.
- There was a lengthy discussion on the strengthening and weakening of the dollar.

Absolute and Real Return

- Mr. Jim Elkins reported on absolute and real returns investments. The total market value as of December 31, 2014, was \$7.4 billion.
- Focusing on the absolute portfolio, Mr. Elkins explained that plan has now reduced the fund-to-fund managers to two.
- He discussed the investment target for hedge funds and target returns above investment grade fixed income with lower volatility than the equity portfolio.
- Mr. Elkins noted that it is a challenge to significantly reduce fees in this portfolio. The number of managers has been reduced by eleven in the fourth quarter alone.

Domestic Equity

- Mr. Jack Behar reported on domestic equity investments. The total market value as of December 31, 2014, was \$19.2 billion.
- Mr. Behar discussed that the Stock Analysis division's portfolio trades at a significant discount to its benchmark, the S&P 1500, at the cost of an index fund.
- Three internally managed funds currently rank in the top ten percent of peers from a performance standpoint on a three-year basis.
- Going forward, the plan will continue to look for ways to drive up returns and drive down fees by concentrating and scaling its investments primarily in value-oriented invested managers.

Fixed Income

- Mr. Daniel Quigley reported on fixed income investments. The total market value as of December 31, 2014, was \$7.1 billion.
- The plan prefers to capture return income rather than capital gains as protection against a rising interest rate environment.
- It is very challenging to predict interest rates in the year ahead.
- The plan tends to manage a very high quality portfolio with lower volatility.
- Going forward, the plan will continue to monitor liquidity concerns in corporate bond trading and to identify opportunities in inefficient markets.

International Equity

- Mr. Richard Holcomb reported on international equity investments. The total market value as of December 31, 2014, was \$8.9 billion.
- The plan uses a combination of passive, stockplus, and actively managed strategies to gain exposure to international equity returns for both developed and emerging markets.
- The stockplus strategies, both internal and external, are using fixed income securities with attractive credit spreads and higher yields combined with stock index derivative overlays to achieve their goals.
- Active managers are experiencing better market environments for their strategies, including greater return dispersion, but negative currency exchange impacts continue.
- The plan will continue to remain slightly underweight to targeted asset allocations while the U.S. dollar is in a strengthening phase.
- The longer-term objective is to move to a higher targeted weight for international equities as a global recovery slowly develops.

Private Equity

- Mr. Peter Woodford reported on private equity investments. The total market value as of December 31, 2014, was \$9.9 billion.
- Mr. Woodford noted that due to accommodative credit markets and an improving U.S. macro economy, current market conditions favor asset sellers rather than buyers. It is believed this trend will continue until credit markets tighten or asset prices peak.
- The biggest challenge is putting capital to work in this environment of easy credit and high asset prices.
- The plan will take advantage of what the market provides including potentially evaluating energy credit funds due to the dislocation in the energy sector, secondary funds due to institutional investors rebalancing portfolios, the Volcker Rule and Basel III requirements, and buyout funds with specific investment themes.

Real Estate and Infrastructure

- Mr. Brian Liikala reported on real estate and infrastructure investments. The total market value as of December 31, 2014, was \$5.6 billion.
- Mr. Liikala reported one of the challenges the division faces is being given first access to deal flow. An experienced team of managers stays very active in growing and maintaining relationships.
- Going forward the plan will continue to sell assets and be cautious on equity real estate due to high pricing.
- The best value is staying active in the debt market by investing in various pieces of the capital stack via mezzanine, preferred equity, transitional loans, and recapitalization. These investments provide early distribution returns at an acceptable level of risk for these properties.

Asset Allocation and Basket Clause

In the spirit of time, these reports were received and filed.

Next Meeting Date and Adjournment

The next Investment Advisory Committee Meeting is scheduled for Thursday, June 4, 2015. The meeting was adjourned by Chairman Khouri at 10:59 am.

Approved:

Chairman

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

EXECUTIVE SUMMARY

INVESTMENT ADVISORY COMMITTEE MEETING

JUNE 4, 2015



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

EXECUTIVE SUMMARY

March 2015

Performance

An overview.

MPSERS Plan (3/31/15)	1-Year	3-Years	5-Years	7-Years	10-Years
Annualized Returns	9.3%	11.8%	10.9%	6.5%	7.5%
Policy Return	8.9%	11.8%	10.9%	7.1%	7.4%
Peer Median Return	7.0%	10.1%	9.9%	6.0%	6.9%
Rank vs. Peers	8	11	8	34	13
Number of Peers	39	38	37	36	33

- For the periods ending March 2015; the past one, three, and five years have been especially strong as the markets have rebounded from the 2008-09 financial crisis.
- The returns exceeded the policy benchmark over the past year by 0.4%. The largest contributions for the relative performance can be attributed to good selectivity in real estate, international equity and real return & opportunistic. An underweight to fixed income also helped to outperform the policy benchmark.
- 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 2.3% and ranking in the top decile. The outperformance to the peer median over the past year was helped by superior selectivity in domestic equity, private equity, real estate as well as international equity. The overweight in real estate as well as the underweight to fixed income and international equity compared to peers also added relative value.
- Over the past year, most asset classes earned returns at or in excess of the performance benchmarks. Domestic equity returns ranked in the top decile compared to peers.

Asset Allocation

Building up commitments in private markets.

- The combined systems paid out approximately \$2.1 billion net of contributions over the past twelve months ending in March 2015; 3.4% of the March 2015 AUM.
- Over the past year, the plans put to work \$1.6 billion in absolute return strategies. Over the same time period, the plans reduced the allocation to private equity by \$1.7 billion, real return & opportunistic by \$0.8 billion, real estate and domestic equity by \$0.7 billion each, and international equity by \$0.2 billion. The allocation to short term cash increased by \$0.4 billion.
- According to the State Street peer universe data, the peer median allocation for the long-term fixed income asset class is 22.9% versus the plan's allocation of 11.8%. The strategic target allocation for fixed income is now 10.5%. With the 10-year U.S. Treasury yielding approximately 2% and cash yielding approximately 10 basis points (bps) at the end of April, 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 \$7.6 billion in illiquid asset classes, primarily private equity. This figure is about 12.4% of the March 2015 market value and is an additional liquidity consideration. In the March 2015 quarter, nearly \$1.1 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 12.5% over the past year, 16.2% over the past three years, and 14.6% per year over the past five years ending March 2015.
- International equities continue to lag however. Over the past one, three, five, seven, and ten years ending March 2015, the broad international market index, MSCI ACWI ex USA, underperformed the S&P 1500 index by 13.6%, 9.8%, 9.8%, 8.0%, and 2.8% annualized respectively.
- Globally, rates are very low. As of March 2015, the 10-year Japanese rate was 0.4% and the German rate was roughly 0.2%. Spanish and Italian rates were both about 1.2%. It is difficult to see how U.S. 10-year rates could rise very much until other sovereign rates also increase.
- At the end of March 2015, commodity prices, as measured by the Thomson Reuters CRB Index, collapsed by a third since June 2014. Since its peak in 2008, prices are down by more than 55%, and prices are now less than 10% away from the March 2009 levels.
- There has been some pull back in the REIT index. As of April 2015, the index is 10% 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 0.2%, below the consensus estimate of 1.0%. Current estimates for 2015 GDP growth for the U.S. is 2.8%. Coincidental economic indicators such as the Institute for Supply Management's Manufacturing and Non-Manufacturing PMI Indexes are nicely 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 at least until September 2016 in order to fight deflation in the Eurozone.
- 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 5.5%, 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.

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

PERFORMANCE

**FOR PERIODS ENDING
MARCH 31, 2015**

INVESTMENT ADVISORY COMMITTEE MEETING

JUNE 4, 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.*

MPERS PENSION

Time-Weighted Rates of Return
Periods Ending March 31, 2015

	% of Portfolio 03/31/15	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	7.5	13	6.5	34	10.9	8	11.8	11	9.3	8	1.9	77
Median - Greater than \$10 Billion ²		6.9		6.0		9.9		10.1		7.0		2.3	
MPERS Total Plan Policy		7.4		7.1		10.9		11.8		8.9		2.8	
DOMESTIC EQUITIES	30.7	8.4	31	9.6	33	14.4	52	16.8	14	12.5	27	1.1	96
Median ²		7.9		9.0		14.6		15.8		11.8		2.1	
S&P 1500 Index		8.3		9.3		14.6		16.2		12.5		1.4	
PRIVATE EQUITIES	16.1	14.0	5	9.1	11	16.0	8	16.2	15	12.6	21	2.3	19
Median ²		10.9		6.9		12.5		13.0		10.2		1.0	
Alternative Blended Benchmark ³		12.3		13.6		19.8		23.5		16.9		5.6	
INTERNATIONAL EQUITIES	15.0	5.1	77	2.4	34	6.1	67	8.1	50	2.1	22	4.7	27
Median ²		5.9		2.2		6.5		8.1		0.0		3.9	
International Blended Benchmark ⁴		4.4		1.5		4.8		6.8		-0.8		3.5	
BONDS	11.8	5.7	26	5.6	35	5.1	60	3.9	54	5.7	39	2.0	42
Median ²		5.2		5.3		5.5		4.0		5.1		1.8	
Barclays Aggregate		4.9		4.7		4.4		3.1		5.7		1.6	
REAL ESTATE & INFRASTRUCTURE	9.1	6.1	47	1.6	54	12.9	46	12.9	42	16.4	31	1.5	74
Median ²		5.7		2.0		12.7		12.0		14.0		3.1	
NCREIF - Property Blended Index ⁵		7.0		3.6		11.3		10.1		11.3		3.2	
NCREIF Open Fund Index Net		6.0		2.2		13.4		11.6		12.4		3.2	
ABSOLUTE RETURN	7.0			0.4		5.9		7.9		4.1		1.6	
HFR I FOF Cons 1 month lagged				0.7		3.4		4.7		2.7		1.6	
REAL RETURN AND OPPORTUNISTIC	6.1					10.4		12.1		9.9		0.7	
50% (CPI +500 bps) + 50% (8% actuarial rate)						7.4		7.0		6.5		1.9	
CASH EQUIVALENTS	4.2	1.5		0.8		0.3		0.4		0.4		0.1	
1 Month T-Bill		1.3		0.2		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.

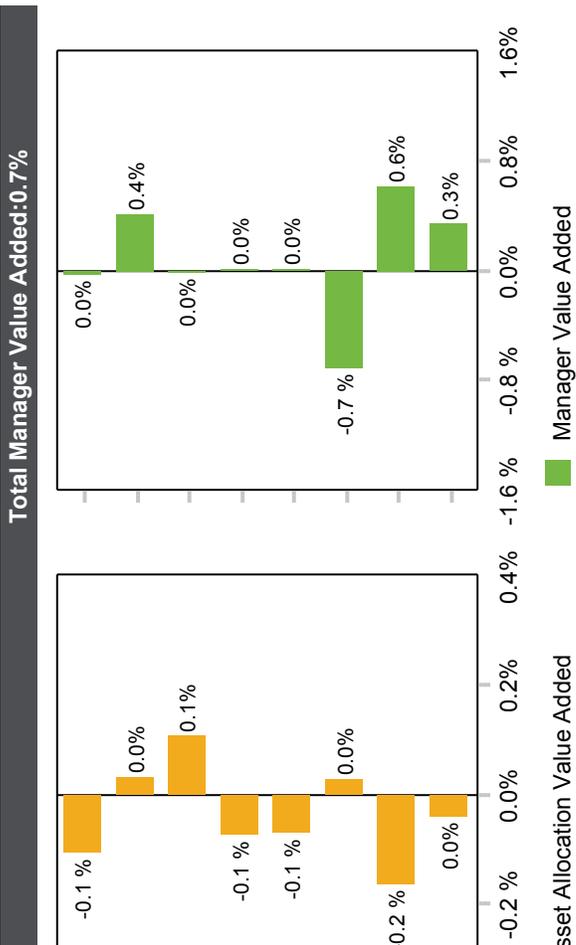
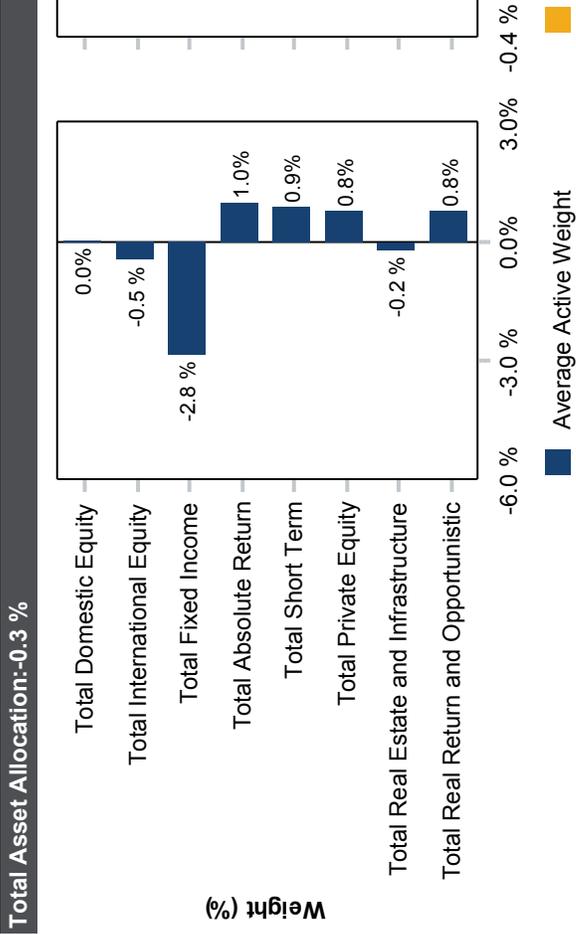
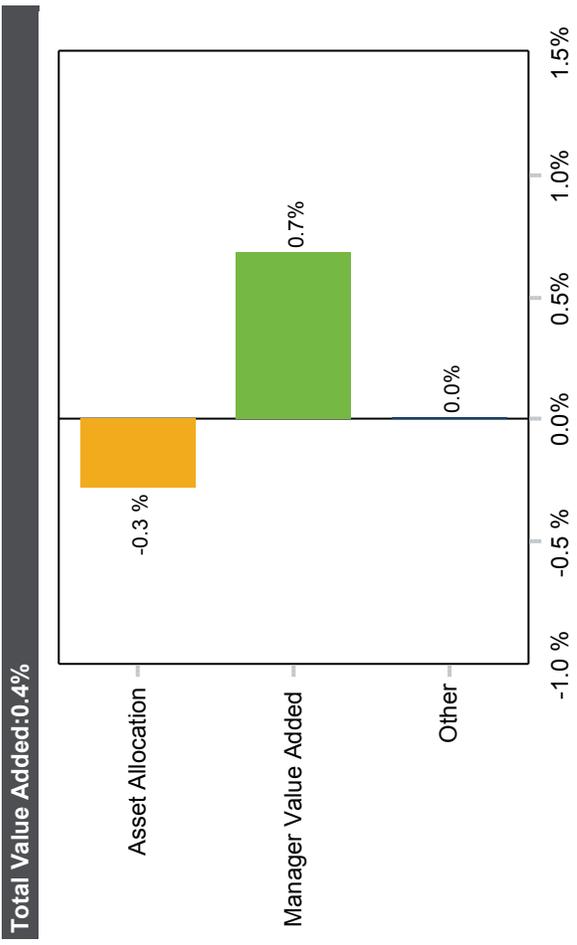
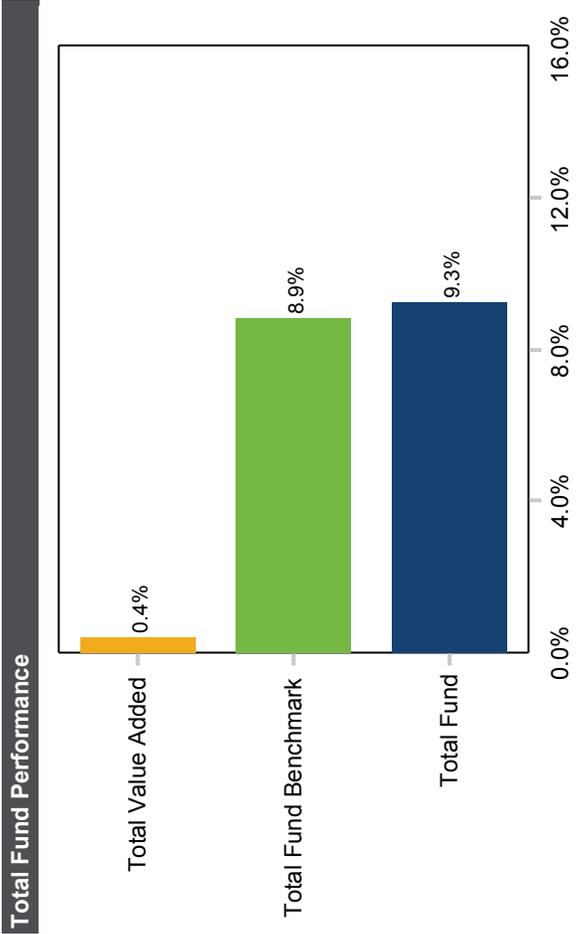
⁴ International blended benchmark is S&P Developed BMI-EPAC 50/50 prior to 1/1/2010. S&P Developed BMI-EPAC 75 USD / 25 Local, 1/1/2010 to 9/30/10. MSCI ACWI Ex USA Gross 10/1/2010 to present.

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. Policy Benchmark



Cumulative and Consecutive Total Fund Returns

MPSERS

Cumulative For Years Ending 3/31/15

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MPSERS	9.3	12.4	11.8	10.0	10.9	13.0	6.5	6.1	6.7	7.5
Public Plan - Median (> \$10 billion)*	7.0	9.9	10.1	8.7	9.9	12.7	6.0	5.6	6.3	6.9
Rank	8	8	11	6	8	43	34	17	17	13
bp Difference - Median	229	252	168	129	95	34	50	47	43	59
Consecutive For Years Ending										
	03/15	03/14	03/13	03/12	03/11	03/10	03/09	03/08	03/07	03/06
MPSERS	9.3	15.7	10.4	5.0	14.2	24.3	-25.5	3.3	12.1	15.0
Public Plan - Median (> \$10 billion)*	7.0	13.1	10.6	4.4	13.8	29.4	-28.0	1.8	12.1	14.2
Rank	8	8	57	34	34	84	24	22	51	32
bp Difference - Median	229	263	-18	57	42	-504	251	143	-3	73

MSERS

Cumulative For Years Ending 3/31/15

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MSERS	9.2	12.4	11.7	10.0	10.8	12.9	6.4	5.9	6.6	7.4
Public Plan - Median (> \$1 billion)*	6.7	9.9	10.0	8.7	9.8	12.7	6.0	5.5	6.2	6.9
Rank	8	6	8	8	11	46	43	26	23	16
bp Difference - Median	249	250	172	125	97	18	32	41	39	56
Consecutive For Years Ending										
	03/15	03/14	03/13	03/12	03/11	03/10	03/09	03/08	03/07	03/06
MSERS	9.2	15.6	10.4	4.8	14.1	24.1	-25.7	3.1	12.1	15.0
Public Plan - Median (> \$1 billion)*	6.7	13.0	10.4	4.3	13.9	29.5	-28.0	1.7	11.8	14.2
Rank	8	11	51	27	42	89	27	20	41	32
bp Difference - Median	249	260	-2	58	20	-541	234	140	27	76

*State Street Public Funds Universe

Cumulative and Consecutive Total Fund Returns

MSPRS

Cumulative For Years Ending 3/31/15

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MSPRS	9.2	12.3	11.7	9.9	10.8	12.8	6.3	6.0	6.6	7.5
Public Plan - Median (> \$1 billion)*	6.7	9.9	10.0	8.7	9.8	12.7	6.0	5.5	6.2	6.9
Rank	8	7	9	8	10	46	45	25	23	16
bp Difference - Median	248	244	167	123	98	12	30	43	42	59
Consecutive For Years Ending										
	03/15	03/14	03/13	03/12	03/11	03/10	03/09	03/08	03/07	03/06
MSPRS	9.2	15.5	10.4	4.9	14.3	23.6	-25.5	3.4	12.2	15.0
Public Plan - Median (> \$1 billion)*	6.7	13.0	10.4	4.3	13.9	29.5	-28.0	1.7	11.8	14.2
Rank	8	14	53	27	41	89	25	16	41	32
bp Difference - Median	248	250	-6	64	34	-585	249	169	35	82

MJRS

Cumulative For Years Ending 3/31/15

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MJRS	9.1	11.9	11.3	9.7	10.6	12.4	6.1	5.7	6.4	7.2
Public Plan - Median (> \$1 billion)*	6.7	9.9	10.0	8.7	9.8	12.7	6.0	5.5	6.2	6.9
Rank	8	10	14	15	17	65	50	41	37	31
bp Difference - Median	234	206	135	99	77	-36	3	19	18	32
Consecutive For Years Ending										
	03/15	03/14	03/13	03/12	03/11	03/10	03/09	03/08	03/07	03/06
MJRS	9.1	14.9	10.2	4.9	14.2	21.7	-24.9	3.4	12.0	14.4
Public Plan - Median (> \$1 billion)*	6.7	13.0	10.4	4.3	13.9	29.5	-28.0	1.7	11.8	14.2
Rank	8	22	59	27	42	92	22	17	43	43
bp Difference - Median	234	187	-26	62	28	-782	305	168	17	22

*State Street Public Funds Universe

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

ASSET ALLOCATION REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

JUNE 4, 2015

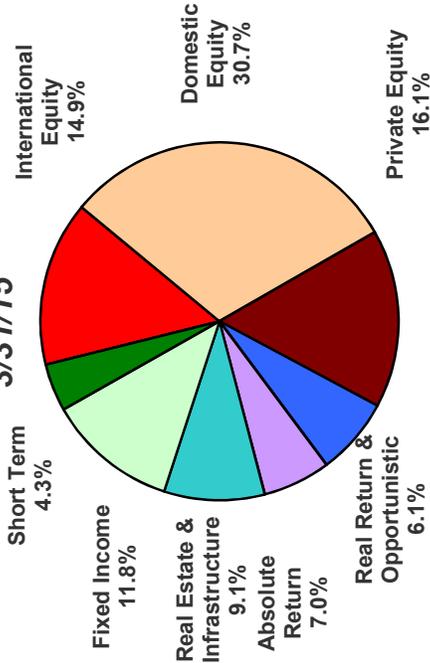


**Jon M. Braeutigam
Chief Investment Officer
Bureau of Investments**



STATE OF MICHIGAN RETIREMENT SYSTEMS PROFILE - MARCH 2015

Asset Allocation 3/31/15



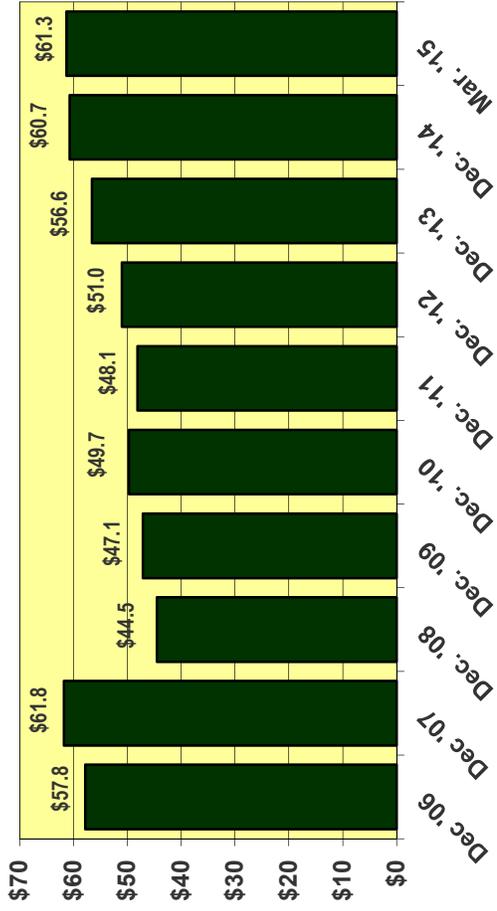
Asset Allocation By Market Value (In Millions)

Investment Strategies	3/31/15	12/31/14
Domestic Equity	\$18,807	\$19,164
Private Equity	9,882	9,888
International Equity	9,166	8,945
Fixed Income	7,250	7,108
Real Estate & Infra.	5,550	5,550
Absolute Return	4,291	3,854
Real Return & Opport.	3,719	3,501
Short Term***	2,660	2,642
TOTAL	\$61,325	\$60,652

Short Term Equivalents (in Billions)

Short Term Strategy***	\$2.7
Short Term in Other Inv. Strategies	0.9
TOTAL SHORT TERM	\$3.6
	5.9% of Total Funds

Market Value* (Billions of Dollars)



Market Value By Plan ~ 3/31/15 (in Millions)

	Pension Plan Mkt. Value	OPEB** Mkt. Value	Combined Mkt. Value	%
MPERS	\$44,105	\$3,321	\$47,426	77.3%
MSERS - (closed)	11,054	1,217	12,271	20.0%
MSPRS	1,270	87	1,357	2.2%
MJRS - (closed)	270	1	271	0.5%
TOTAL	\$56,699	\$4,626	\$61,325	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

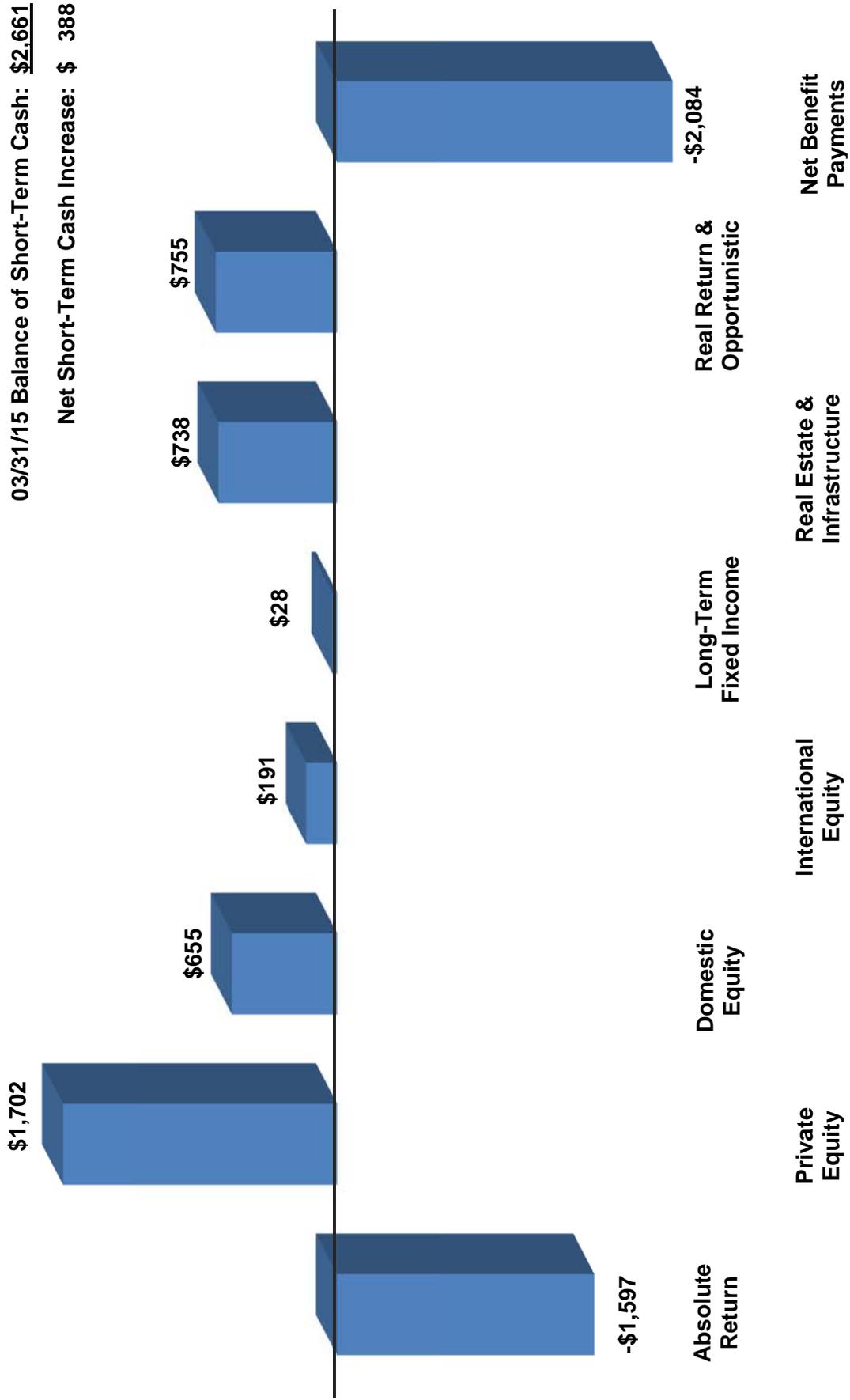
*The combined net payout for the plans for FY 2014 was \$2.1 billion with \$17.8 billion paid out since 2008 (SOMCAFR). This represents the amount paid to beneficiaries in excess of employer and employee contributions.

**OPEB - Other Post Employment Benefits

Sources and Uses of Cash

April 2014 ~ March 2015

04/01/14 Balance of Short-Term Cash: \$2,273
 03/31/15 Balance of Short-Term Cash: \$2,661
 Net Short-Term Cash Increase: \$ 388



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 3/31/15

Asset Class	MPSERS			MSERS			MSPRS			MJRS			SMRS
	Actual	Target	Target*	Ranges									
	3/31/15	9/30/15	9/30/16	3/31/15	9/30/15	9/30/16	3/31/15	9/30/15	9/30/16	3/31/15	9/30/15	9/30/16	
Broad U.S. Equity	30.7%	29.2%	28.0%	30.6%	29.2%	28.0%	30.5%	29.2%	28.0%	30.5%	29.2%	28.0%	20% - 50%
Private Equity	16.1%	17.6%	18.0%	16.1%	17.6%	18.0%	16.1%	17.6%	18.0%	16.2%	17.6%	18.0%	10% - 25%
Broad Int'l Equity	15.0%	15.6%	16.0%	15.0%	15.6%	16.0%	14.9%	15.6%	16.0%	15.0%	15.6%	16.0%	10% - 20%
U.S. Fixed Income Core	11.8%	11.1%	10.5%	11.8%	11.1%	10.5%	11.8%	11.1%	10.5%	11.9%	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%	9.1%	9.5%	10.0%	0% - 15%
Real Return / Opportunistic	6.1%	7.2%	9.5%	6.1%	7.2%	9.5%	6.1%	7.2%	9.5%	6.1%	7.2%	9.5%	0% - 15%
Absolute Return	7.0%	5.6%	6.0%	7.0%	5.6%	6.0%	7.0%	5.6%	6.0%	7.0%	5.6%	6.0%	0% - 12%
Cash	4.2%	4.2%	2.0%	4.3%	4.2%	2.0%	4.5%	4.2%	2.0%	4.2%	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

JUNE 4, 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	11.9%	26.0%	12.3%	Hold
International Equity	9.6%	21.5%	5.5%	Hold
Domestic Equity	8.5%	19.4%	8.3%	Trim
Real Estate (Core)	6.8%	12.5%	7.0%	Trim
Absolute Return	6.8%	8.0%	5.3%	Add
Real Ret/Oppportunistic	8.3%	12.6%	7.5%	Add
Long-Term Fixed	3.1%	3.5%	4.9%	Hold
Short-Term	2.2%	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 12.5% over the past year, 16.2% over the past three years, and 14.6% per year over the past five years ending March 2015. Technical price trends look good but valuations are above normal.
- International equities continue to underperform domestic. Over the past one, three, five, seven, and ten years ending March 2015, the broad international market index, MSCI ACWI ex USA, underperformed the S&P 1500 index by 13.6%, 9.8%, 9.8%, 8.0%, and 2.8% annualized respectively. Technical price trends are good, but the U.S. dollar looks to be the swing-factor.
- The 10-year U.S. Treasury closed March 2015 at 1.9%, 80 basis points (bps) lower than one year prior. The curve is still fairly steep, about 50 bps higher than average.
- 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 March 2015, commodity prices, as measured by the Thomson Reuters CRB Index, collapsed by a third since June 2014. Since its peak in 2008, prices are down by more than 55%, and prices are now less than 10% away from the March 2009 levels.

Domestic Equity

Large caps continue to run.

- 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 looks very healthy. The small-cap price trend is noticeably weaker and given the stretched relative valuations, continued weakness and underperformance is not unlikely. The broad domestic market index, S&P 1500, returned 12.5% over the past year, 16.2% over the past three years, and 14.6% per year over the past five years ending March 2015.
- 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 March 2015, large has annually outperformed small by 4.5%. Over the past three and five years, large has matched small-cap returns. Over the past year, growth handily beat value by 6.8%; and over the past five, seven, and ten years by 2-3% annually. However, over the last three years, the returns in value and growth style returns were about even.
- 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 three 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 March 2015 quarter, the plan reduced the exposure to domestic equity by almost \$600 million, or about a percent of the total. At the end of March 2015, the plan had approximately 30.7% allocated to domestic equity with a long-term strategic target of 28%.

International Equity

International equity continues to underperform.

- International Equities continue to underperform domestic. Over the past one, three, five, seven, and ten years ending March 2015, the broad international market index, MSCI ACWI ex USA, underperformed the S&P 1500 index by 13.6%, 9.8%, 9.8%, 8.0%, and 2.8% annualized respectively.
- Within international equities, over the past one and ten years ending March 2015, emerging markets have outperformed developed markets annualized by 1.8% and 3.4% respectively. However, over the past three, five, and seven years developed markets have outperformed emerging markets by 7.9%, 4.0% and 0.8% annualized.
- The price trend (measured in local currency) of developed international and emerging markets appears to be fairly robust. By March 2015, most foreign market indices were priced above their 200-day moving averages, indicating a healthy market.
- 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 3.6% 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 12% 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 March 2015 at 1.9%, 80 bps lower than one year prior. The curve is still fairly steep, about 50 bps higher than average.
- Globally, rates are extremely low. As of March 2015, the 10-year Japanese rate was 0.4% and the German rate was roughly 0.2%. Spanish and Italian rates were both about 1.2%. It is difficult to see how U.S. 10-year rates could rise very much until other sovereign rates also increase.
- The central bank Quantitative Easing policies of Japan and the ECB are massive. Combined their bond purchase programs are larger than the collective debt issuance of Japan, the EU, the UK and the U.S.
- Spreads are moderately priced. At the end of March 2015, investment grade was slightly better than average and high-yield spreads were priced slightly above their long-term averages.
- Inflation expectations are being priced lower in the bond markets. The 10-year breakeven rates at the end of March 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 Index's sensitivity to changes in interest rates has increased over time as measured by the modified adjusted duration. At the end of March 2015, the Barclays Aggregate Index had a duration of 5.9. 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 22.6% over the past year for the period ending March, more than 10% higher than the broad domestic equity market. Over the past three and five years, the index is up 14.1% and 15.6% respectively.
- There has been some pull back in the REIT index. As of April 2015 the index is 10% 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

A weak outlook.

- At the end of March 2015, commodity prices, as measured by the Thomson Reuters CRB Index, collapsed by a third since June 2014. Since its peak in 2008, prices are down by more than 55%, and prices are now less than 10% away from the March 2009 levels.
- The CRB Index is now at the low end of its trading range. Although the trend in prices is still lower, the majority of the correction in prices seems to already be reflected in the current prices.
- The U.S. dollar continues to surge in value relative to other currencies. As measured by the DXY Index, the dollar strengthened 22.5% over the past year ending March 2015. That is at the high end for a 1-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	2.1	2.5	2.9	3.2	3.1
U.S.	2.2	2.4	2.8	2.8	2.7
Developed (G10)	1.2	1.7	2.1	2.3	2.1
Asia	6.3	6.3	6.3	6.2	6.2
EMEA	2.3	2.4	0.6	2.3	2.6
Europe	-0.1	1.3	1.7	1.9	1.8
Latin America	2.8	1.3	0.6	2.3	2.9
China	7.7	7.4	7.0	6.7	6.6

*Source: Bloomberg

Economic Overview

U. S. economy remains the bright spot.

- The most recent reading of the annualized U.S. GDP growth was 0.2%, below the consensus estimate of 1.0%. Current estimates for 2015 GDP growth for the U.S. is 2.8%. Coincidental economic indicators such as the Institute for Supply Management's Manufacturing and Non-Manufacturing PMI Indexes are nicely above 50, indicating that there currently is a modest expansion in the U.S. economy.
- As expected, the Federal Reserve has fully tapered its Quantitative Easing policies in October. However, in a surprise move, the Bank of Japan announced at the end of October additional quantitative easing policies. Starting in 2015, the Bank of Japan will increase its balance sheet by 15% of GDP per year and it will extend the average duration of its bond purchases from seven years to ten years.
- 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 at least until September 2016 in order to fight deflation in the Eurozone.
- 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 5.5%, 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.

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

ABSOLUTE AND REAL RETURN REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

JUNE 4, 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	4.1%	7.9%	5.9%	NA	NA
HFRI FOF Conservative*	2.7%	4.7%	3.4%	0.7%	2.5%

*One month lag on the index

- The strategy of the Absolute Return portfolio is to further diversify the total plans' 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. For more directional strategies, positive performance was attributed to strong earnings as a number of investment theses were realized as well as idiosyncratic positions. We continue to see increasing levels of M&A activity particularly in the healthcare space and share buybacks particularly in Japan given the low interest rate environment. Managers continue to observe investments related to the energy space and are beginning to identify ways to invest in the capital structures of companies poised for significant rebounds in the next 18-24 months.
- Credit – The credit strategy was also positive for the quarter primarily led by distressed strategies and structured mortgage credit exposure. During the first quarter, mortgage and structured credit exposure generally demonstrated positive performance as spreads tightened on the back of reduced volatility in credit. We maintain a positive outlook on the mortgage space as the stabilizing U.S. economic backdrop should allow consumers to strengthen their books. First-quarter performance on the corporate/municipal front was mixed due to volatility in the high yield market from the energy space as well as idiosyncratic opportunities coming from certain municipal restructurings. Alpha in municipal markets remains a function of monitoring and taking advantage of opportunities to get paid as a liquidity provider.
- Equity – The equity strategy delivered strong positive performance for the quarter from both an absolute return and alpha perspective. During this same time period, the general equity environment lacked a clear market trend and global asset flows and low interest rates contributed to increasing levels of M&A activity and ongoing share buybacks. There were a few notable themes in the space over the quarter: 1) an increase in investors' focus on a more international opportunity set occurring amidst a strengthening U.S. dollar and concerns that valuations may be stretched in the U.S. relative to European and Japanese equity markets, among others; 2) the prospect of quantitative easing by central banks outside the U.S. contributed to net capital inflows into European and Japanese equities over the last few months. While long/short equity managers largely remain focused on individual stock selection, the effect of global investors buying European and Japanese equities and shorting these markets' respective currencies was notable; and 3) the outlook for fundamental stock-picking in the U.S. remains positive as distortions from central bank activity are expected to recede over the next few quarters and as interest rates normalize.
- Diversifying – Diversifying strategies were mixed for the quarter. Macro managers generally had a positive quarter as the strong dollar trend continued and major equity markets in the Eurozone and Japan rallied. Rates trading remained difficult as major interest rate markets

further rallied and curves flattened. Foreign exchange got off to an interesting start to the year with the Swiss National Bank abandoning its commitment to the EUR/CHF floor in January, causing some market volatility across FX markets. However, shortly after, the ECB presented its Quantitative Easing program which helped the U.S. dollar continue its broad-based rally. The CTA strategies broadly gained in January primarily benefitting from long positions in fixed income. Commodity managers generated mixed results over the quarter as volatility increased across the complex as a result of various geopolitical and macro events at the forefront of headlines. Energy focused managers took advantage of the sustained sell-off at the start of the quarter; metals managers remained focused on themes around China's weakness as a result of a softening property market, overcapacity in factory production, and high levels of local debt; and Agriculture managers benefitting from a significant short bias to the grains and oilseeds complex as a result of an exceedingly increasing supply glut. The impact of the appreciation of the U.S. dollar on key commodities has created attractive relative value dislocations for which the managers have started to position.

- 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 present good opportunities on both the long and short sides. While short alpha has been elusive over the recent past, 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, one new commitment was closed:
 - \$100 million JM IV, LP ~ Event/Activist

Real Return and Opportunistic

MPSERS Plan	1-Year	3-Years	5-Years	7-Years	10-Years
Real Return and Opport.	9.9%	12.1%	10.4%	NA	NA
Custom Benchmark	6.5%	7.0%	7.4%	NA	NA

- 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 – Performing non-investment grade credit managers generated strong positive returns during the quarter due to robust technical support. This support shielded the loan market from the volatility in equities caused by uncertainty regarding Fed interest rate hikes and the strengthening U.S. dollar. The S&P/LSTA Leveraged Loan Index and Merrill Lynch U.S. High Yield Master II Index were up 2.1% and 2.5% respectively, for the quarter. New CLO vehicles created loan demand through the quarter to outweigh retail outflows with the quarter's total loan demand at \$24.9 billion compared to a \$7.6 billion increase in supply.
- Direct Lending – The first quarter of 2015 saw continued strength in the pipelines of each of our managers and small net inflow of cash as new loan funding was offset by older funds loan payoffs. Spreads in middle market lending are quite positive and widening based upon the strong demand for capital by firms which still vastly outweighs the supply of capital to make those loans.

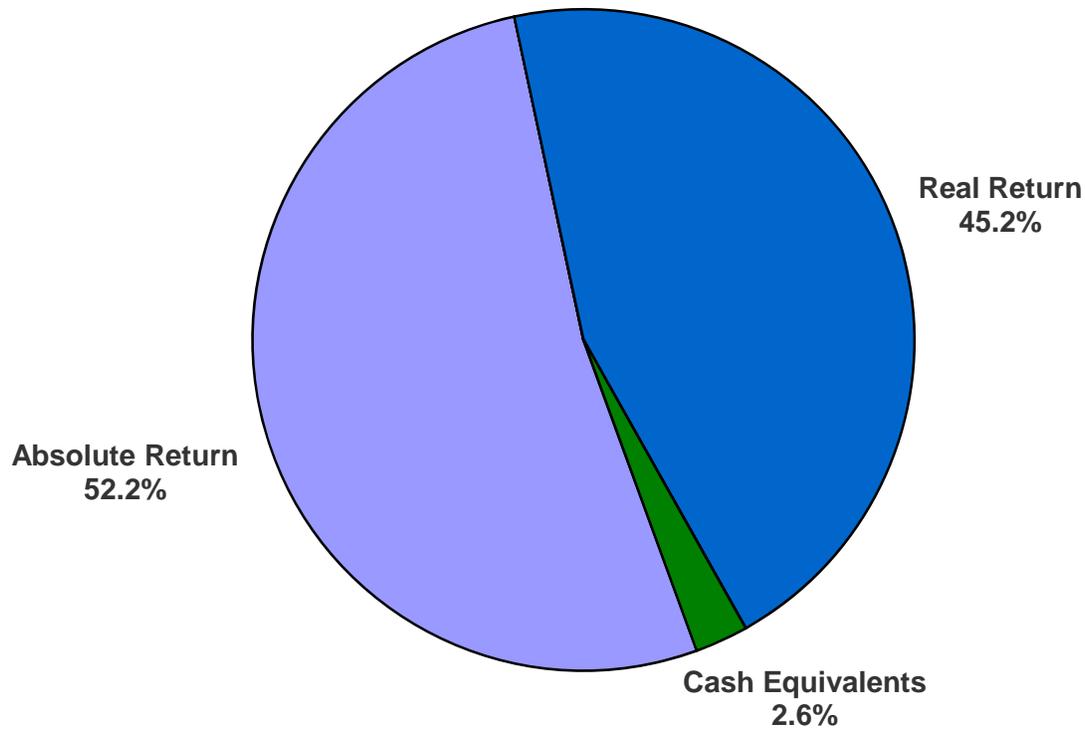
- Energy Funds – WTI crude was down 10.6% and natural gas was down 8.6% in the quarter. While STARR’s energy exposure (6% of the Real Return and Opportunistic Portfolio) incurred slightly negative marks as a result of the decrease in commodity prices, with less than 24% of our energy commitments presently invested, a substantial amount of uncalled commitments remain ready to capitalize on lower energy prices should they persist.

- During the quarter, seven new commitments were closed:
 - \$300 million MidCap FinCo Holdings LTD ~ Direct Lending
 - \$200 million FCO MA MI LP ~ Opportunistic Credit
 - \$125 million Blackstone Strategic Capital Holdings ~ Opportunistic
 - \$100 million Blue Peninsula Fund LP totaling ~ Opportunistic
 - \$100 million GSO Credit Alpha Fund LP ~ Opportunistic Credit
 - \$50 million Carlyle Energy Mezzanine Opportunity Fund ~ Direct Lending
 - \$50 million Warwick Energy Partners III ~ Energy



SMRS

Absolute, Real Return and Opportunistic 3/31/15



Market Value in Millions				
	<u>3/31/15</u>		<u>12/31/14</u>	
Absolute Return	\$4,182	52.2%	\$3,843	52.3%
Real Return	3,618	45.2%	3,472	47.2%
Cash Equivalents	210	2.6%	40	0.5%
Total Investments	<u>\$8,010</u>	<u>100.0%</u>	<u>\$7,355</u>	<u>100.0%</u>



SMRS

Absolute Return

3/31/15

Net Market Values by Entity

	<u>Net Market Value</u>
Absolute Return Capital Partners, L.P.	\$2,271,451
Apollo Offshore Credit Strategies Fund Ltd.	140,351,140
Brevan Howard Multi-Strategy Fund, L.P.	111,292,925
Drawbridge Opportunities Fund	180,507,689
Elliott International Limited	50,376,812
EnTrust White Pine Partners L.P.	355,411,385
* FrontPoint Multi-Strategy Fund Series A, L.P.	1,987,274
JM IV, LP	45,406,462
Mastic Commodity Fund LTD	592,245
MP Securitized Credit Master Fund, L.P.	64,688,083
* Sand Hill, LLC	1,131,001,229
Spartan Partners L.P.	37,542,508
* <u>Tahquamenon Fund L.P.</u>	<u>2,061,025,083</u>
Total Market Value	<u><u>\$4,182,454,286</u></u>

* Fund of Funds

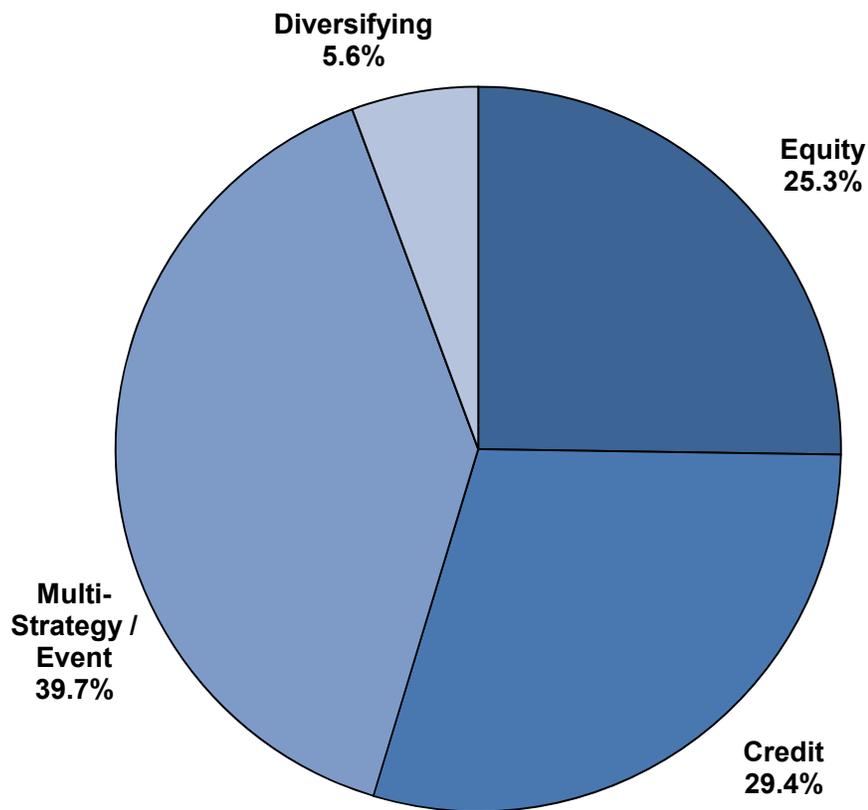


SMRS

Absolute Return

3/31/15

Investments By Strategy



Strategy Breakdown			
Underlying Funds:	107	Median Position Size:	0.4%
Strategies:	4	Average Position Size:	0.9%
Relationships:	12	Largest Position Size:	7.1%



SMRS

Real Return and Opportunistic

3/31/15

Net Market Value by Entity

	<u>Net Market Value</u>	<u>Unfunded Commitment</u>
* Abernathy Fund I, LLC	253,546,043	110,113,870
Apollo Credit Opportunities Fund III LP	38,454,153	56,863,681
Apollo European Principal Finance Fund II	42,931,654	16,725,198
Apollo Financial Credit Investments Fund II	162,852,679	243,129,188
Apollo HK TMS Investments Holdings LP	35,720,962	
Apollo Offshore Credit Fund Ltd	272,310,503	
Apollo Offshore Structured Credit Recovery Fund II	69,665,224	
Apollo Offshore Structured Credit Recovery Fund III	65,433,117	135,093,203
Blackstone Strategic Capital Holdings LP	11,997,059	112,856,887
Blue Peninsula Fund LP	-	100,000,000
Carlyle Intl Energy Partners LP	7,296,655	40,234,615
Carlyle Energy Mezzanine Opportunity Fund	-	50,000,000
Content Holdings LLC	441,335,797	117,828,716
Elegantree Fund SPC	32,940,915	17,388,250
Energy Recapitalization and Restructuring Fund LP	51,449,157	67,233,116
ERR Michigan Holdings LP	10,410,125	2,944,044
* Fairfield Settlement Partners, LLC	56,697,282	
FCO MA MI LP	-	200,000,000
Fortress MSR Opportunities Fund I A LP	125,464,585	16,378,914
Galaxie Ave. Partners, LLC	99,900,000	
GSO Credit Alpha Fund LP	-	100,000,000
Highbridge Principal Strategies - Specialty Loan Fund III	125,556,691	24,864,593
Hopen Life Sciences Fund II	3,789,695	5,325,000
JP Morgan Global Maritime Investment Fund LP	77,570,755	60,690,448
KANG Fund LP	25,765,844	
KKR EI&G Fund	24,197,227	40,158,232
KKR Lending Partners I LP	72,744,104	
KKR Lending Partners II LP	40,328,146	59,562,094
Lakewater LLC, Series 1	160,201,383	27,894,968
Lakewater LLC, Series 2	291,623,693	48,186,483
Lakewater LLC, Series 3	338,335,946	
Lakewater LLC, Series 4	38,202,926	11,063,578
Merit Energy Partners LP	831,200	34,157,497
MidCap FinCo Holdings LTD	48,138,639	251,861,361
Napier Park Aircraft Leasing Vehicle I, LLC	23,771,168	76,003,550
Orion Mine Finance Fund 1A LP	6,765,713	40,625,648
Orion Mine Finance Fund I LP	68,109,558	56,125,953
Renaissance Venture Cap Fund II LP	3,248,109	21,250,000
REOG Fund II Coinvest LP	6,350,965	20,773,832
Ridgewood Energy Oil & Gas II	50,303,797	79,947,089
SJC Direct Lending Fund I, LP	79,090,014	
SJC Direct Lending Fund II, LP	175,416,461	213,088,122
* Social Network Holdings, LLC	169,488,040	
Varo Coinvestment LP	7,204,043	
Warwick Energy Partners III	-	50,000,000
Income Accruals	2,638,356	
Total Market Value	<u>\$3,618,078,385</u>	<u>\$2,508,368,130</u>

* Fund of Funds

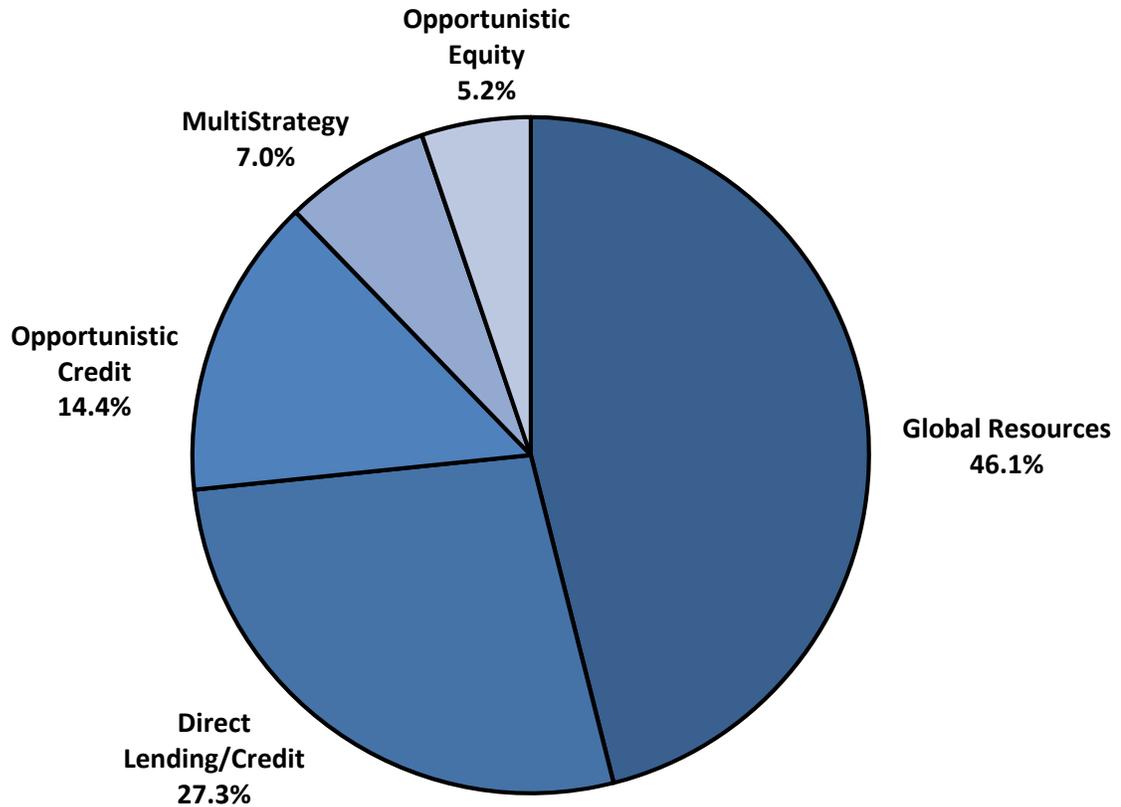


SMRS

Real Return and Opportunistic

3/31/15

Investments By Strategy



Investment Strategy	
Global Resources	\$1,665,446,914
Direct Lending/Credit	\$987,137,054
Opportunistic Credit	\$520,787,116
MultiStrategy	\$253,546,043
Opportunistic Equity	\$188,522,903

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

DOMESTIC EQUITY REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

JUNE 4, 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	12.5%	16.8%	14.4%	9.6%	8.4%
S&P 1500	12.5%	16.2%	14.6%	9.3%	8.3%
Peer Median Return	11.8%	15.8%	14.6%	9.0%	7.9%
Rank vs. Peers	27	14	52	33	31

Total Domestic Equity, Net	1-Year	3-Years	5-Years	7-Years
Annualized Returns	12.4%	16.7%	14.2%	9.4%
S&P 1500	12.5%	16.2%	14.6%	9.3%
Lipper Multi Core	9.8%	15.3%	13.2%	8.6%

Total Active Equity, Net	1-Year	3-Years	5-Years	7-Years
Annualized Returns	12.0%	16.8%	14.1%	9.5%
S&P 1500	12.5%	16.2%	14.6%	9.3%
Lipper Multi Core	9.8%	15.3%	13.2%	8.6%
Rank vs. Lipper Multi Core	36	29	44	31

- 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 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, further widening the gap in performance on a net of fees basis.
- 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.
 - Three internally managed funds, comprising \$5 billion in assets, currently rank in the top 20% of their respective Lipper fund peer groups over the past three and seven years.
 - Two internally managed funds, comprising \$4 billion in assets, rank in the top 20% of their Lipper fund peers groups over the past seven years.
- External management struggled relative to the benchmark over all time periods, but outperformed its Lipper peer group over the past one, five, and seven years.
 - We have continued to restructure this portfolio, and believe that its value orientation, low-cost structure, and strong stable of managers position it for future outperformance.

- The division also equitized its portfolio manager cash, which lifted overall results above the weighted average of the division's internal and external manager program returns.

Strategy Update

- In line with its strategy to concentrate assets with high conviction managers while reducing fees, SMRS let go of two managers in the first quarter, and is now down to 9 external relationships in all. SMRS is now paying:
 - 6 bps per year, or \$12 million, for both active and passive management.
 - 10 bps per year, or \$11 million, for internal and external active management combined.
 - 20 bps per year, or \$8 million, for its external manager program.
- At the end of 2010, SMRS had 23 external manager relationships at a price point of 60 bps per year, or \$28 million.
 - SMRS is now paying \$200 million less in fees, over a ten-year period, than it was previously.
- As of last year, peers were estimated to be paying 50 bps per year for active management, and 30 bps per year for both active and passive management combined.
 - At its current domestic equity allocation (active & passive management combined), SMRS will be paying nearly \$450 million less in fees over the next ten years than its peers.
- SMRS added two new strategies, Clarkston Capital Large Cap and LA Capital Deep Value, at the end of the first quarter. Both strategies are with existing high conviction managers.
- 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.
 - Total active equity remains overweight both the financial sector and defensive stocks, while underweight commodity-related themes.

Market Environment and Outlook

- At ~20x normalized earnings, equity markets are starting to look rich relative to history, but remain reasonably priced for an environment where bond yields stay abnormally low.
- Assuming a 3.3% normalized dividend yield and 5% long-term expected earnings growth, the S&P 1500 is poised to return approximately 8.3% over the long-term.
 - This compares to the 30-year U.S. Treasury at 2.5%, and a historical average return for the S&P 500 of 9.6%.



SMRS

Domestic Equities

3/31/15

	Amount	% of Total
Passive	(in thousands)	
S&P 500	\$7,523,913	
S&P 400	<u>780,614</u>	
Sub Total	\$8,304,527	44.2%
Internal Active		
Large-Cap Core	\$2,595,746	
Large-Cap Growth	1,694,807	
All-Cap GARP	1,039,137	
Concentrated Equity Fund	427,375	
Transition Account	265,931	
Tactical Asset Allocation	218,636	
Large-Cap Value	108,149	
Absolute Return Income Fund	105,545	
Concentrated All-Cap Growth	<u>32,652</u>	
Sub Total	\$6,487,978	34.5%
External Active		
Fisher All-Cap Value	\$1,085,501	
Seizert Capital Partners All-Cap Core	699,489	
Los Angeles Capital All-Cap Growth	406,654	
Los Angeles Capital Deep Value	400,529	
Clarkston Small-Cap Core	259,325	
Bivium Capital	258,278	
Attucks Asset Management	255,747	
Clarkston Large-Cap	249,001	
GW Capital All-Cap Value	174,756	
Munder Mid-Cap Core	116,295	
Northpoint All-Cap Core	<u>108,887</u>	
Sub Total	\$4,014,462	21.3%
TOTAL	<u>\$18,806,967</u>	<u>100.0%</u>

Combined Active Equity Portfolio, Return Expectations 3/31/15

Return Assumption Estimates

	<u>Expected Return ****</u>	<u>Normal Dividend Yield **</u>	<u>LT Growth Rate ***</u>
SAD Combined Active Equity	9.6%	4.9%	4.7%
S&P 1500 All-Cap *****	8.3%	3.3%	5.0%
S&P 500 Large-Cap *****	8.3%	3.5%	4.8%
S&P 500 Historical Average	9.6%		
S&P 400 Mid-Cap	8.3%	1.8%	6.5%
S&P 600 Small-Cap	8.1%	1.1%	7.0%
US 30-Year Treasury	2.5%	2.5%	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	14.5	6.9%	71%	4.9%
S&P 1500 All-Cap	19.7	5.1%	66%	3.3%
S&P 500 Large-Cap	19.4	5.2%	68%	3.5%
S&P 400 Mid-Cap	22.5	4.5%	41%	1.8%
S&P 600 Small-Cap	23.1	4.3%	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%	11.9%	0.8
S&P 1500 All-Cap	8.3%	12.6%	0.7
S&P 500 Large-Cap	8.3%	12.6%	0.7
S&P 400 Mid-Cap	8.3%	13.4%	0.6
S&P 600 Small-Cap	8.1%	15.2%	0.5
US 30-Year Treasury	2.5%	19.9%	0.2

*Earnings Yield = Earnings/Price

**Includes Share Buybacks

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

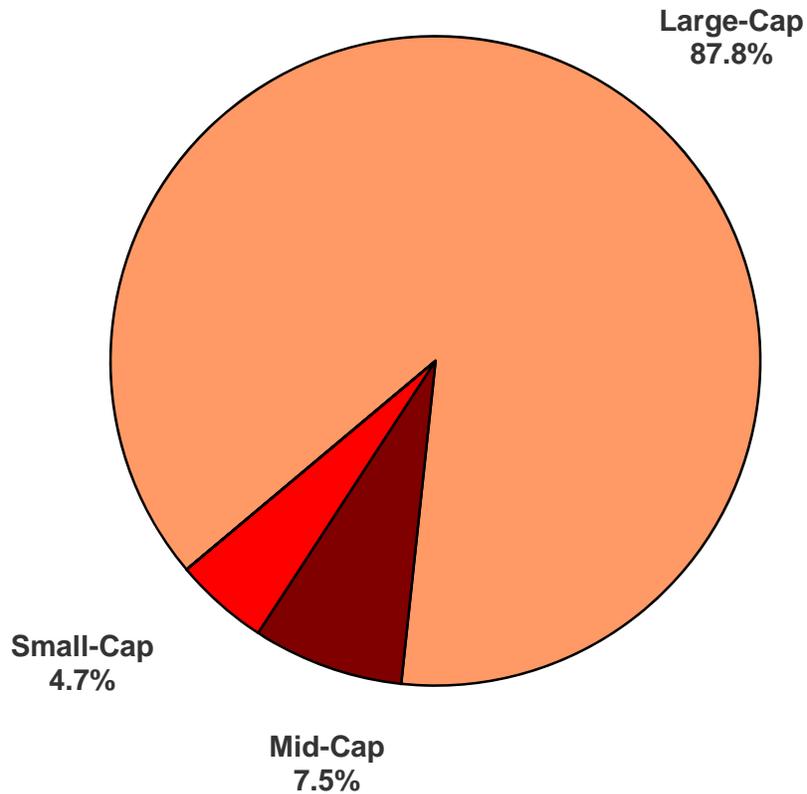
****Expected Return Formula: Dividend Yield + LT Growth Rate

*****S&P 500 Return is greater than that of the S&P 1500, but indices look the same due to rounding



SMRS

Domestic Equity Exposure By Market Cap 3/31/15



Market Value in Millions

	3/31/15		
	<u>Assets</u>	<u>Percent</u>	<u>S&P 1500</u>
Large-Cap (>\$10B)	\$16,513	87.8%	85.6%
Mid-Cap (>\$3 <\$10B)	1,410	7.5%	10.2%
Small-Cap (<\$3B)	884	4.7%	4.2%
Total Domestic Equity	<u>\$18,807</u>	<u>100.0%</u>	<u>100.0%</u>



SMRS

All Domestic Equities Composite

3/31/15

Date:	<u>3/31/15</u>	<u>12/31/14</u>	<u>9/30/14</u>	<u>6/30/14</u>
Assets (\$million):	\$18,807	\$19,164	\$18,311	\$18,175
Number of Securities:	1,186	1,244	1,295	1,237
Active Share:	32%	32%	30%	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):	\$133.2	\$117.9
Trailing 12-month P/E:	17.6x	19.3x
Forecast P/E:	15.8x	17.6x
Price/Book:	2.5x	2.7x
Beta:	0.95	1.00
Dividend Yield:	2.1%	1.9%
3-5 Year EPS Growth Estimate:	10.7%	10.9%
Return on Equity:	14.2%	14.0%

TOP TEN HOLDINGS - All Domestic Equities 3/31/15

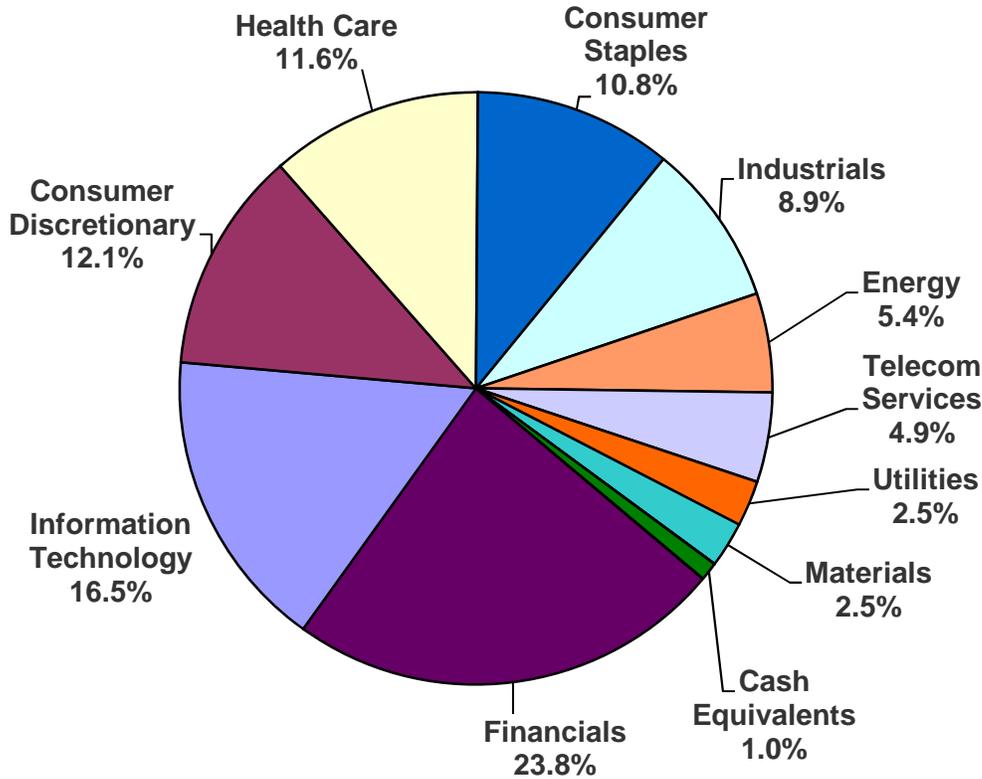
	<u>Portfolio Weight</u>	<u>Total Shares</u>	<u>3/31/15 Price</u>	<u>YTD15 Total Return</u>	<u>Market Value</u>
U.S. Bancorp	4.3%	18,333,896	\$43.67	-2.3%	\$800,641,238
Verizon Communications, Inc.	4.2%	16,090,688	\$48.63	5.2%	782,490,157
Apple Inc.	3.8%	5,705,680	\$124.43	13.2%	709,957,762
Wells Fargo & Co.	2.9%	9,862,295	\$54.40	-0.1%	536,508,848
SPDR S&P 500 ETF Trust	2.4%	2,228,817	\$206.43	0.9%	460,094,693
Wal-Mart Stores, Inc.	2.2%	5,003,599	\$82.25	-3.6%	411,546,018
Goldman Sachs Group, Inc.	1.4%	1,417,159	\$187.97	-2.7%	266,383,377
Woolworths Ltd	1.4%	11,760,105	\$22.53	-1.6%	264,942,053
Gilead Sciences, Inc.	1.3%	2,561,214	\$98.13	4.1%	251,331,930
CVS Health Corporation	<u>1.3%</u>	2,341,002	\$103.21	7.5%	<u>241,614,816</u>
TOTAL	<u>25.1%</u>				<u>\$4,725,510,894</u>



SMRS

All Domestic Equity By Sector

3/31/15



Market Value in Millions				
3/31/15				
	Assets	Percent	Benchmark	Difference
Financials	\$4,485	23.8%	17.7%	6.1%
Information Technology	3,107	16.5%	18.7%	-2.2%
Consumer Discretionary	2,282	12.1%	12.8%	-0.7%
Health Care	2,191	11.6%	14.4%	-2.8%
Consumer Staples	2,024	10.8%	9.0%	1.8%
Industrials	1,667	8.9%	11.0%	-2.1%
Energy	1,015	5.4%	7.6%	-2.2%
Telecom Services	917	4.9%	2.0%	2.9%
Utilities	469	2.5%	3.2%	-0.7%
Materials	467	2.5%	3.6%	-1.1%
Other	2	0.0%		0.0%
Total Investments	\$18,626	99.0%	100.0%	
Cash Equivalents	181	1.0%	0.0%	1.0%
Total	\$18,807	100.0%	100.0%	

Benchmark: S&P 1500



SMRS

All Actively Managed Composite
3/31/15

Date:	<u>3/31/15</u>	<u>12/31/14</u>	<u>9/30/14</u>	<u>6/30/14</u>
Assets (\$million):	\$10,502	\$10,360	\$9,913	\$9,802
Number of Securities:	836	901	983	920
Active Share:	59%	60%	56%	55%

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):	\$141.1	\$117.9
Trailing 12-month P/E:	16.5x	19.3x
Forecast P/E:	14.7x	17.6x
Price/Book:	2.3x	2.7x
Beta:	0.91	1.00
Dividend Yield:	2.3%	1.9%
3-5 Year EPS Growth Estimate:	10.5%	10.9%
Return on Equity:	13.9%	14.0%

**TOP TEN HOLDINGS - All Actively Managed
3/31/15**

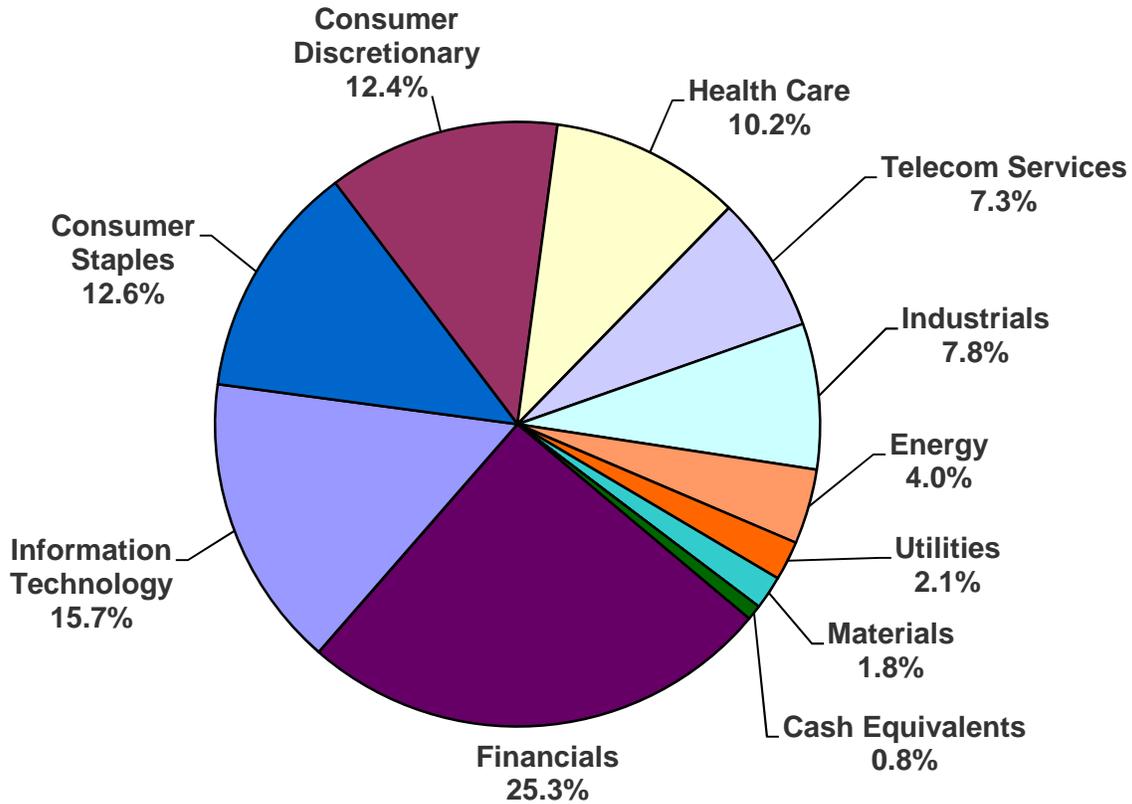
	<u>Portfolio Weight</u>	<u>Total Shares</u>	<u>3/31/15 Price</u>	<u>YTD15 Total Return</u>	<u>Market Value</u>
U.S. Bancorp	7.3%	17,646,758	\$43.67	-2.3%	\$770,633,922
Verizon Communications, Inc.	6.7%	14,487,717	\$48.63	5.2%	704,537,678
Wells Fargo & Co.	4.2%	8,053,661	\$54.40	-0.1%	438,119,158
Apple, Inc.	4.1%	3,458,749	\$124.43	13.2%	430,372,138
Wal-Mart Stores, Inc.	3.4%	4,394,365	\$82.25	-3.6%	361,436,521
Woolworths, Ltd.	2.5%	11,760,105	\$22.53	-1.6%	264,942,053
Goldman Sachs Group, Inc.	2.3%	1,260,877	\$187.97	-2.7%	237,007,050
Everest RE Group, Ltd.	2.0%	1,216,800	\$174.00	2.7%	211,723,200
CVS Health Corporation	1.9%	1,906,902	\$103.21	7.5%	196,811,355
Gilead Sciences, Inc.	<u>1.9%</u>	1,986,702	\$98.13	4.1%	<u>194,955,067</u>
TOTAL	<u>36.3%</u>				<u>\$3,810,538,143</u>



SMRS

All Active Domestic Equity By Sector

3/31/15



Market Value in Millions				
3/31/15				
	Assets	Percent	Benchmark	Difference
Financials	\$2,661	25.3%	17.7%	7.6%
Information Technology	1,650	15.7%	18.7%	-3.0%
Consumer Staples	1,326	12.6%	9.0%	3.6%
Consumer Discretionary	1,300	12.4%	12.8%	-0.4%
Health Care	1,071	10.2%	14.4%	-4.2%
Telecom Services	769	7.3%	2.0%	5.3%
Industrials	818	7.8%	11.0%	-3.2%
Energy	414	4.0%	7.6%	-3.6%
Utilities	221	2.1%	3.2%	-1.1%
Materials	188	1.8%	3.6%	-1.8%
Other	2	0.0%		0.0%
Total Investments	\$10,420	99.2%	100.0%	
Cash Equivalents	82	0.8%	0.0%	0.8%
Total	\$10,502	100.0%	100.0%	

Benchmark: S&P 1500

**SMRS Internal/External Manager Performance – Net of Fees
3/31/15**

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	\$18,805,492,883	12.5%	16.8%	14.4%	9.5%	8.4%
S&P 1500		12.5%	16.2%	14.6%	9.3%	8.3%
<i>Excess Return</i>		-0.1%	0.6%	-0.2%	0.3%	0.1%
<i>State Street Peer Group</i>		27	14	52	33	31

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	\$18,805,492,883	12.4%	16.7%	14.2%	9.4%
S&P 1500		12.5%	16.2%	14.6%	9.3%
Lipper Multi Core		9.8%	15.3%	13.2%	8.6%
<i>Excess Return</i>		-0.1%	0.4%	-0.4%	0.1%

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	\$10,500,965,567	12.0%	16.8%	14.1%	9.5%
S&P 1500		12.5%	16.2%	14.6%	9.3%
Style & Risk Adjusted Benchmark		13.5%	15.5%	14.4%	9.1%
Lipper Multi Core		9.8%	15.3%	13.2%	8.6%
<i>Excess Return</i>		-0.5%	0.5%	-0.6%	0.2%
<i>Alpha</i>		-1.6%	1.3%	-0.3%	0.4 %
<i>Pct. Rank vs. Lipper Multi Core</i>		36	29	44	31

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 Date</u>
Total Internal Active	\$6,003,479,375	10.3%	16.3%	13.4%	9.1%	N/A	N/A
S&P 500		12.7%	16.1%	14.5%	8.9%		
Style & Risk Adjusted Benchmark		13.0%	15.4%	14.2%	8.8%		
Lipper Large-Cap Core		10.7%	14.9%	13.1%	8.1%		
<i>Excess Return</i>		-2.4%	0.1%	-1.1%	0.2%		
<i>Alpha</i>		-2.7%	0.9%	-0.8%	0.3%		
<i>Pct. Rank vs. Lipper Large-Cap Core</i>		60	25	41	23		
Total External Active	\$4,012,918,865	10.8%	15.2%	13.9%	9.2%	N/A	N/A
S&P 1500		12.5%	16.2%	14.6%	9.3%		
Style & Risk Adjusted Benchmark		11.6%	14.6%	14.2%	10.4%		
Lipper Multi Core		9.8%	15.3%	13.2%	8.6%		
<i>Excess Return</i>		-1.8%	-1.0%	-0.7%	-0.1%		
<i>Alpha</i>		-0.8%	0.6%	-0.4%	-1.2%		
<i>Pct. Rank vs. Lipper Multi Core</i>		50	61	47	39		

Manager Performance - Net of Fees
3/31/15

	Market Value	1 Year	3 Years	5 Years	7 Years	Inception	Inception Date
SMRS Large-Cap Core	\$2,595,725,470	12.4%	20.1%	14.7%	10.6%	8.1%	8/31/07
S&P 500		12.7%	16.1%	14.5%	8.9%	7.0%	
Style & Risk Adjusted Benchmark		13.1%	15.3%	13.8%	8.4%	6.4%	
Lipper Large-Cap Core		10.7%	14.9%	13.1%	8.1%	6.4%	
<i>Excess Return</i>		-0.4%	4.0%	0.3%	1.7%	1.1%	
<i>Alpha</i>		-0.7%	4.8%	1.0%	2.2%	1.8%	
<i>Pct. Rank vs. Lipper Large-Cap Core</i>		31	2	13	4	10	
SMRS Large-Cap Growth	\$1,695,083,503	19.1%	17.2%	15.3%	10.9%	9.5%	5/31/05
S&P 500 Growth Index		16.1%	16.9%	15.8%	10.8%	9.3%	
Style & Risk Adjusted Benchmark		14.3%	16.9%	16.1%	10.9%	9.3%	
Lipper Large Growth		14.7%	15.4%	14.4%	9.5%	9.0%	
<i>Excess Return</i>		3.0%	0.3%	-0.4%	0.1%	0.2%	
<i>Alpha</i>		4.8%	0.3%	-0.8%	0.0%	0.2%	
<i>Pct. Rank vs. Lipper Large-Cap Growth</i>		11	16	32	20	34	
Fisher All-Cap	\$1,085,500,918	13.1%	12.4%	12.5%	9.5%	10.3%	10/31/04
S&P 1500/S&P 600 Value Blend		12.5%	15.6%	14.3%	10.3%	9.1%	
Style & Risk Adjusted Benchmark		13.9%	16.7%	16.1%	11.2%	10.3%	
Lipper Multi Core		9.8%	15.3%	13.2%	8.6%	8.2%	
<i>Excess Return</i>		0.6%	-3.2%	-1.8%	-0.8%	1.2%	
<i>Alpha</i>		-0.8%	-4.3%	-3.6%	-1.6%	0.0%	
<i>Pct. Rank vs. Lipper Multi Core</i>		19	86	69	30	9	
SMRS All-Cap Garp	\$1,039,137,423	13.1%	17.6%	--	--	17.7%	4/30/11
S&P 1500 Super Composite		12.5%	16.2%	--	--	14.1%	
Style & Risk Adjusted Benchmark		11.0%	15.0%	--	--	13.6%	
Lipper Multi Core		9.8%	15.3%	--	--	12.4%	
<i>Excess Return</i>		0.6%	1.4%	--	--	3.7%	
<i>Alpha</i>		2.1%	2.6%	--	--	4.1%	
<i>Pct. Rank vs. Lipper Multi Core</i>		19	17	--	--	1	
Seizert Capital Partners	\$699,489,308	5.4%	16.4%	15.6%	--	17.2%	11/30/09
S&P 1500/S&P 400 Value Blend		12.5%	16.2%	16.4%	--	19.1%	
Style & Risk Adjusted Benchmark		9.9%	16.1%	14.0%	--	15.8%	
Lipper Multi Core		9.8%	15.3%	13.2%	--	15.1%	
<i>Excess Return</i>		-7.2%	0.2%	-0.7%	--	-1.9%	
<i>Alpha</i>		-4.5%	0.3%	1.7%	--	1.4%	
<i>Pct. Rank vs. Lipper Multi Core</i>		86	35	10	--	19	
Concentrated Equity	\$427,374,303	-18.8%	--	--	--	3.6%	5/31/13
S&P 1500 Super Composite		12.5%	--	--	--	16.9%	
Style & Risk Adjusted Benchmark		13.2%	--	--	--	19.7%	
Lipper Multi Core		9.8%	--	--	--	16.1%	
<i>Excess Return</i>		-31.3%	--	--	--	-13.4%	
<i>Alpha</i>		-32.0%	--	--	--	-16.1%	
<i>Pct. Rank vs. Lipper Multi Core</i>		100	--	--	--	99	
LA Capital All-Cap Growth	\$406,653,805	17.6%	19.0%	16.2%	12.0%	11.8%	5/31/05
S&P 1500 Growth		15.7%	16.9%	15.9%	11.0%	9.5%	
Style & Risk Adjusted Benchmark		12.0%	15.5%	15.2%	11.4%	10.4%	
Lipper Multi-Cap Growth		13.0%	15.3%	14.4%	9.6%	9.4%	
<i>Excess Return</i>		1.9%	2.1%	0.3%	1.0%	2.4%	
<i>Alpha</i>		5.6%	3.5%	0.9%	0.7%	1.4%	
<i>Pct. Rank vs. Lipper Multi-Cap Growth</i>		17	11	22	17	9	

Manager Performance - Net of Fees
3/31/15

	Market Value	1 Year	3 Years	5 Years	7 Years	Inception	Inception Date
LA Capital Deep Value	\$400,529,030	--	--	--	--	--	4/1/15
S&P 1500 Value		--	--	--	--	--	
Style & Risk Adjusted Benchmark		--	--	--	--	--	
Lipper Multi-Cap Value		--	--	--	--	--	
<i>Excess Return</i>		--	--	--	--	--	
<i>Alpha</i>		--	--	--	--	--	
<i>Pct. Rank vs. Lipper Multi-Cap Growth</i>		--	--	--	--	--	
Clarkston Capital	\$259,324,800	20.2%	--	--	--	18.4%	1/1/14
S&P 600		8.7%	--	--	--	7.9%	
Style & Risk Adjusted Benchmark		8.9%	--	--	--	7.6%	
Lipper Small-Cap Core		6.5%	--	--	--	6.2%	
<i>Excess Return</i>		11.4%	--	--	--	10.5%	
<i>Alpha</i>		11.3%	--	--	--	10.8%	
<i>Pct. Rank vs. Lipper Small-Cap Core</i>		1	--	--	--	1	
Bivium Capital Partners	\$258,285,399	11.0%	14.1%	13.7%	8.6%	6.0%	11/30/07
S&P 1500 Super Composite		12.5%	16.2%	14.6%	9.3%	6.6%	
Style & Risk Adjusted Benchmark		11.9%	15.7%	15.1%	9.9%	7.2%	
Lipper Multi Core		9.8%	15.3%	13.2%	8.6%	5.8%	
<i>Excess Return</i>		-1.5%	-2.1%	-0.9%	-0.6%	-0.6%	
<i>Alpha</i>		-0.8%	-1.6%	-1.4%	-1.3%	-1.2%	
<i>Pct. Rank vs. Lipper Multi Core</i>		47	72	52	52	51	
Attucks Asset Management	\$253,627,228	7.2%	13.8%	13.1%	8.4%	6.1%	11/30/07
S&P 1500 Super Composite		12.5%	16.2%	14.6%	9.3%	6.6%	
Style & Risk Adjusted Benchmark		12.6%	15.9%	14.7%	10.4%	7.7%	
Lipper Multi Core		9.8%	15.3%	13.2%	8.6%	5.8%	
<i>Excess Return</i>		-5.3%	-2.4%	-1.5%	-0.9%	-0.4%	
<i>Alpha</i>		-5.4%	-2.1%	-1.6%	-2.0%	-1.6%	
<i>Pct. Rank vs. Lipper Multi Core</i>		77	76	63	57	48	
Clarkston Capital Large-Cap	\$249,000,900	--	--	--	--	--	4/1/15
S&P 500		--	--	--	--	--	
Style & Risk Adjusted Benchmark		--	--	--	--	--	
Lipper Large-Cap Core		--	--	--	--	--	
<i>Excess Return</i>		--	--	--	--	--	
<i>Alpha</i>		--	--	--	--	--	
<i>Pct. Rank vs. Lipper Large-Cap Core</i>		--	--	--	--	--	
GW Capital	\$174,755,751	0.6%	--	--	--	2.0%	1/1/14
S&P 1500 Value		9.1%	--	--	--	9.3%	
Style & Risk Blended Benchmark		12.7%	--	--	--	14.7%	
Lipper Multi-Cap Value		6.5%	--	--	--	7.5%	
<i>Excess Return</i>		-8.6%	--	--	--	-7.3%	
<i>Alpha</i>		-12.2%	--	--	--	-12.7%	
<i>Pct. Rank vs. Lipper All-Cap Value</i>		91	--	--	--	88	
Munder Mid-Cap Core	\$116,294,901	19.2%	18.6%	17.0%	--	22.3%	4/30/09
S&P 400 Mid-Cap Growth		13.3%	16.4%	16.3%	--	23.0%	
Style & Risk Adjusted Benchmark		8.8%	15.0%	14.6%	--	20.1%	
Lipper Mid-Cap Growth		11.4%	15.1%	14.9%	--	21.0%	
<i>Excess Return</i>		5.9%	2.2%	0.7%	--	-0.7%	
<i>Alpha</i>		10.4%	3.6%	2.4%	--	2.2%	
<i>Pct. Rank vs. Lipper Mid-Cap Core</i>		2	3	10	--	25	

**Manager Performance - Net of Fees
3/31/15**

	<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	\$108,887,376	4.2%	14.2%	10.9%	9.0%	7.5%	10/31/04
NorthPointe Blended Benchmark		8.7%	17.3%	14.9%	10.7%	9.4%	
Style & Risk Adjusted Benchmark		11.7%	16.0%	16.2%	11.2%	10.2%	
Lipper Multi Core		9.8%	15.3%	13.2%	8.6%	8.2%	
<i>Excess Return</i>		-4.5%	-3.1%	-4.0%	-1.8%	-1.9%	
<i>Alpha</i>		-7.5%	-1.8%	-5.3%	-2.3%	-2.8%	
<i>Pct. Rank vs. Lipper Multi Core</i>		90	71	87	45	75	
SMRS Large-Cap Value	\$108,149,088	6.6%	12.6%	11.0%	6.2%	2.9%	7/31/07
S&P 500 Value Index		9.1%	15.3%	13.1%	7.0%	4.3%	
Style & Risk Adjusted Benchmark		10.1%	13.5%	12.9%	7.4%	4.7%	
Lipper Large Value		8.4%	15.0%	12.4%	7.3%	4.5%	
<i>Excess Return</i>		-2.5%	-2.7%	-2.1%	-0.8%	-1.4%	
<i>Alpha</i>		-3.4%	-0.9%	-1.9%	-1.2%	-1.8%	
<i>Pct. Rank vs. Lipper Large-Cap Value</i>		79	90	85	75	87	
SMRS Absolute Return Income Fund	\$105,357,631	4.6%	11.4%	12.5%	--	14.6%	1/31/09
60% S&P500/40% Barclays AGG		10.0%	10.9%	10.6%	--	12.1%	
Style & Risk Adjusted Benchmark		12.3%	11.7%	8.9%	--	10.8%	
Lipper Mixed Target Allocation Moderate/Growth Blend		6.0%	9.2%	8.8%	--	11.5%	
<i>Excess Return</i>		-5.4%	0.6%	1.9%	--	2.5%	
<i>Alpha</i>		-7.7%	-0.3%	3.7%	--	3.8%	
<i>Pct. Rank vs. Lipper Mixed Target Allocation</i>		73	14	3	--	4	
Concentrated All-Cap Growth	\$32,651,957	-13.0%	--	--	--	-1.4%	5/31/13
S&P 600		8.7%	--	--	--	18.9%	
Style & Risk Adjusted Benchmark		12.3%	--	--	--	14.7%	
Lipper Small-Cap Core		6.5%	--	--	--	16.1%	
<i>Excess Return</i>		-21.7%	--	--	--	-20.2%	
<i>Alpha</i>		-25.3%	--	--	--	-16.0%	
<i>Pct. Rank vs. Lipper Small-Cap Core</i>		99	--	--	--	100	
Champlain Mid-Cap Core	\$423,974	10.1%	15.3%	14.9%	--	19.2%	2/28/09
S&P 400 Mid-Cap Index		12.2%	17.0%	15.7%	--	21.7%	
Style & Risk Adjusted Benchmark		12.5%	15.7%	13.6%	--	18.0%	
Lipper Mid Core		9.8%	15.8%	14.1%	--	19.8%	
<i>Excess Return</i>		-2.1%	-1.8%	-0.8%	--	-2.4%	
<i>Alpha</i>		-2.4%	-0.4%	1.3%	--	1.2%	
<i>Pct. Rank vs. Lipper Mid-Cap Core</i>		55	64	43	--	65	
Cramer Rosenthal All-Cap	\$145,478	5.8%	14.0%	13.2%	9.8%	10.1%	5/31/05
S&P 400 Value/S&P 1500 Blend		12.5%	17.6%	15.1%	11.2%	10.2%	
Style & Risk Adjusted Benchmark		9.1%	14.4%	15.2%	10.6%	9.3%	
Lipper Multi Core		9.8%	15.3%	13.2%	8.6%	8.2%	
<i>Excess Return</i>		-6.8%	-3.7%	-1.9%	--	-0.2%	
<i>Alpha</i>		-3.4%	-0.5%	-1.9%	--	0.8%	
<i>Pct. Rank vs. Lipper Multi Core</i>		84	75	60	23	9	

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

FIXED INCOME REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

JUNE 4, 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	5.7%	3.9%	5.1%	5.6%	5.7%
Barclays Aggregate	5.7%	3.1%	4.4%	4.7%	4.9%
Peer Median Return	5.1%	4.0%	5.5%	5.3%	5.2%
Rank vs. Peers	39	54	60	35	26

- Long-Term Fixed Income returns matched the performance of the Barclay's Aggregate on a one-year basis and have outperformed this benchmark over longer time periods. This outperformance was aided by an overweight to corporate bonds as investment grade credit outperformed U.S. Treasuries. The shorter duration of the portfolio hindered relative performance on a one-year basis as 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 fund also maintains out-of-benchmark exposure to high yield credit managers (7.4% of fund assets) and securitized credit mandates (14.2% of fund assets). This strategy increases the credit risk and liquidity risk of the portfolio. These risks are offset by lower interest rate risk as these securities reduce the duration of the portfolio. The fund has also increased its U.S. Treasury holdings to reduce overall liquidity risk for the portfolio (14.8% of fund assets).
- The portfolio established a tactical allocation to U.S. Treasury Inflation-Protected Securities (TIPS) due to the relatively low inflation expectations in the markets during the quarter (5.8% of fund assets).
- 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 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 basis as long-term interest rates have declined while short-term interest rates have increased. The 30-year U.S. Treasury ended the quarter with an all-time low yield of 2.54%, down from 3.97% on December 31, 2013. Yields remain near their lowest levels in sixty years and the long-term risk to the portfolio remains the potential for interest rate increases. Greater uncertainty regarding Federal Reserve policy has the potential to increase interest rate volatility on short and intermediate maturity bonds in the months ahead.

- U.S. investment grade credit spreads were flat for the quarter at 130 basis points (bps). High-yield spreads recovered during the quarter and fell 17 bps to 466 bps. The recovery was strongest in high yield energy as spreads in this sector decreased by 22 bps to 707 bps. Energy spreads were still dramatically wider than the 321 bps spread level that they reached in June of 2014.
- European interest rates were a dominant story during the quarter as European sovereign debt rallied due to the ECB's quantitative easing program. Yields on 10-year German Bunds fell by 36 bps during the quarter to finish at 0.18%. Yields are negative for all German sovereign bonds that mature in seven years or less. U.S. yields continue to look attractive when compared to other developed bond markets, with the 10-year U.S. Treasury yielding 1.92%.
- The portfolio remains defensively positioned for interest rate increases after the bond rally year-to-date. This defensive positioning has been reduced during the previous year in order to reflect the decline in expectations of global growth due to economic weakness in Europe and Asia. 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

3/31/15

	Amount	% of Total
Core	(in millions)	
LTFID Internal	\$4,701	
Dodge & Cox	<u>249</u>	
Sub Total	\$4,950	68.2%
Credit		
Prudential	<u>\$262</u>	
Sub Total	\$262	3.6%
Securitized Debt		
Principal Global	\$337	
Met West Securitized Ops	<u>691</u>	
Sub Total	\$1,028	14.2%
High Yield		
Columbia Management	\$270	
Prudential High Yield	<u>264</u>	
Sub Total	\$534	7.4%
Tactical		
Pyramis	\$267	
Loomis Core Plus	<u>209</u>	
Sub Total	\$476	6.6%
TOTAL	<u><u>\$7,250</u></u>	<u><u>100.0%</u></u>



SMRS

Fixed Income Holdings Portfolio Characteristics

Benchmark: Barclays Aggregate

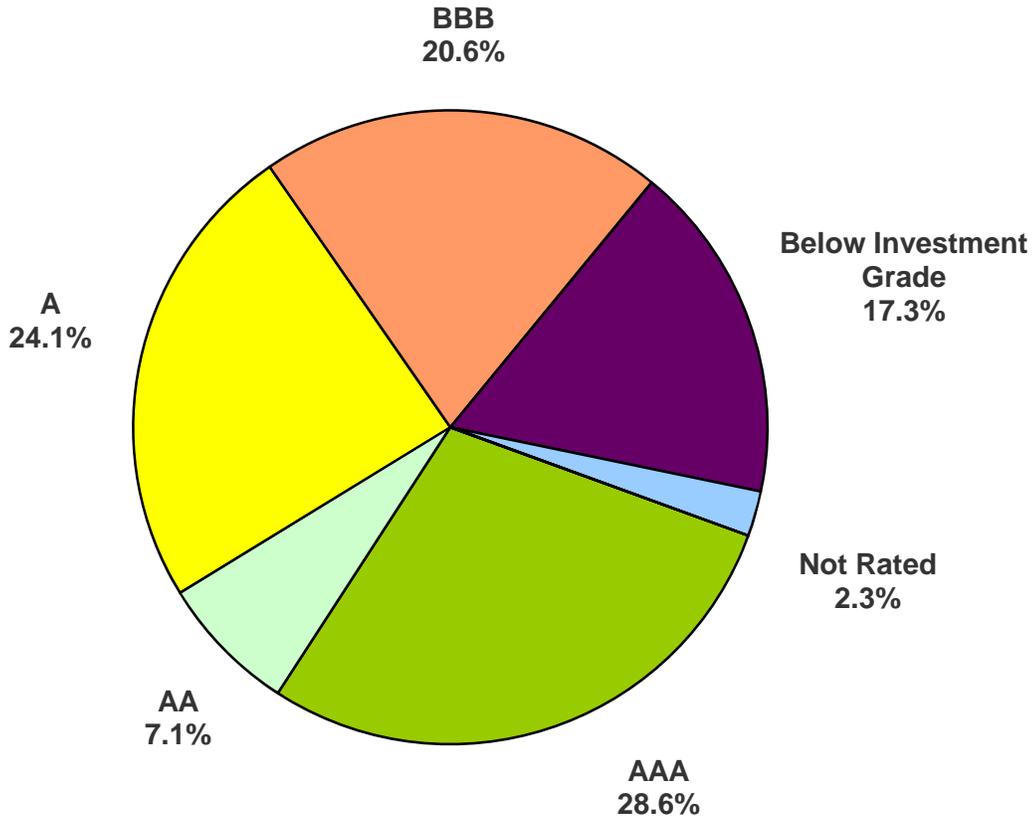
3/31/15

<u>Characteristic</u>	<u>Portfolio</u>	<u>Benchmark</u>	<u>Relative (%)</u>
Average Life	6.9	7.3	94.0
Average Life w/Cash Equiv.	6.9	7.3	93.7
Duration (Yrs)	5.5	5.9	94.0
Duration (Yrs) w/Cash Equiv.	5.5	5.9	93.7
Coupon (%)	3.7	3.4	110.7
Yield to Maturity (%)	3.1	2.1	142.9
Moody's Credit Rating	Baa1	Aa2	
S&P Credit Rating	BBB	AA-	



SMRS

Fixed Income By Rating Total U.S. Long-Term Fixed Income 3/31/15



Market Value in Millions				
3/31/15				
	<u>Assets</u>	<u>Percent</u>	<u>Benchmark</u>	<u>Difference</u>
AAA	\$2,072	28.6%	72.0%	-43.4%
AA	512	7.1%	5.3%	1.8%
A	1,747	24.1%	11.9%	12.2%
BBB	1,496	20.6%	10.1%	10.5%
Not Rated	168	2.3%	0.6%	1.7%
* Below Investment Grade	1,255	17.3%	0.1%	17.2%
Total Investments	<u>\$7,250</u>	<u>100.0%</u>	<u>100.0%</u>	

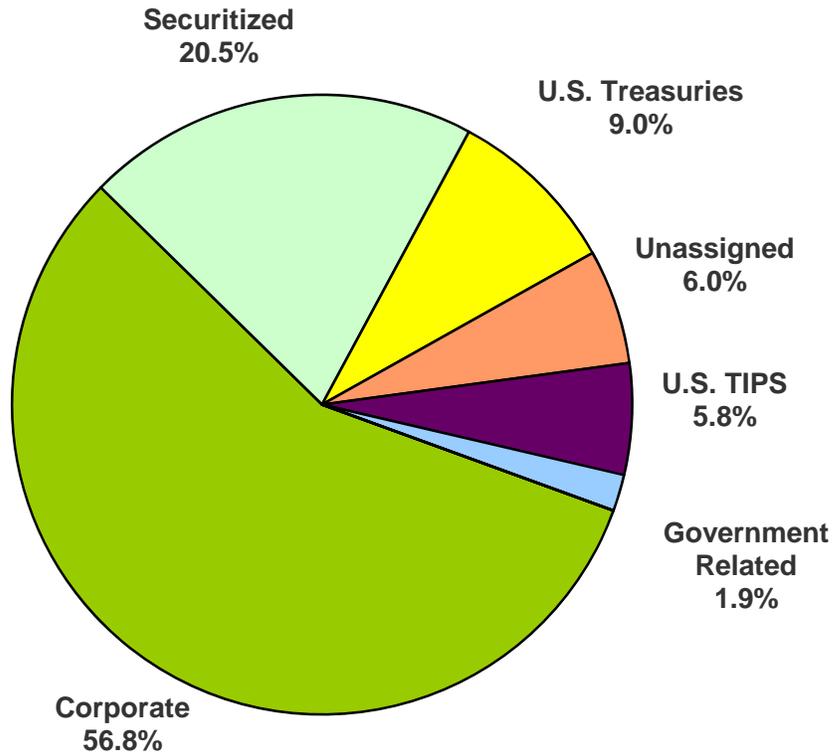
* Comprised of approximately 10.5% High Yield Credit and 6.8% High Yield RMBS/ABS

Benchmark: Barclays US Aggregate



SMRS

Fixed Income By Asset Type Total U.S. Long-Term Fixed Income 3/31/15



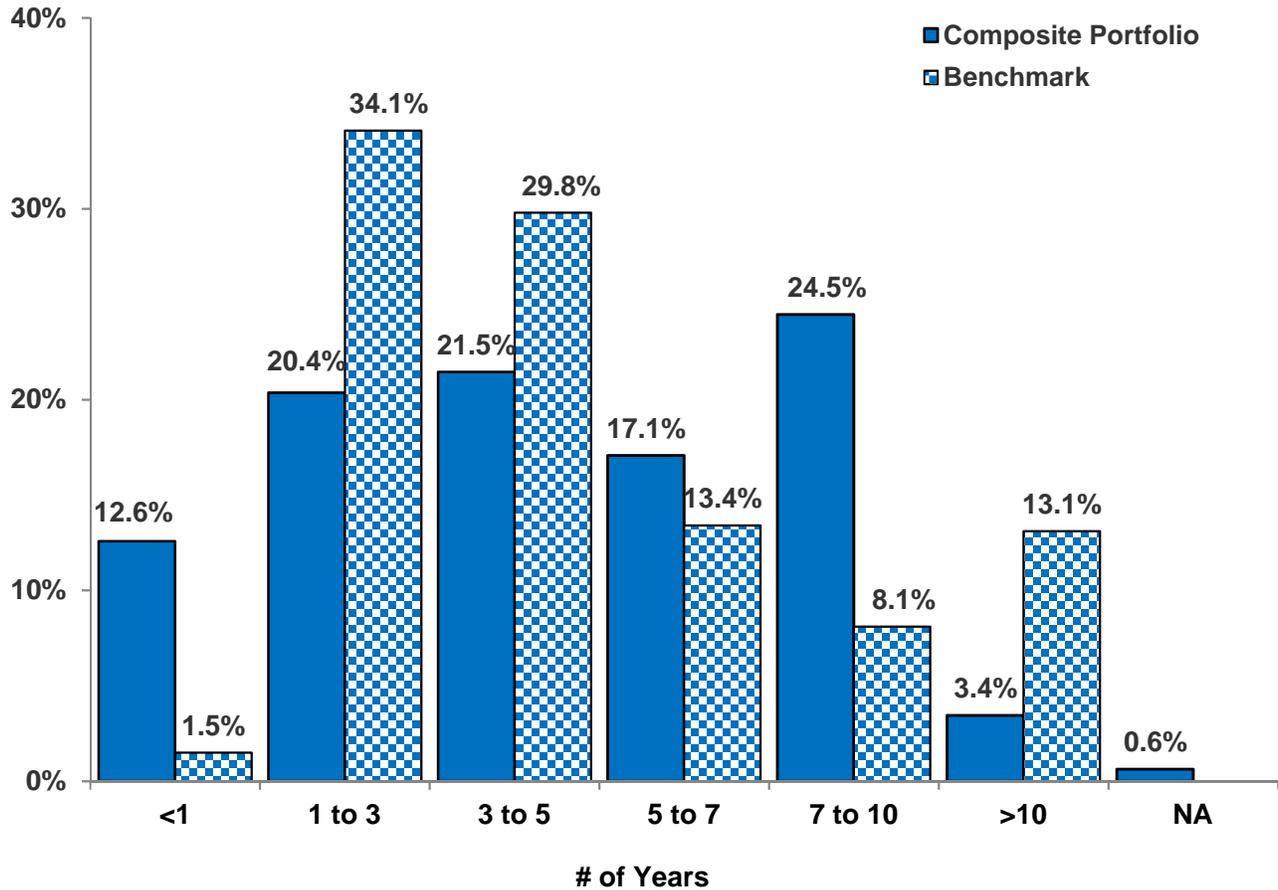
Market Value in Millions				
3/31/15				
	<u>Assets</u>	<u>Percent</u>	<u>Benchmark</u>	<u>Difference</u>
Corporate	\$4,119	56.8%	23.4%	33.4%
Securitized	1,485	20.5%	31.0%	-10.5%
U.S. Treasuries	655	9.0%	36.0%	-27.0%
Unassigned	432	6.0%	0.0%	6.0%
U.S. TIPS	422	5.8%	0.0%	5.8%
Government Related	137	1.9%	9.6%	-7.7%
Total Investments	<u>\$7,250</u>	<u>100.0%</u>	<u>100.0%</u>	

Benchmark: Barclays US Aggregate



SMRS

Duration Distribution Fixed Income Composite Versus Benchmark 3/31/15



Source: Factset

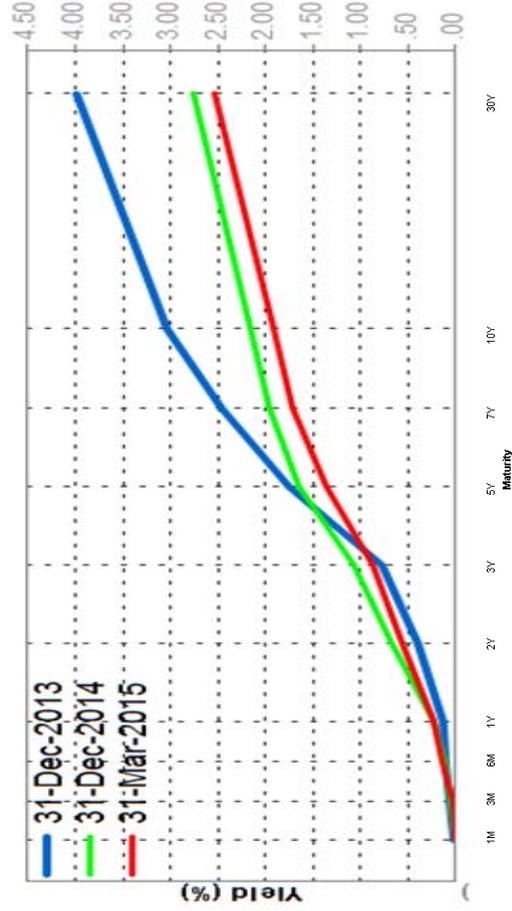
Market Value in Millions					
Duration	Assets	Portfolio Weight	Benchmark Weight	Portfolio Duration	Benchmark Duration
<1	\$912	12.6%	1.5%	0.2	0.8
1 to 3	1,476	20.4%	34.1%	2.2	2.0
3 to 5	1,555	21.5%	29.8%	4.0	4.0
5 to 7	1,238	17.1%	13.4%	6.1	5.9
7 to 10	1,773	24.5%	8.1%	7.9	8.0
>10	250	3.4%	13.1%	13.7	15.7
NA	46	0.6%	0.0%	0.0	0.0
Total	\$7,250	100.0%	100.0%	4.9	5.4

Total Fixed Income Performance - Net of Fees

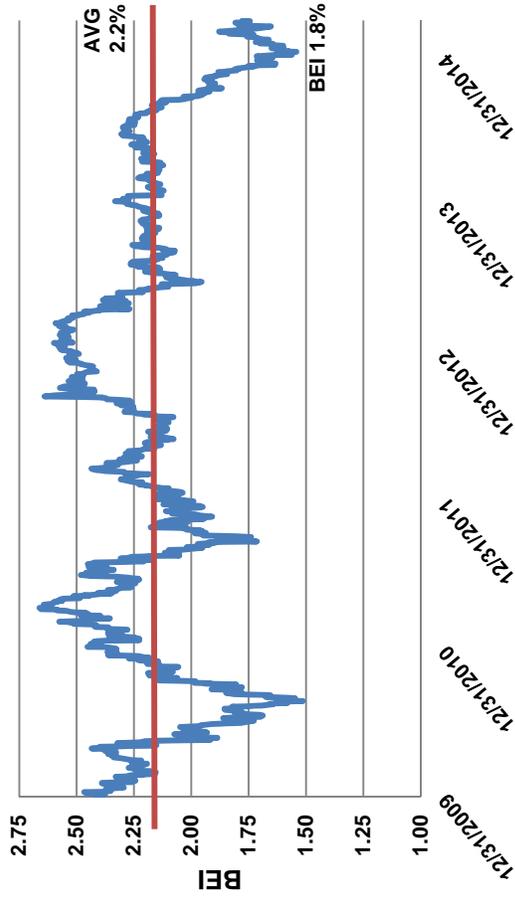
MPSERS

	<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	\$7,249,781,259	5.7%	3.9%	5.1%	5.6%	5.7%
<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>
Internal Fixed Income	\$4,701,473,653	6.0%	3.4%	4.7%	5.4%	5.6%
External Fixed Income	\$2,548,307,606	4.9%	4.4%	5.6%	5.8%	--
MetWest Securitized Opportunities	690,246,682	3.4%	--	--	--	--
Principal CMBS	337,085,300	8.3%	12.2%	17.5%	--	--
Pyramis Tactical Bond Fund	267,232,651	--	--	--	--	--
Prudential Investment Grade	262,308,049	6.7%	5.6%	6.8%	7.6%	--
Dodge & Cox Core	248,589,785	4.9%	4.3%	5.1%	5.9%	--
Loomis Sayles CorePlus	209,323,743	4.1%	--	--	--	--
<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	269,385,045	4.6%	--	--	--	--
Prudential High Yield	264,136,352	3.6%	--	--	--	--
<i>Barclays US HY BA/B 2% Cap</i>	<i>N/A</i>	<i>3.2%</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>

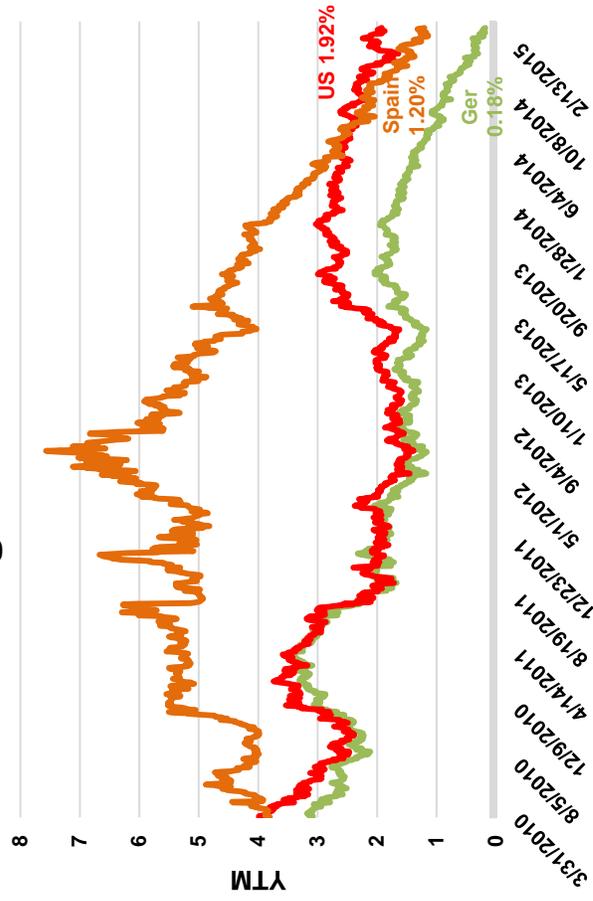
U.S. Yield Movement



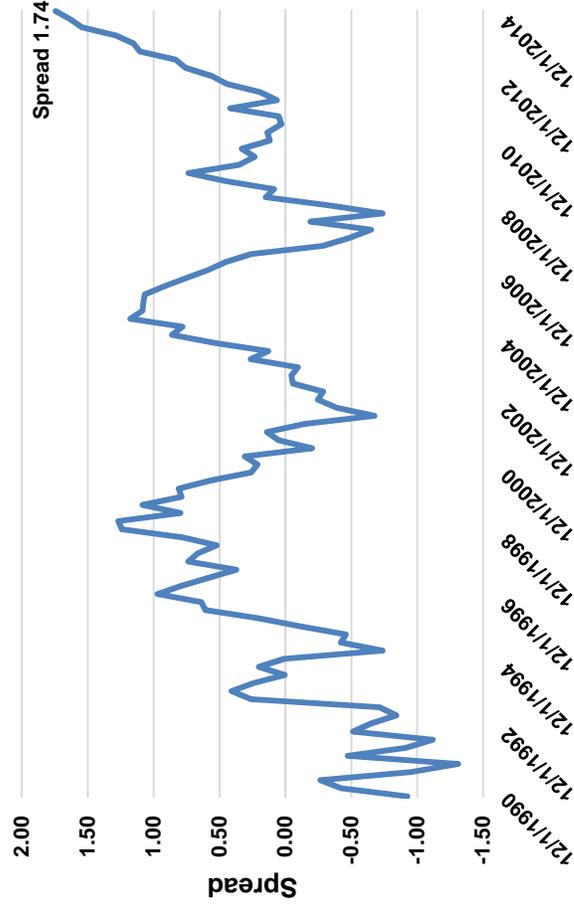
10-Year U.S. Treasury Breakeven Inflation



Sovereign Debt Yield Movement



U.S. - German Yield Spread

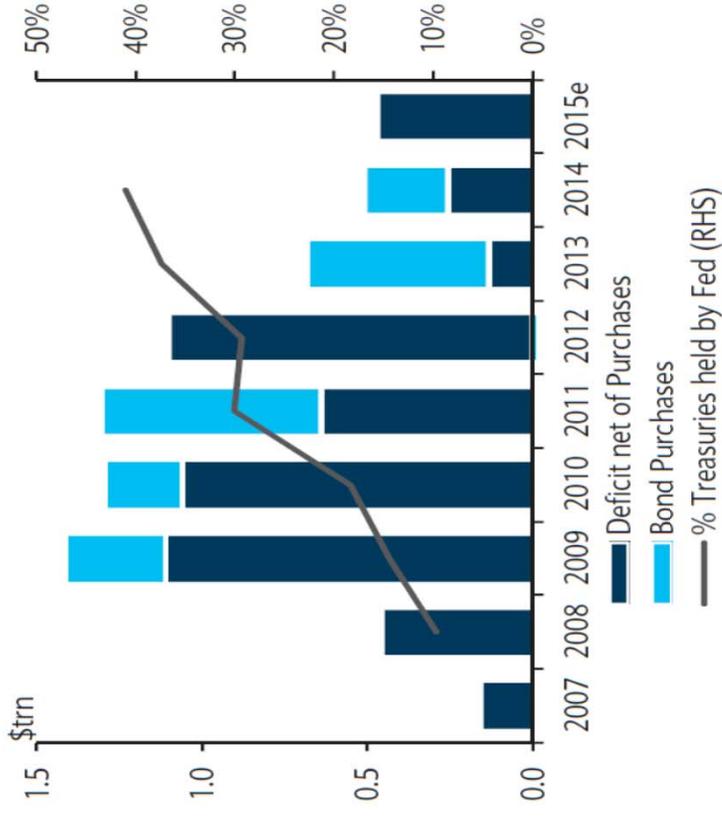


Effects of ECB Quantitative Easing

The ECB Will Displace €840bn of Bondholders – Buying €560bn More EGBs Than Will Be Issued...

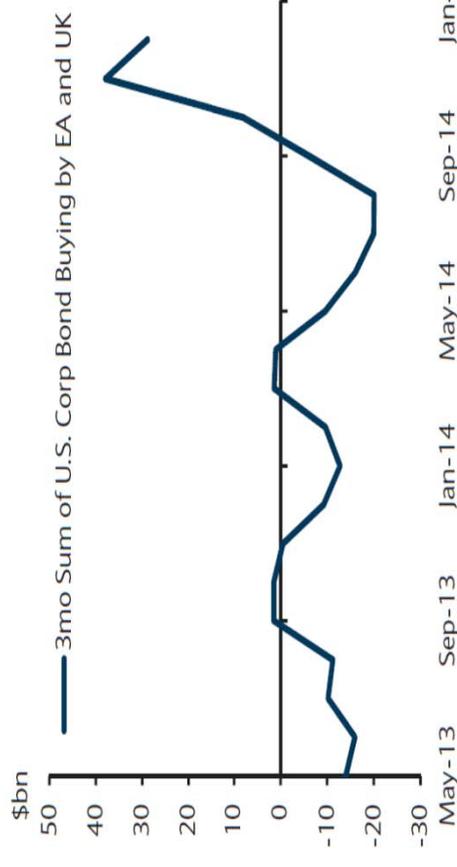
	Net issuance f/c	ECB Purchases	Total Displacement
EGBs	290	-850	-560
ABS	20	-90	-70
Covered bonds	-60	-100	-160
SSAs	50	-100	-50
Total		-1,140	-840

... Distinctly Different from QE in the U.S., Where Fed Purchases Never Exceeded Net Treasury Issuance



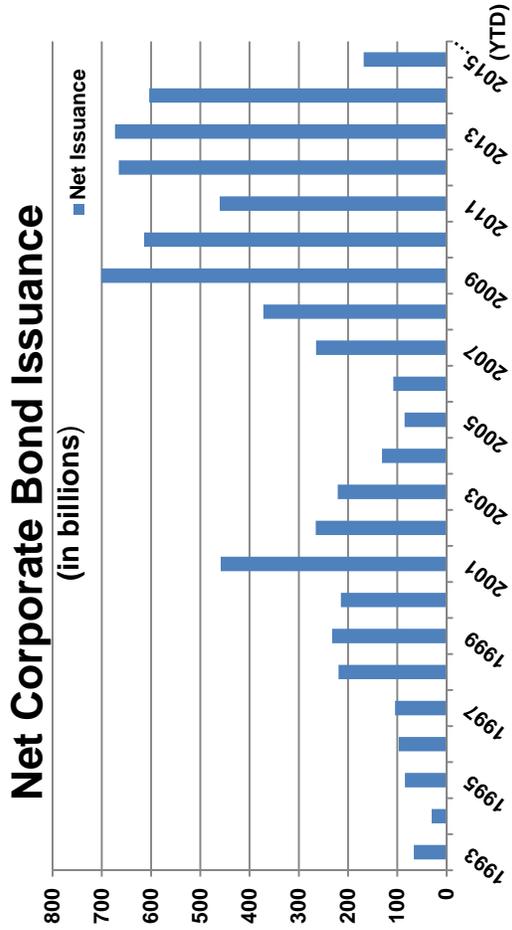
Source: CBO, Barclays Research

Euro Area and U.K. Investors Have Increased Allocations to USD Bonds

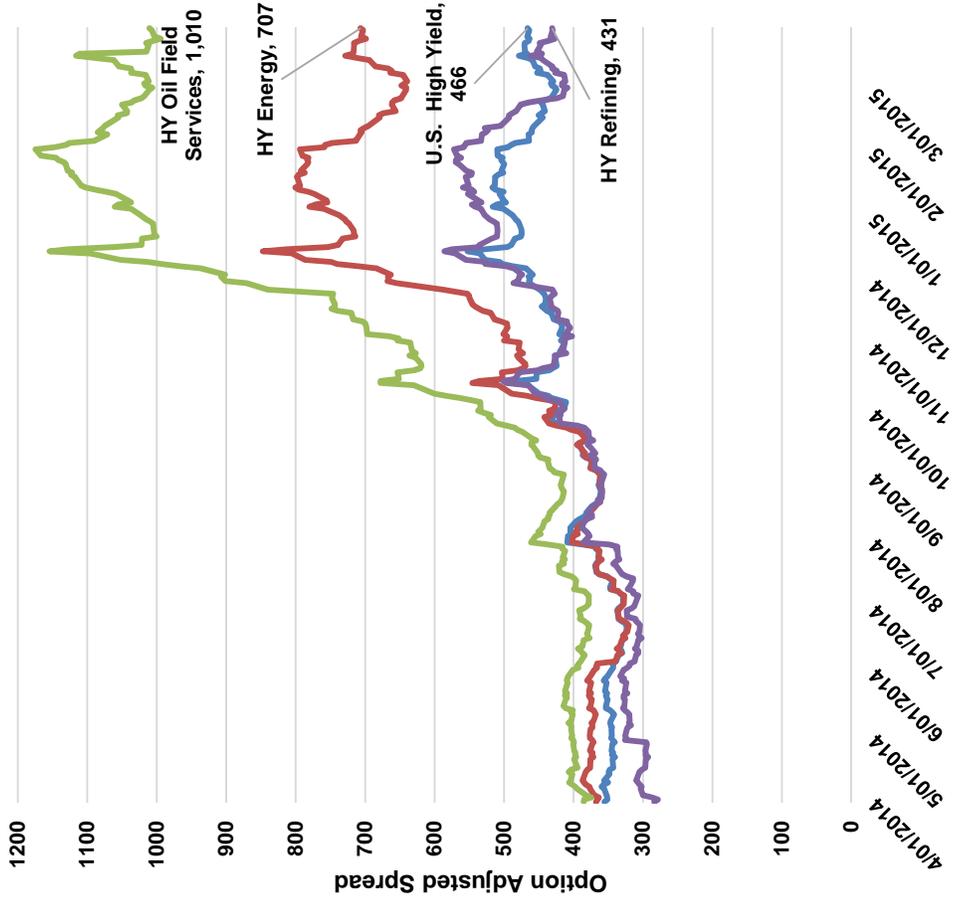


Note: TIC database reports with a lag; January is the most recent data available. Source: U.S. Treasury TIC Database, Barclays Research

Corporate Bond Market Liquidity

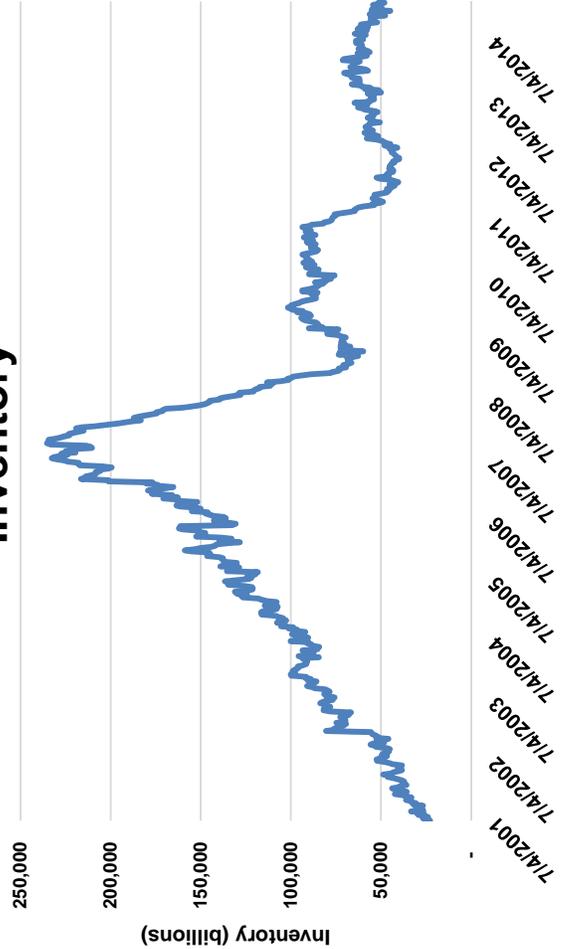


High Yield Spread Movement



Source: Barclay's

Primary Dealer Corporate Bond Inventory



Source: NY Federal Reserve, CreditSights, BAML

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

INTERNATIONAL EQUITY REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

JUNE 4, 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	2.1%	8.1%	6.1%	2.4%	5.1%
Benchmark Return	-0.8%	6.8%	4.8%	1.5%	4.4%
Peer Median Return	0.0%	8.1%	6.5%	2.2%	5.9%
Rank vs. Peers	22	50	67	34	77

- International equity returns exceeded U.S. equity returns in the first quarter as underlying companies benefited from weak home currencies and central bank stimulus. Developed market performance led emerging markets, and currency levels stabilized and improved versus the U.S. dollar. Trailing year performance for international returns lagged the U.S., and developed markets led emerging markets. Emerging markets have been negatively impacted by energy and commodity price declines and slower Chinese demand. Significant geopolitical risks remain unresolved. Political reforms and changes are advancing slowly. 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. Our portfolio has maintained a high allocation to passive strategies over time, and that strategy choice underperformed active strategies in several periods. The advantages of indexed equity use, including broader exposures, reduced overall risk and variance, and lower management costs have been very beneficial.
- The internally managed stock plus funds outperformed their benchmarks. Both use a conservative approach to managing fixed income and dividend stock assets underlying equity swap overlays. All counterparties used for swap agreements, and the fixed income securities held are rated investment grade.
- Indexed and internal stock plus investments represent 54.5% of international developed markets equity exposure. That composite had a return of 6.1% in the first quarter and 3.8% for the year.
- Active developed market fund managers had a return of 5.1% for the quarter and 0.2% for the year. Manager returns are well diversified, and reflect a combination of fundamental analysis driven, quantitative and stock plus fixed income enhancement strategies. The resulting cumulative exposure, supported by multiple expert processes, produces a positive ensemble alpha with better control of risk.

- Total emerging market equity returns were -3.9% for the quarter, and 0.2% for the trailing year. Active exposure to the fundamental factor subset index has been volatile and challenging. The (RAFI) Research Affiliates Fundamental Index is a value style strategy with a long time horizon, deep value characteristics and an implicit political risk sensitivity. Forty-four percent of our exposure to emerging markets is indexed. Some additional Emerging markets exposure results from developed market external manager use of attractive substitute stocks, and some specific manager risk platforms addressing ACWI or Global ex U.S. mandates.

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, European Central Bank support of liquidity through Quantitative Easing actions and plans, 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. Political instability and currency devaluation remain important issues. Actual U.S. Federal Reserve tightening moves could add to dollar strength, causing some additional headwinds.
- 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 continue to enhance returns, and focus on security selection and tactical opportunities to 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. The addition was funded by an equal reduction of the PIMCO Fundamental Emerging Market fund held.
- Emerging markets continue to benefit from growing local consumer demand trends. Positive governance, regulation and financial system changes are improving investment opportunities in many countries. However, political instability, systemic corruption, rule of law, and unfavorable tax regimes 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. The long-term outlook for growth through internal opportunities and global trade remains very positive.

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

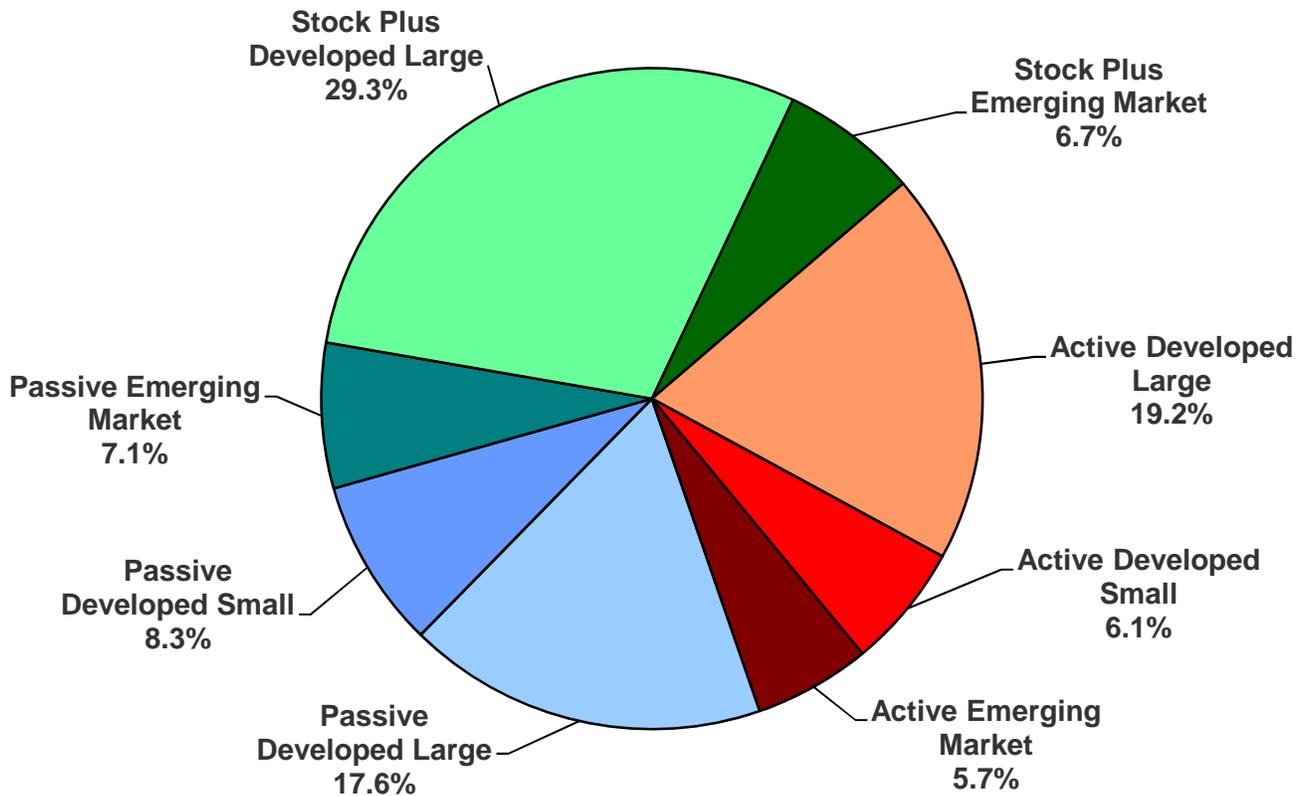
3/31/15

	Passive	Stock Plus	Active	Total	% of Total
(in millions)					
Developed Markets - Large/Mid-Cap					
SSgA PMI Fund	\$1,040				
Vanguard Developed Markets Fund	573				
Internal Stock Plus Combination		\$1,648			
PIMCO Stock Plus Fund		1,033			
Wellington Int'l Research Equity Fund			\$601		
Baillie Gifford ACWI ExUS Alpha Fund			367		
Marathon-London EAFE Fund			346		
T Rowe Price Int'l Core Equity			226		
Lazard Int'l Equity			220		
Sub Total Developed Large/Mid-Cap	\$1,613	\$2,681	\$1,760	\$6,054	66.0%
Developed Markets - Small-Cap					
SSgA EMI Fund	\$761				
Franklin Templeton Int'l Small-Cap Fund			\$203		
MFS Int'l Small-Cap Fund			185		
SSgA Int'l Small-Cap Alpha Fund			175		
Sub Total Developed Small-Cap	\$761		\$563	\$1,324	14.5%
Total Developed Markets	\$2,374	\$2,681	\$2,323	\$7,378	80.5%
Emerging Markets - All-Cap					
Vanguard Emerging Mkt Stock Index Fund	\$653				
Internal EM Fund Stock Plus		\$121			
PIMCO EM Fund Stock Plus		489			
LACM Emerging Market Fund			\$323		
Wellington Emerging Market Fund			202		
Total	\$653	\$610	\$525	\$1,788	19.5%
TOTAL	\$3,027	\$3,291	\$2,848	\$9,166	100.0%



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International Equity Exposure By Category 3/31/15



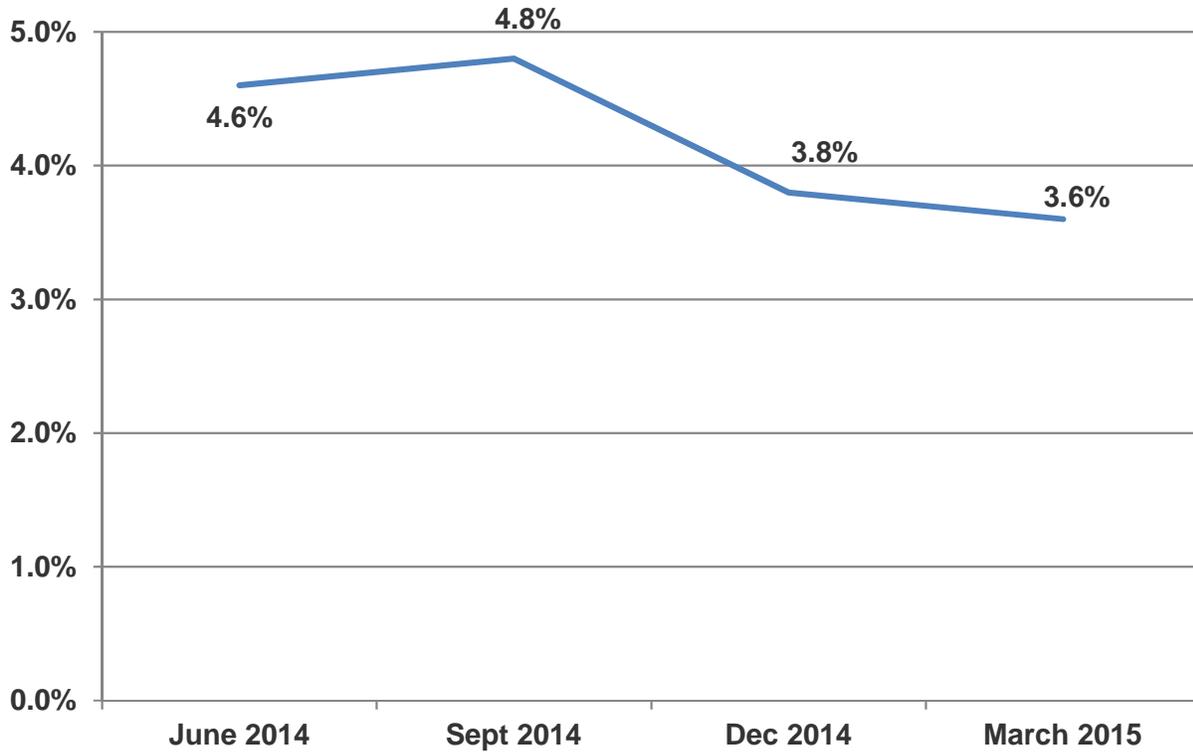
Market Value in Millions				
	3/31/2015		12/31/2014	
Passive				
Developed Large	\$1,613	17.6%	\$1,541	17.2%
Developed Small	\$761	8.3%	\$721	8.1%
Emerging Market	\$653	7.1%	712	8.0%
Total Passive Equity	\$3,027	33.0%	\$2,974	33.3%
Stock Plus				
Developed Large	\$2,681	29.3%	\$2,654	29.7%
Emerging Market	\$610	6.7%	\$612	6.8%
Total Stock Plus Equity	\$3,291	36.0%	\$3,266	36.5%
Active				
Developed Large	\$1,760	19.2%	\$1,674	18.7%
Developed Small	563	6.1%	539	6.0%
Emerging Market	525	5.7%	492	5.5%
Total Active Equity	\$2,848	31.0%	\$2,705	30.2%
Total International Equity	\$9,166	100.0%	\$8,945	100.0%

Michigan Department of Treasury, Bureau of Investments



SMRS

Emerging Market Allocation SMRS Versus Benchmark 3/31/15



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%

*As measured by Factset Equity Analytics



SMRS

Active International Equities Composite

3/31/15

Date:	<u>3/31/15</u>
Assets (\$million):	\$2,848
Number of Securities:	1,686
Active Share:	59%
Benchmark:	MSCI ACWI ex USA

Description: The Active International Equities Composite represents the profile of cumulative investments by active international managers with developed market, emerging market and small capitalization 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):	\$37.7	\$58.3
Trailing 12-month P/E:	17.0x	16.0x
Forecast P/E:	15.6x	15.4x
Price/Book:	6.3x	3.2x
Beta:	0.91	1.00
Dividend Yield:	2.3%	2.8%
3-5 Year EPS Growth Estimate:	13.4%	11.0%
Return on Equity:	16.3%	15.1%

TOP TEN HOLDINGS – Active International Equities 3/31/15

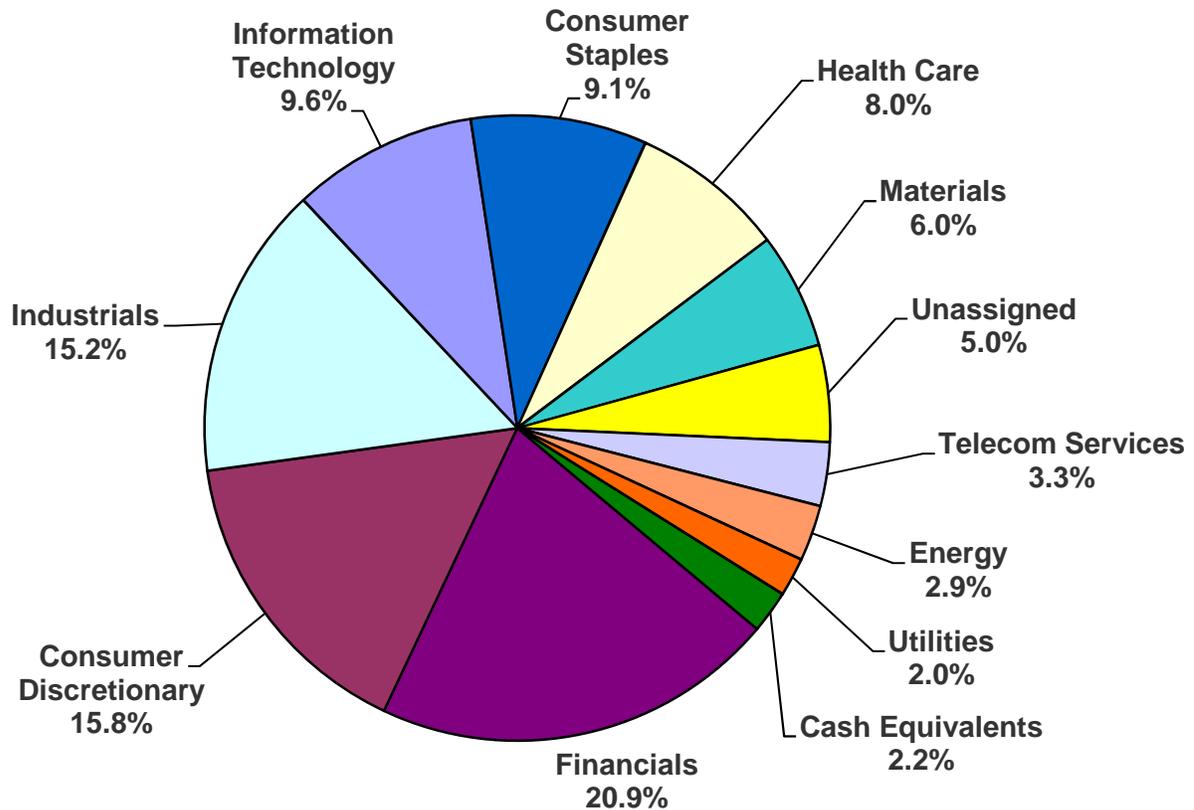
	<u>Portfolio Weight</u>	<u>Market Value</u>
Novartis AG	1.1%	\$30,699,509
Taiwan Semiconductor	0.9%	25,991,188
Samsung Electronics	0.7%	25,484,086
Anheuser-Busch InBev	0.5%	20,193,877
Naspers	0.7%	19,874,027
BNP Paribas	0.6%	16,039,798
British American Tobacco	0.6%	15,762,393
China Construction Bank	0.6%	15,664,238
Nestle S.A.	0.5%	15,038,253
Prudential plc	<u>0.5%</u>	<u>14,393,894</u>
TOTAL	<u>6.7%</u>	<u>\$199,141,263</u>



SMRS

Active International Equity By Sector

3/31/15



Market Value in Millions				
3/31/15				
	Assets	Percent	Benchmark	Difference
Financials	\$594	20.9%	27.5%	-6.6%
Consumer Discretionary	451	15.8%	11.6%	4.2%
Industrials	433	15.2%	11.0%	4.2%
Information Technology	274	9.6%	7.5%	2.1%
Consumer Staples	259	9.1%	9.8%	-0.7%
Health Care	228	8.0%	8.9%	-0.9%
Materials	170	6.0%	7.6%	-1.6%
Unassigned	141	5.0%	0.0%	5.0%
Telecom Services	94	3.3%	5.2%	-1.9%
Energy	83	2.9%	7.5%	-4.6%
Utilities	57	2.0%	3.4%	-1.4%
Total Investments	\$2,784	97.8%	100.0%	
Cash Equivalents	64	2.2%	0.0%	2.2%
Total	\$2,848	100.0%	100.0%	

Benchmark: S&P 1500

International Manager Performance – Net of Fees
3/31/15

	<u>Market Value</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>7 Years</u>	<u>Inception Date</u>
PIMCO Intl. (EAFE) Stock Plus AR	\$1,032,638,670	-0.3%	11.3%	--	--	10/1/10
MSCI EAFE Net Div. Index (unhedged)		-0.9%	9.0%	--	--	
Wellington Intl. Research Equity	\$600,891,990	0.0%	9.1%	7.0%	2.0%	12/1/05
S&P BMI World Ex-US Index		-1.0%	8.8%	6.6%	2.4%	
PIMCO EM RAFI Stock Plus AR	\$288,726,365	-0.8%	0.2%	--	--	10/1/10
MSCI Emerging Market RAFI Index		0.4%	0.3%	--	--	
PIMCO EM MSCI Stock Plus AR	\$200,000,000	--	--	--	--	3/31/15
MSCI Emerging Market Index		--	--	--	--	
Baillie Gifford ACWI Ex-US Alpha	\$366,872,883	0.6%	7.9%	--	--	3/1/12
MSCI ACWI Ex-US		-1.0%	6.4%			
Marathon-London Intl. Fund	\$346,295,134	0.2%	11.0	--	--	2/1/12
MSCI EAFE Net Index		-0.9%	9.0%	--	--	
LA Capital Emerging Market	\$322,823,569	3.2%	1.1%	4.3%	--	12/8/09
MSCI Emerging Market Index		0.4%	0.3%	3.4%	--	
T. Rowe Price Intl. Core Equity	\$225,617,708	--	--	--	--	1/1/14
MSCI EAFE Index		--	--	--	--	
Lazard Wilmington Intl. Equity	\$220,050,000	--	--	--	--	5/1/14
MSCI EAFE Net Index		--	--	--	--	
Templeton Intl. Smaller Companies	\$202,520,786	0.2%	--	--	--	6/1/12
MSCI All Country World Index Ex-US Small-Cap		-3.6%	--	--	--	
Wellington Emerging Local Equity	\$202,451,961	2.3%	5.7%	--	--	12/1/11
MSCI Emerging Market Index		0.4%	0.3%	--	--	
MFS Intl. Small-Cap Equity	\$185,064,889	-0.3%	--	--	--	5/1/12
MSCI All Country World Index Ex-US Small-Cap		-3.6%	--	--	--	
SSGA Intl. Small-Cap Alpha	\$175,338,767	-4.0%	12.3%	10.4%	--	5/1/07
S&P Developed Ex-US Small-Cap		-3.1%	9.9%	8.1%	--	

International Indexed Manager Performance - Net of Fees
3/31/15

	<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 S&P Developed Ex-US Large/Mid-Cap	\$1,039,936,606	-0.7%	8.1%	6.0%	--	4/1/10
S&P Developed Ex-US Large/Midcap		-0.6%	8.6%	-6.3%	--	
SSgA S&P EPAC Small-Cap	\$761,101,312	-1.6%	11.3%	9.2%	--	4/1/10
S&P EPAC Small-Cap		-1.8%	11.0%	8.8%	--	
Vanguard Developed Markets (FTSE)	\$573,329,739	-0.9%	9.1%	6.5%	--	4/1/10
FTSE Developed Market Fund		-0.6%	9.1%	6.2%	--	
Vanguard Emerging Market (FTSE)	\$652,976,450	3.1%	0.6%	--	--	7/1/09
FTSE Emerging Index		3.3%	0.8%	--	--	

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

PRIVATE EQUITY REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

JUNE 4, 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	12.6%	16.2%	16.0%	9.1%	14.0%
Benchmark Return	16.9%	23.5%	19.8%	13.6%	12.3%
Peer Median Return	10.2%	13.0%	12.5%	6.9%	10.9%
Rank vs. Peers	21	15	8	11	5

- The Private Equity Division annualized returns have been strong in absolute terms for all time periods over the past ten years; returning 12.6% and 14.0% 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, ranking in the top 21% and 5% of peers over the past one and ten years respectively.
- 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 4.7% annualized excess returns over the S&P 500 (10-year S&P 500 return 9.3%).

Strategy Update

Over the past twelve months ending 3/31/15, the Private Equity Division returned roughly \$1.7 billion to the pension fund. In the first quarter of 2015, this trend has continued 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 \$4.5 billion in unfunded commitments. New commitments closed during the quarter include:
 - \$250 million FirstMark Capital P2 focused on late stage venture capital
 - \$150 million Insight Venture Partners IX and Insight Venture Partners L.P. focused on growth equity, buyout and co-investment opportunities
 - \$125 million KKR European Fund IV focused on European buyout
 - €100 million Rhone Partners V focused on middle market buyout
 - \$100 million Oaktree Opportunity Fund X/Xb focused on distressed debt
 - \$35 million Flagship Ventures V focused on life sciences and healthcare
- 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.

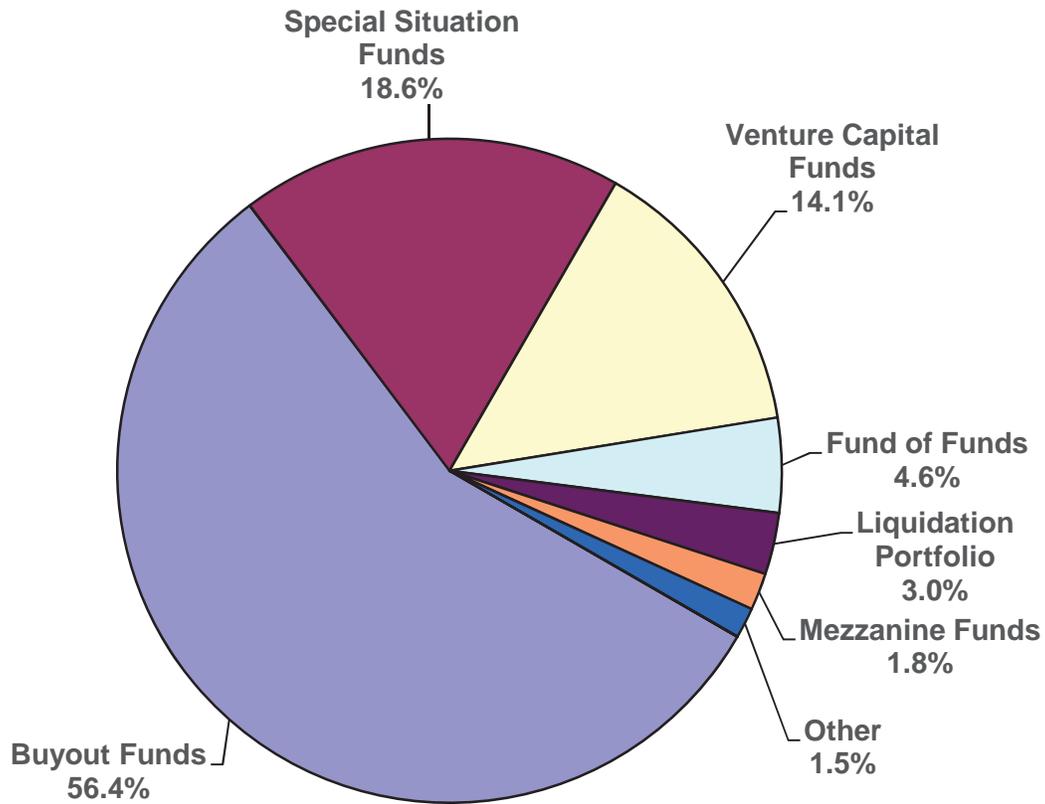
- The Private Equity Division continues to allocate to the other asset classes for portfolio diversification and to capitalize on cyclical market dislocations. The division has also invested in venture capital funds selectively, when this asset class fell out of favor.
- Recently, the Private Equity 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 us 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 3/31/15



Market Value in Millions				
	3/31/15		12/31/14	
Buyout Funds	\$5,575	56.4%	\$5,729	57.9%
Special Situation Funds	1,839	18.6%	1,979	20.0%
Venture Capital Funds	1,394	14.1%	1,126	11.4%
Fund of Funds	458	4.6%	459	4.6%
Liquidation Portfolio	300	3.0%	289	2.9%
Mezzanine Funds	175	1.8%	184	1.8%
Other	141	1.5%	122	1.4%
Total	\$9,882	100.0%	\$9,888	100.0%



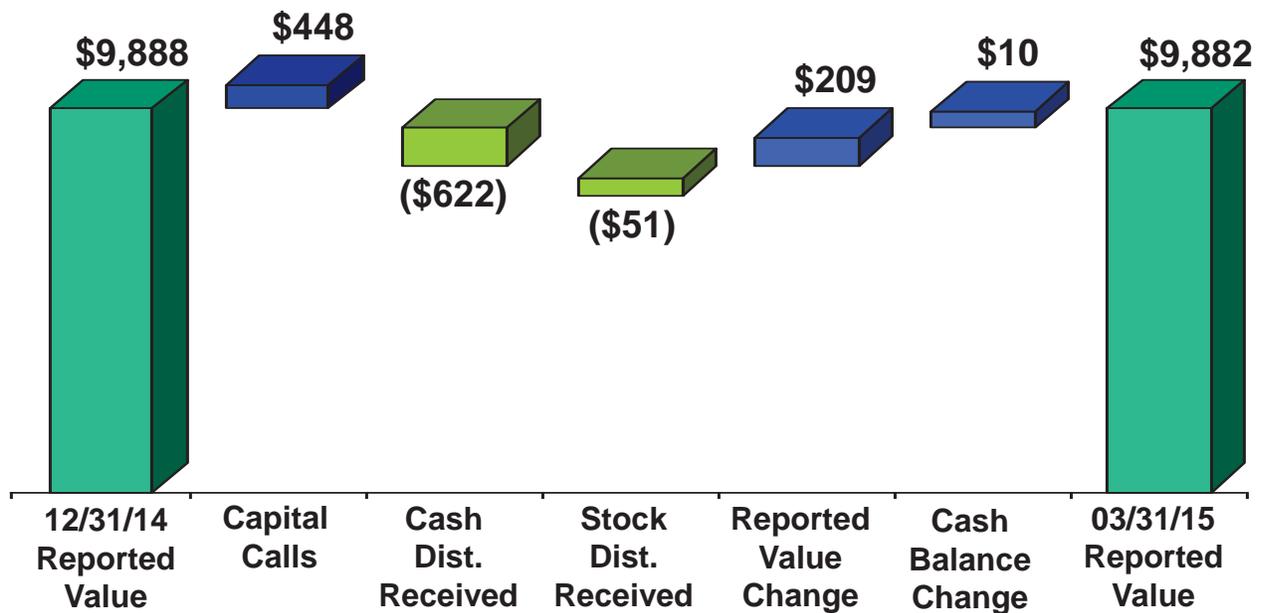
SMRS

Private Equity

03/31/15

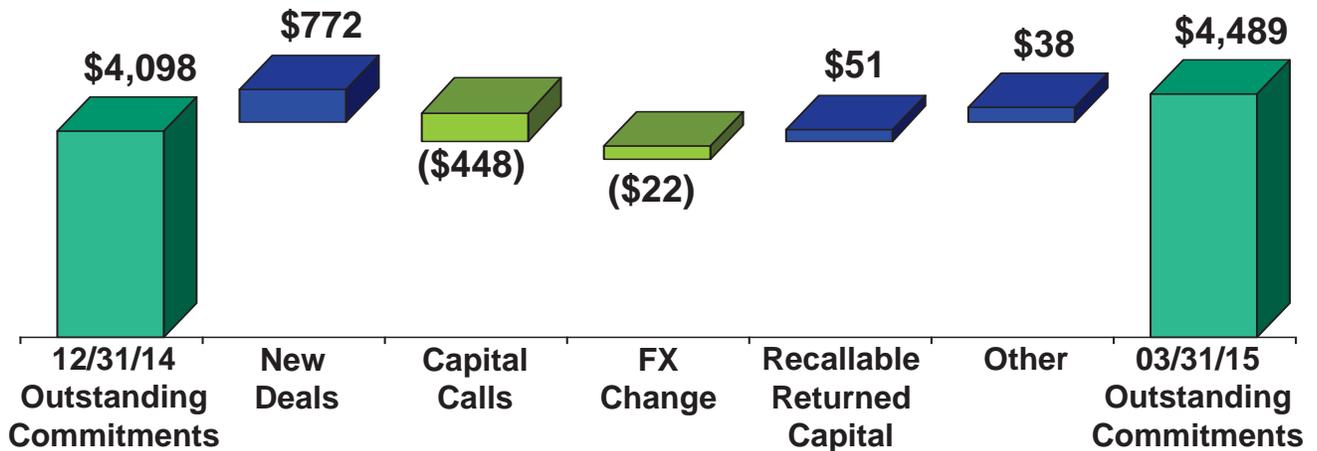
Invested Commitments

(\$ Millions)



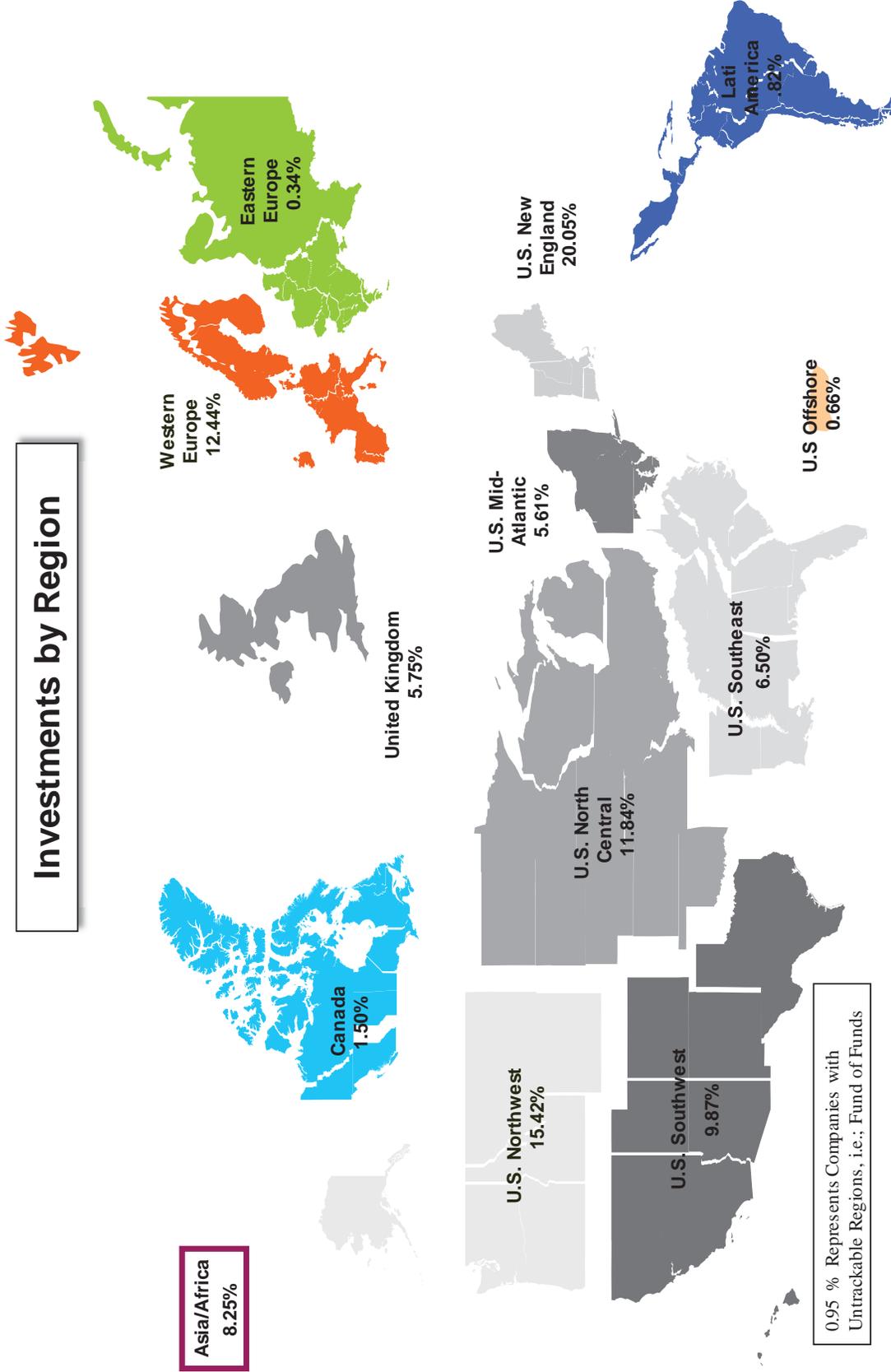
Outstanding Commitments

(\$ Millions)



SMRS
Private Equity
3/31/15

Investments by Region



0.95 % Represents Companies with Untrackable Regions, i.e.; Fund of Funds

Geographic Report: North America 72%, Europe 19%, Asia 8%, Other 1%

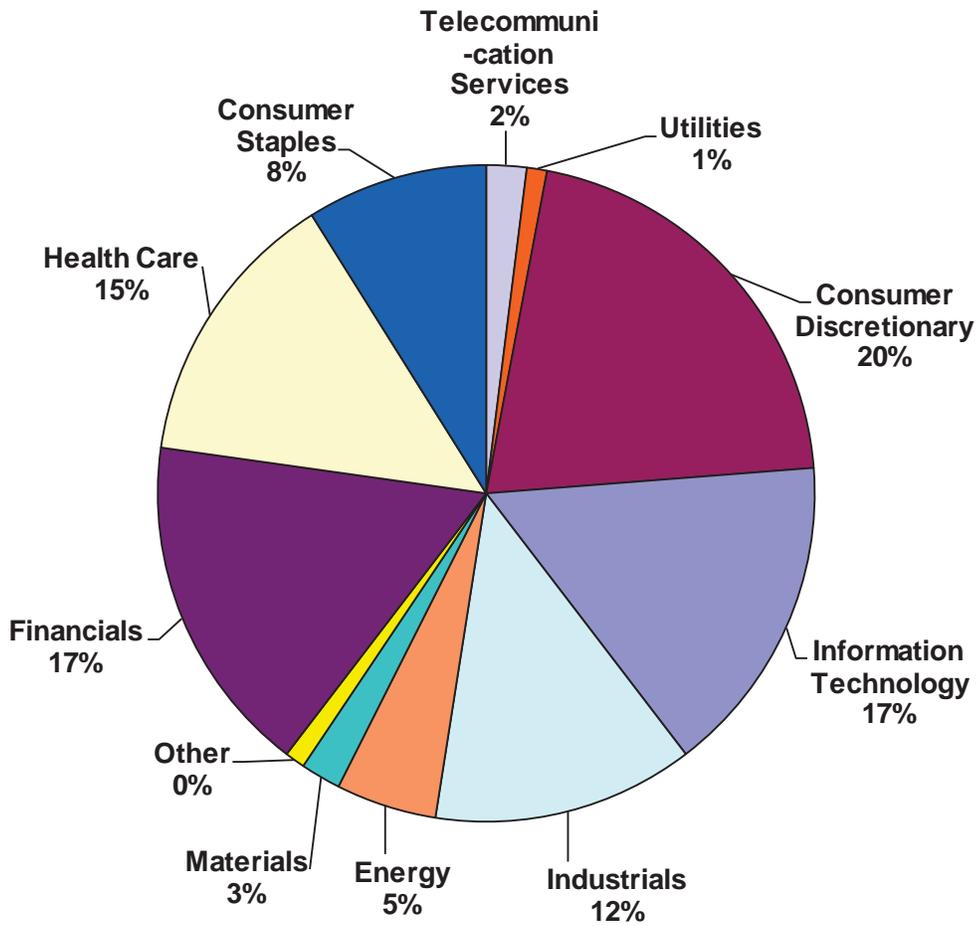


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Private Equity

3/31/15

Investments by Industry



These numbers are based on the most recent available General Partner Data; primarily 09/30/14 and are subject to change.



SMRS

Private Equity

3/31/15

Portfolio by Vintage Year

(\$ Millions)

<u>Asset Vintage</u>	<u>Reported Value</u>	<u>Outstanding Commitment</u>	<u>Total Exposure</u>
1986-98	\$ 61	\$ 25	\$ 86
1999	55	12	67
2000	119	35	154
2001	317	61	378
2002	192	9	201
2003	98	22	120
2004	390	69	459
2005	640	82	722
2006*	2,227	397	2,624
2007	1,581	233	1,814
2008	1,469	367	1,836
2009	77	4	81
2010	362	41	403
2011	530	420	950
2012	753	661	1,413
2013	268	443	711
2014	415	1,064	1,479
2015	188	544	732
Cash	114	-	114
Act. Small Cap - Stock Dist	26	-	26
Total	\$ 9,882	\$ 4,489	\$ 14,370

*Liquidation portfolio is 2006 vintage

FX Exposure

(\$ Millions)

	<u>Reported Value</u>	<u>Outstanding Commitment</u>	<u>Total Exposure</u>	<u>Total (USD)</u>
Euro (\$1.07/ €)	€ 695	€ 250	€ 945	1,015
Pound (\$1.48/ £)	£8	£1	£9	15



Private Equity

3/31/15

Top 10 Sponsors

(\$ Millions)

<u>Asset Type</u>	<u>Reported Value</u>	<u>Outstanding Commitment</u>	<u>Total</u>
Kohlberg Kravis Roberts & Co	\$ 692	\$ 260	\$ 952
GCM Grosvenor	701	190	891
TPG	473	219	692
Warburg, Pincus Capital	469	195	664
Blackstone Capital Partners	458	181	639
Carlyle Group	374	217	591
Advent International	408	117	525
Leonard Green & Partners	372	100	472
Beringea	239	122	361
FirstMark Capital	236	99	335
Top 10 Total Value	<u>\$4,422</u>	<u>\$1,700</u>	<u>\$6,122</u>

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	0.4%	8.3%	14.1%	15.2%	15.3%
Venture Capital	0.5%	15.1%	15.0%	19.2%	12.1%
Special Situations	0.6%	3.9%	12.0%	12.2%	9.5%
Fund of Funds	-0.2%	12.9%	11.3%	11.9%	10.7%
Mezzanine Debt	-0.3%	4.0%	10.3%	12.3%	12.0%

*These numbers are based on most recent available General Partner reported data; primarily 09/30/14 and are subject to change.



SMRS
Private Equity
3/31/15

Net Market Values by Ownership Entity

	<u>Adjusted Reported Value</u>	<u>Unfunded Commitment</u>
Accel Europe I, L.P.	20,701,195	1
Accel Europe II	16,226,259	3,300,000
Accel Growth Fund II, L.P.	12,496,423	1,260,000
Accel Growth Fund III, L.P.	6,746,411	7,140,000
Accel IX, L.P.	11,133,830	3,000,000
Accel VI, L.P.	1,400,092	0
Accel VII, L.P.	2,244,816	5,000,000
Accel VIII, L.P.	2,782,467	4,782,499
Accel VI-S	2,593,386	652,611
Accel X, L.P.	24,669,402	750,000
Accel XI, L.P.	6,529,092	1,680,000
Accel XII, L.P.	2,420,460	4,445,000
Advent Global Private Equity III	1,009,034	20
Advent Global Private Equity IV	1,791,048	0
Advent Global Private Equity V	29,199,949	10,500,000
Advent International GPE VI-A L.P.	230,080,872	8,599,980
Advent International GPE VII-B, L.P.	146,193,790	77,600,000
Advent Latin American Private Equity Fund VI, L.P.	0	20,000,000
Affinity Asia Pacific Fund II, L.P.	6	5,288,237
Affinity Asia Pacific Fund III, L.P.	136,354,906	16,984,256
Affinity Asia Pacific Fund IV (No.2) L.P.	31,193,126	100,446,937
APA Excelsior V	105,142	545,625
Apax Europe Fund VI	75,569,164	2,271,293
Apax Europe V, L.P.	1,533,350	0
Apax Europe VII, L.P.	101,599,902	3,042,998
Apax Excelsior VI	852,827	1,614,434
Apax US VII	24,355,080	417,509
Apax VIII - B, L.P.	34,773,233	67,636,492
Apollo Investment Fund VIII L.P.	12,712,728	86,509,683
Arboretum Ventures II	2,455,556	280,000
Arboretum Ventures III, L.P.	10,742,569	3,255,000
Ares Corporate Opportunities Fund II	26,500,819	11,575,631
Ares Corporate Opportunities Fund III, L.P.	88,379,235	13,050,894
Ares Corporate Opportunities Fund IV, L.P.	64,781,420	38,503,149
ASF Norman, LLC Receivable	182,683,501	0

	Adjusted Reported Value	Unfunded Commitment
Austin Ventures VIII, L.P.	3,429,188	0
Avenue Special Situations Fund IV, L.P.	702,259	0
Avenue Special Situations Fund V, L.P.	2,081,390	0
Avenue Special Situations Fund VI (B), L.P.	39,879,466	0
AXA ASF Miller Co-Investment	56,668,793	23,421,187
Axiom Asia Private Capital Fund III, L.P.	12,390,346	22,801,764
Banc Fund VI	5,644,109	0
Banc Fund VII	40,958,694	0
Banc Fund VIII	26,607,337	0
Battery Ventures VI, L.P.	1,740,188	0
Battery Ventures VII, L.P.	15,192,464	0
Battery Ventures VIII	23,802,315	701,800
BC European Capital IX	53,789,456	27,603,021
BC European Capital VII, L.P.	538,751	0
BC European Capital VIII, L.P.	65,791,845	11,137,380
Berkshire Fund IV, L.P.	37,654	1,898,016
Berkshire Fund V, L.P.	214,111	3,281,560
Berkshire Fund VI, L.P.	38,191,949	6,925,205
Berkshire Fund VII, L.P.	74,834,102	9,393,971
Berkshire Fund VIII, L.P.	63,834,703	59,956,943
Blackstone Capital Partners IV	51,182,534	5,163,842
Blackstone Capital Partners V	159,025,031	21,120,289
Blackstone Capital Partners VI, L.P.	205,857,614	127,777,005
Blackstone Capital Partners V-S	26,617,373	712,476
Bridgepoint Europe IV	46,546,587	4,404,005
Brockway Moran & Partners Fund III	10,795,054	3,996,923
Carlyle Europe Partners II	11,221,422	3,979,463
Carlyle Europe Partners III	58,191,438	13,270,081
Carlyle Partners IV, L.P.	27,395,691	16,009,296
Carlyle Partners V L.P.	226,067,269	62,519,177
Carlyle Partners VI, L.P.	51,223,581	121,451,439
Castle Harlan Partners IV	9,552,986	5,286,319
Castle Harlan Partners V	42,253,301	41,721,990
CCMP Capital Investors II	99,481,717	10,863,087
CCMP Capital Investors III, L.P.	19,926,933	28,995,652
Cerberus SMRS Partners, L.P.	72,999,324	30,804,657
Clarus Life Sciences II, L.P.	49,225,025	4,615,000
Clarus Lifesciences I	12,562,706	4,079,460
Clearstone Venture Partners II (idealab)	4,655,300	0
Clearstone Venture Partners III	27,637,500	1,612,000
CM Liquidity Fund, L.P.	0	25,000,000
CMEA Ventures VI	36,851	1,575,000
CMEA Ventures VII, L.P.	30,103,718	2,000,000
Coller International Partners IV	6,378,379	4,000,000

	Adjusted Reported Value	Unfunded Commitment
Coller International Partners V, L.P.	71,760,550	43,600,000
Coller International Partners VI, L.P.	51,579,548	52,937,132
Crescent Mezzanine Partners VI, L.P.	47,182,553	29,903,425
DLJ Investment Partners II	1,384,762	0
DLJ Investment Partners III	21,943,712	66,656,542
DLJ Merchant Banking Partners III, L.P.	4,351,955	1,883,950
DLJ Merchant Banking Ptrs II, L.P.	433,908	1,786,970
Doughty Hanson & Co IV	44,918,177	2,578,305
Doughty Hanson & Co V	67,159,335	31,534,962
Doughty Hanson Co. III L.P.	14,711,195	3,102,822
EDF Ventures III	1,346,885	0
Essex Woodlands Health IV	2,980,295	0
Essex Woodlands Health V	7,415,531	0
Essex Woodlands Health Ventures Fund VIII	66,936,876	5,250,000
Essex Woodlands Health VI	14,794,252	687,500
Essex Woodlands Health VII	47,940,989	0
FirstMark Capital I, L.P.	60,684,458	196,596
FirstMark Capital OF I, L.P.	2,610,136	17,300,000
** FirstMark Capital P2, L.P.	168,350,000	81,650,000
Flagship Ventures Fund 2004	17,192,361	0
Flagship Ventures Fund 2007, L.P.	55,421,778	525,000
Flagship Ventures Fund IV, L.P.	55,391,242	4,050,000
** Flagship Ventures Fund V	700,000	34,300,000
Fox Paine Capital Fund II, L.P.	22,146,551	15,539,184
Frontenac VIII	0	1,800,000
FS Equity Partners VII, L.P.	11,798,885	88,228,766
GCM Grosvenor Fund Investment Program I, L.P.	23,266,384	1,454,574
GCM Grosvenor Fund Investment Program II, L.P.	69,694,098	16,736,475
GCM Grosvenor Fund Investment Program III - 2004	95,820,490	5,835,755
GCM Grosvenor Fund Investment Program III - 2006	107,092,512	14,773,655
GCM Grosvenor Fund Investment Program V, L.P.	95,382,863	25,151,837
GCM Grosvenor Fund Investment Program VI, L.P.	10,511,470	23,804,241
GCM Grosvenor SeasPriFIP L.P. (PIS06-10)	84,835,807	32,590,366
GCM Grosvenor SeasPriFIP L.P. (PIS14)	55,230,044	56,194,748
GCM Grosvenor SeasPriFIP L.P. (Seed)	159,593,664	13,933,191
G-II Acquisition Holdings Note	6,479,046	0
Glencoe Capital Michigan Opportunities Fund, L.P.	50,257,244	13,723,780
Globespan Capital Partners IV (Jafco)	19,199,987	0
Globespan Capital Partners V, L.P.	48,156,715	5,250,000
Green Equity Investors III	25,003	9,112,215
Green Equity Investors IV	46,497,010	1,136,036
Green Equity Investors V	260,224,113	25,966,435
Green Equity Investors VI, L.P.	65,080,190	63,662,211
Grotech Partners V	144,476	0

	<u>Adjusted Reported Value</u>	<u>Unfunded Commitment</u>
Grotech Partners VI	8,464,230	0
GSO Capital Opportunities Fund II, L.P.	15,674,807	26,185,270
H.I.G. Bayside Debt & LBO Fund II, L.P.	11,647,460	4,500,000
H.I.G. Brightpoint Capital Partners II	437,986	0
H.I.G. Capital Partners IV, L.P.	20,143,534	1,040,833
H.I.G. Europe Capital Partners L.P.	22,744,301	1,336,514
HarbourVest Dover Street VIII, L.P.	34,297,326	33,750,000
HarbourVest Int'l III Direct	2,850,336	1,000,000
HarbourVest Int'l III Partnership	4,922,529	1,200,000
HarbourVest V Partnership	341,693	300,000
HarbourVest VI - Direct Fund L.P.	5,648,375	750,000
HarbourVest VI Partnership	18,693,064	2,000,000
Healthcare Venture VI	674,787	0
Healthcare Venture VII	5,766,840	0
Healthcare Venture VIII	26,835,645	2,900,000
** Insight Venture Partners Growth-Buyout Coinvest, L.P.	0	50,000,000
** Insight Venture Partners IX, L.P.	11,000,000	89,000,000
InterWest Partners IX	11,167,560	1,600,000
JAFCO America Technology Fund III	465,352	0
JP Morgan Partners Global Investors	8,011,179	2,288,095
JPMorgan Global Investors Sell-down	7,465,794	11,734,847
Kelso Investment Associates IX, L.P.	0	100,000,000
Kelso Investment Associates VII	7,876,677	4,970,176
Kelso Investment Associates VIII	133,655,074	37,410,126
Khosla Ventures III, L.P.	69,923,893	3,500,000
Khosla Ventures IV, L.P.	48,764,756	10,250,000
Khosla Ventures V, L.P.	9,769,771	40,000,000
KKR 2006 Fund, L.P.	228,986,198	8,512,330
KKR Asia	74,144,743	3,469,058
KKR Asian Fund II, L.P.	17,608,580	35,437,593
KKR China Growth Fund	30,529,468	20,925,888
KKR E2 Investors (Annex) Fund	7,430,887	587,747
KKR European Fund II	48,380,033	0
KKR European Fund III	99,880,496	18,225,295
** KKR European Fund IV L.P.	8,586,575	116,413,425
KKR European Fund L.P. 1	3,171,530	0
KKR Millennium Fund	90,178,121	0
KKR North America Fund XI, L.P.	82,934,968	56,628,032
Lightspeed Venture Partners VI	3,522,342	0
Lightspeed Venture Partners VII, L.P.	45,151,810	510,436
Lion Capital Fund I (HME II)	2,424,041	10,881,780
Lion Capital Fund II	25,311,755	4,640,567
Lion Capital Fund III, L.P.	92,678,917	10,483,468
Matlin Patterson Global Opportunities Partners	37,306	0

	Adjusted Reported Value	Unfunded Commitment
MatlinPatterson Global Opportunities Partners II	2,282,961	92,719
MatlinPatterson Global Opportunities Partners III	64,677,244	6,828,461
Menlo Ventures IX, L.P.	9,096,183	0
Menlo Ventures VIII	3,505,701	0
Menlo Ventures X, L.P.	47,543,498	0
Menlo Ventures XI, L.P.	61,205,848	4,000,000
MeriTech Capital Partners II, L.P.	2,678,386	1,850,000
Meritech Capital Partners III, L.P.	24,092,514	600,000
Meritech Capital Partners IV, L.P.	19,985,009	1,700,000
Meritech Capital Partners V, L.P.	3,415,858	16,550,000
Michigan Growth Capital Partners II, L.P.	83,232,800	99,446,320
Michigan Growth Capital Partners, L.P.	155,441,780	22,387,813
Midtown Fund III, L.P.	1,687,789	0
Midtown II Liquidating Trust	2,344,625	0
MPM BioVentures III	6,731,580	0
New Leaf Growth Fund I, L.P.	45,000,000	67,500,000
New Leaf Ventures II, L.P.	23,273,419	350,000
New Leaf Ventures III, L.P.	0	37,500,000
Nordic Capital VI, L.P.	33,273,828	0
Nordic Capital VII	55,622,363	9,796,704
Nordic Capital VIII, L.P. (AL.P.ha)	14,774,599	27,453,578
North Castle Partners III	3,506,593	438,297
Oak Investment Partners X, L.P.	11,600,423	0
Oak Investments Partners IX, L.P.	2,160,198	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.	69,478,071	7,500,000
OCM Opportunities Fund VII (B), L.P.	6,692,582	25,127,447
OCM Opportunities Fund VII, L.P.	9,586,132	0
OCM Opportunities Fund VIII B, L.P.	39,207,379	0
OCM Opportunities Fund VIII, L.P.	23,311,526	0
OCM Principal Opportunities Fund IV	25,053,541	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, L.P.	141,819,356	5,901,597
Parthenon Investors II	6,175,774	3,186,779
Parthenon Investors III	59,477,609	4,518,428
Parthenon Investors IV, L.P.	18,401,401	22,365,500
Peninsula Capital Fund III	102,679	1,400,000
Peninsula Capital Fund IV	11,848,091	2,201,026
Permira Europe III L.P.	3,556,110	178,821
Permira IV, L.P.	61,384,254	6,873,600

	Adjusted Reported Value	Unfunded Commitment
Phoenix Equity Partners IV	11,449,209	887,308
Primus Capital Fund V	5,687,340	712,500
Providence Equity Partners V, L.P.	44,323,037	13,040,010
Providence Equity Partners VI, L.P.	192,601,620	24,553,532
Public Pension Capital, LLC	0	50,000,000
Questor Partners Fund II	18,832,914	5,883,006
RFE Investment Partners VII, L.P.	20,816,567	173,332
RFE Investment Partners VIII, L.P.	16,138,854	14,037,760
RFE IV Venture	604,743	0
** Rhone Partners V, L.P.	0	107,400,000
Riverside Capital Appreciation Fund VI, L.P.	17,249,273	54,914,977
Riverside Micro Cap Fund I, L.P.	28,469,320	6,597,419
Riverside Micro-Cap Fund II, L.P.	48,147,298	2,735,834
Riverside Micro-Cap Fund III, L.P.	23,460,583	16,742,831
Silver Lake Partners II	13,142,137	3,531,586
Silver Lake Partners III	99,214,032	19,494,246
Silver Lake Partners IV, L.P.	15,491,653	39,224,305
SM/TCP L.P.	18,539,210	31,460,790
Sprout Capital IX	767,845	0
TCW Shared Op Fund III	1,671,327	0
TCW Shared Op Fund IV	1,103,012	4,524,779
TCW Shared Op Fund V	2,830,546	11,653,868
TCW/Crescent Mezzanine Partners III, L.P.	5,823,584	4,552,763
TCW/Crescent Mezzanine Partners IV, L.P.	15,735,970	6,030,737
TCW/Crescent Mezzanine Partners V, LLC	55,555,763	15,515,915
The Huron Fund III, L.P.	30,071,277	5,392,500
The Huron Fund IV, L.P.	7,917,265	26,428,361
The Shansby Group 4	3,014,821	520,829
The Shansby Group 5 (TSG5)	95,632,087	8,578,686
TPG IV (Texas Pacific Group IV)	17,436,879	211,725
TPG Partners III, L.P.	10,462,772	2,087,002
TPG Partners VI, L.P.	225,531,322	32,198,501
TPG Partners, VII, L.P.	0	150,000,000
TPG V (Texas Pacific Group V)	219,274,388	34,323,972
Trilantic Capital Partners V (North America) Fund A, L.P.	15,052,325	32,995,206
TSG6, L.P.	84,501,454	66,678,866
Tullis - Dickerson Capital II	6,264,098	0
Tullis - Dickerson Capital III	12,395,946	0
Turnbridge Capital Partners I , L.P.	16,382,731	82,904,176
Unitas Asia Opportunity Fund	447,974	0
Unitas Asia Opportunity Fund II	16,117	26,604,144
Unitas Asia Opportunity Fund III	60,169,262	35,054,326
Veritas Capital Fund V, L.P.	0	75,000,000
Veritas V Co-Investors, L.P.	0	25,000,000

	Adjusted Reported Value	Unfunded Commitment
Vista Equity Partners Fund V, L.P.	19,473,442	30,117,614
Warburg Pincus Energy MCIP, L.P.	4,861,687	19,383,744
Warburg Pincus Energy, L.P.	5,067,815	94,000,000
Warburg Pincus Equity Partners, L.P.	14,093,587	0
Warburg Pincus International Partners	14,713,599	0
Warburg Pincus Private Equity IX	51,216,717	0
Warburg Pincus Private Equity VIII, L.P.	28,483,122	0
Warburg Pincus Private Equity X, L.P.	214,279,414	0
Warburg Pincus Private Equity XI, L.P.	136,628,619	81,200,000
Weiss, Peck & Greer V (adm: Opus Capital)	489,988	386,240
WestAm COREplus Private Equity QP	5,847,409	2,086,719
WestAm Special Private Equity Partners	5,429,651	3,476,139
Wind Point Partners III	2,403,597	0
Wind Point Partners IV	71,856	1,541,518
Wind Point Partners V, L.P.	17,765,883	0
Wind Point Partners VI	37,122,736	6,496,689
Wind Point Partners VII	61,870,621	18,385,535
Total Private Equity	\$ 9,741,743,808	\$ 4,488,947,867
Cash	99,776,324	-
Active Small Cap Cash	14,399,501	-
Active Small Cap	25,698,412	-
Grand Total	\$ 9,881,618,045	\$ 4,488,947,867

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

** New Commitments made during quarter reported

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

**REAL ESTATE AND
INFRASTRUCTURE REVIEW**

INVESTMENT ADVISORY COMMITTEE MEETING

JUNE 4, 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	16.4%	12.9%	12.9%	1.6%	6.1%
NCREIF NPI	11.3%	10.1%	11.3%	3.6%	7.0%
Peer Median Return	14%	12.0%	12.7%	2.0%	5.7%
Rank vs. Peers	31	42	46	54	47

- Total Real Estate and Infrastructure Division (REID) value was \$5.5 billion with a total one-year return of 16.4%. Strong performance was the result of increased rental income and valuations in apartments, hospitality, industrial warehouse, and for-rent single family homes.

Strategy Update

- The REID strategy focused on developing apartments and medical office 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 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 \$1.1 billion in unfunded commitments. New commitments closed during the quarter include:
 - \$75 million in Blackstone Real Estate Partners VIII, a closed-ended commingled fund focused on acquiring properties with a buy-fix-sell strategy in the U.S. and Canada
 - \$60 million in GCM Grosvenor Customized Infrastructure Strategies II, LP, a closed-ended commingled fund with an additional \$40 million reserved for co-investments
 - \$30 million in KKR Eagle Co-Invest GP, LTD, a co-investment in North America midstream energy
 - \$25 million in Avanath Affordable Housing II, LLC, a closed-ended commingled fund which focuses on affordable multi-family properties; an additional \$20 million reserved for co-investments
 - \$23 million in JBC North LaSalle, LLC, a joint venture investment in downtown Chicago office property

- \$21.7 million under Domain GVA-1, LLC, for participating preferred equity in New York City condo redevelopment
- \$15 million in L-A Saturn Acquisition, LP, a joint venture in a U.S. based grocery/retail operating company

Market Environment

- High quality, cash flowing, core assets continue to be in high demand as investors, both domestic and international, seek current yield and 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 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 89 bps. Commercial Mortgage Alert reported that CMBS issuance is projected to be over \$120 billion for 2015.

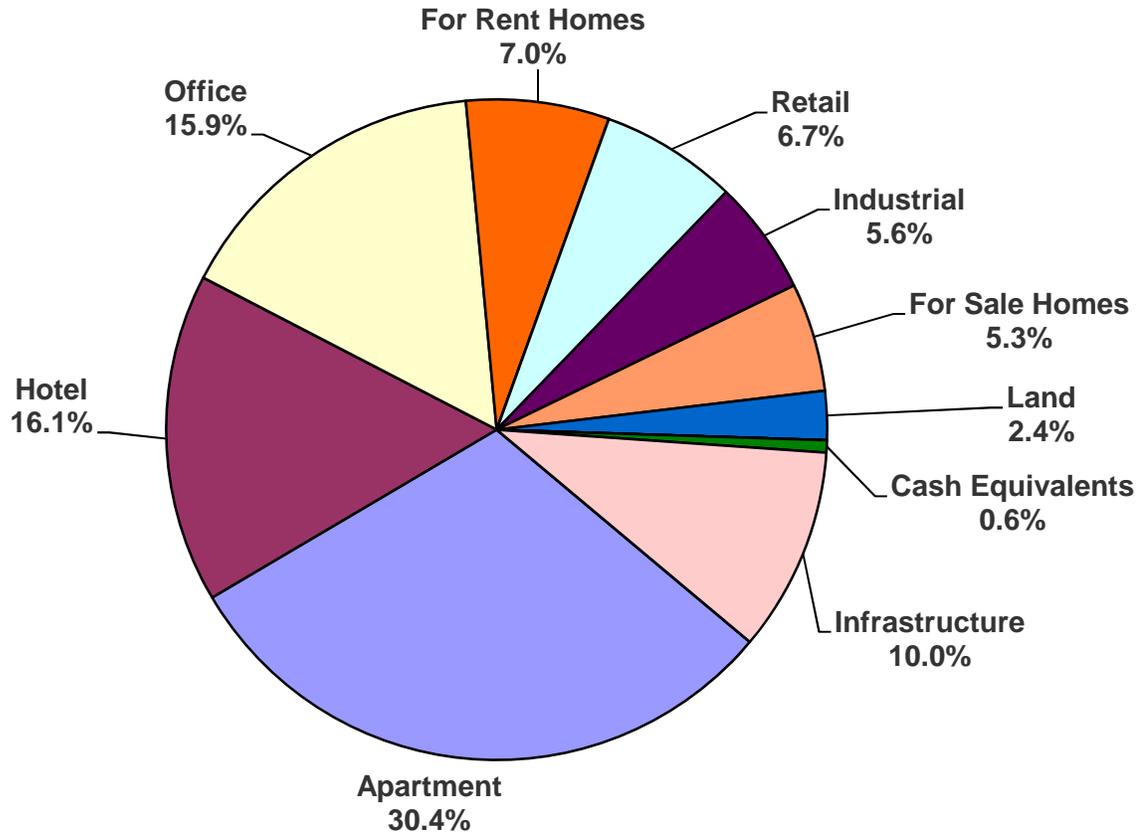


SMRS

Real Estate and Infrastructure Holdings

By Property Type

3/31/15



Market Value in Millions

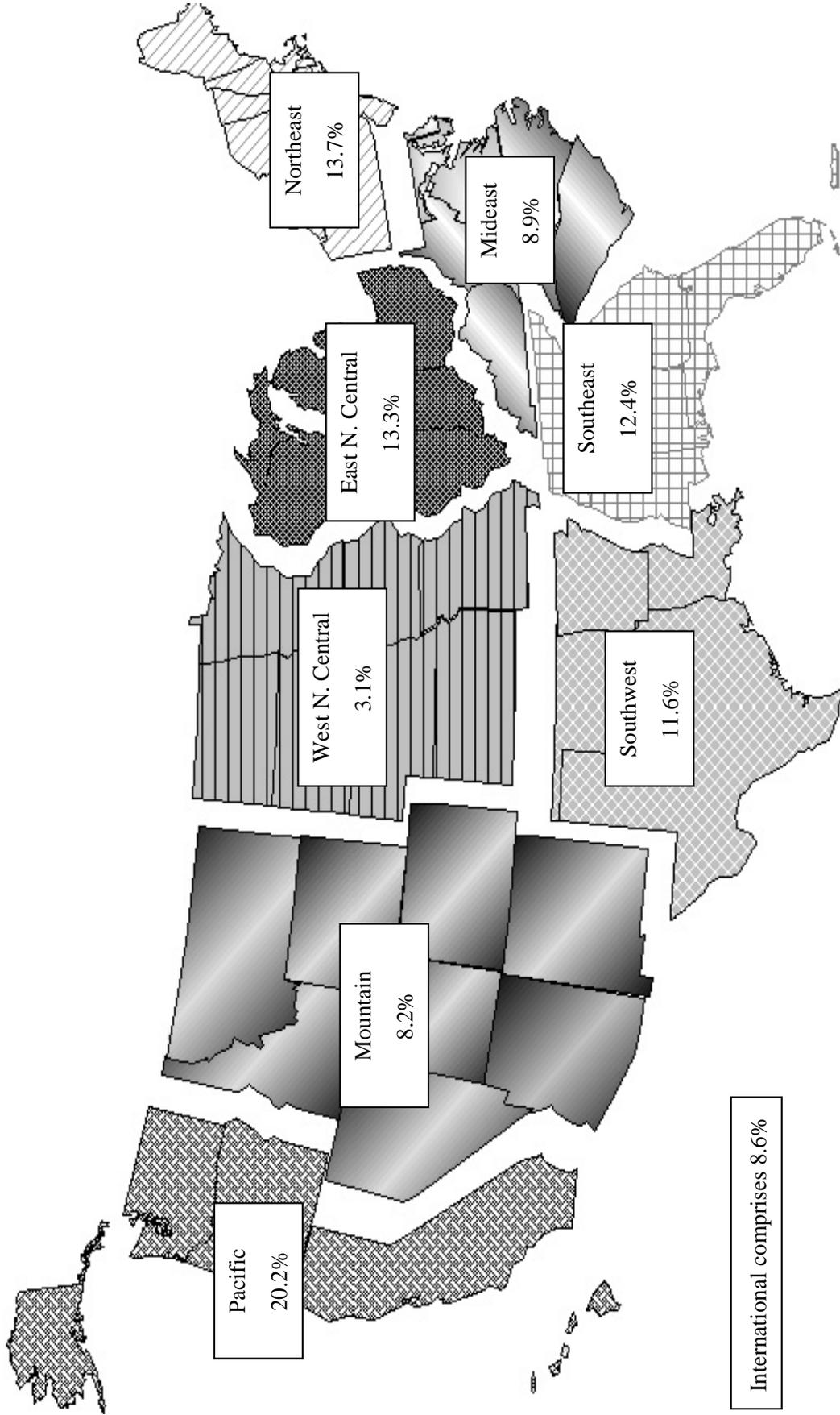
	<u>3/31/15</u>		<u>12/31/14</u>	
Apartment	\$1,689	30.4%	\$1,639	29.5%
Hotel	896	16.1%	921	16.6%
Office	881	15.9%	895	16.1%
Infrastructure	553	10.0%	531	9.6%
For Rent Homes	388	7.0%	389	7.0%
Retail	373	6.7%	361	6.5%
Industrial	309	5.6%	300	5.4%
For Sale Homes	292	5.3%	306	5.5%
Land	133	2.4%	121	2.2%
	<u>\$5,514</u>	<u>99.4%</u>	<u>\$5,463</u>	<u>98.4%</u>
Cash Equivalents	<u>36</u>	<u>0.6%</u>	<u>87</u>	<u>1.6%</u>
Total Investments	<u>\$5,550</u>	<u>100.0%</u>	<u>\$5,550</u>	<u>100.0%</u>



Real Estate by Region

Based on Net Market Value
(excludes cash & cash equivalents)

3/31/15



Geographic regions defined by NCREIF, whose property index composition is: Pacific 30.4%, Mountain 5.5%, West N. Central 1.5%, Southwest 10.9%, East N. Central 7.8%, Southeast 9.7%, Northeast 20.9%, Midwest 13.3%



**Top Ten
Advisors or Entity**

<u>Advisor or Entity</u>	<u>Net Market Value</u>
MWT Holdings, LLC (SHLP)	\$ 1,109,373,322
Clarion Partners (formerly ING Clarion)	672,052,373
Blackstone Group	553,394,209
Kensington Realty Advisors, Inc.	320,777,514
CIM Group, Inc.	254,127,915
Bentall Kennedy LP	226,836,580
Principal Real Estate Investors	226,501,359
Five Star Realty Partners, LLC	209,613,024
KBS Realty Advisors	160,821,014
GCM Customized Fund Investment Group	149,699,045
	<u>\$ 3,883,196,355</u>

**Occupancy
by Property Type**

	Apartment	Office	Industrial	Retail	Hotel
SMRS Portfolio	95.6%	87.5%	90.9%	92.6%	75.8%
National Average	93.0%	86.1%	89.7%	93.8%	59.8%



Net Market Values by Ownership Entity 3/31/15

REAL ESTATE

	Net Market Value	Unfunded Commitment
801 Grand Avenue Capital, LLC	\$ 83,615,281	\$ 0
AGL Annuity Contract GVA 0016	268,118,654	0
Avanath Affordable Housing I, LLC	26,344,907	2,492,748
* Avanath Affordable Housing II, LLC	14,264,635	10,735,365
Beacon Capital Strategic Partners IV, LP	12,916,112	0
Beacon Capital Strategic Partners V, LP	13,489,606	2,500,000
Blackstone R/E IH3 Co-Inv Partners	386,512,844	0
Blackstone Real Estate Partners V, LP	44,809,983	2,087,026
Blackstone Real Estate Partners VI, LP	75,500,893	4,117,734
* Blackstone Real Estate Partners VIII, LP	0	75,000,000
Capri Select Income II	6,491,404	0
Capri Urban Investors, LLC	19,926,576	0
CIM Fund III, LP	109,982,449	0
CIM Fund VIII, LP	31,396,770	63,945,838
CIM Urban REIT, LLC	87,196,794	0
CIM VI (Urban REIT), LLC	25,551,902	0
City Lights Investments, LLC	4,027,153	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	2,384,542	0
CPI Capital Partners N.A., Secondary, LP	6,814,156	0
Crown Small Cap Real Estate	3,037,714	22,000,000
Devon Real Estate Conversion Fund, LP	5,747,812	0
* Domain GVA 1, LLC	57,053,067	61,488,463
Domain Hotel Properties, LLC	483,639,379	0
Dynamic Retail Trust	73,154,979	0
Gateway Capital R/E Fund II, LP	66,806,312	1,276,875
Great Lakes Property Group Trust	305,491,720	0
Invesco Mortgage Recovery Feeder Fund	23,978,333	140,620
Invesco Mortgage Recovery Fund II, LP	14,582,162	53,850,000
* JBC North LaSalle, LLC	6,500,000	15,600,000
JBC Opportunity Fund III, LP	16,764,719	0
JP Morgan India Property Fund II, LLC	13,594,264	27,521,013
KBS/SM Fund III, LP	105,868,843	0
* L-A Saturn Acquisition	15,000,000	0
L & B Medical Properties Partners, LP	192,379	0
Landmark Real Estate Partners V, LP	21,136,198	3,900,000
LaSalle Asia Opportunity Fund II, LP	277,958	0
LaSalle Asia Opportunity Fund III, LP	23,055,466	2,000,000
Lion Industrial Trust	141,963,560	0
Lion Mexico Fund, LP	21,449,434	0
Lowe Hospitality Investment Partners	1,381,615	0
Lubert-Adler Real Estate Fund VII, LP	17,735,567	56,250,000
MERS Acquisitions, Ltd.	120,934,209	0
MG Alliance, LLC	13,767,291	0
Morgan Stanley R/E Fund V - International	4,731,508	0

	<u>Net Market Value</u>	<u>Unfunded Commitment</u>
Morgan Stanley R/E Fund VI - International	38,594,245	0
Morgan Stanley R/E Fund V - U.S.	12,563,787	0
Morgan Stanley R/E Special Situations Fund III	59,852,109	0
MWT Holdings, LLC	1,109,373,322	48,000,000
Northpark-Land Associates, LLLP	29,340,324	0
Orange Investors LLC	28,310,244	0
Paladin Realty Brazil Investors III (USA), LP	38,955,422	0
Paladin Realty Latin America Investors IV-CI, LP	15,076,449	31,055,360
Principal Separate Account	142,886,076	0
Proprium RE Spec Situations Fund LP	10,806,980	9,000,000
Rialto Real Estate Fund, LP	36,351,667	8,277,006
Rialto Real Estate Fund II, LP	40,359,758	5,271,712
Rialto Mezzanine Partners Fund	59,823,046	18,667,864
SM Brell II, LP	54,952,171	0
Stockbridge Real Estate Fund II-C, LP	32,999,154	0
Strategic LP	197,550,015	45,810,937
TPG RE Finance Trust	76,215,400	23,800,000
Trophy Property Development LP	76,037,096	8,908,100
True North High Yield Investment Fund II	29,961,644	5,000,000
Venture Center, LLC	37,772,350	0
Western National Realty Fund II, LP	24,037,416	0
	<u>\$ 4,960,705,621</u>	<u>\$ 608,696,661</u>
Short-Term Investments and Other	1,376,490	0
Total Real Estate Investments	<u>\$ 4,962,082,111</u>	<u>\$ 608,696,661</u>

INFRASTRUCTURE

ASF VI Infrastructure B LP	\$ 9,553,020	\$ 23,948,674
ASF Como Co-Investment LP	35,706,911	24,497,409
Balfour Beatty Infrastructure Partners, LP	14,515,524	27,407,720
Blackstone Energy Partners, LP	46,570,489	15,724,000
Blackstone Energy Partners II	0	85,000,000
Brookfield Infrastructure Fund II-B, LP	27,739,541	17,372,241
Customized Infrastructure Strategies, LP	93,011,197	8,678,303
Dalmore Capital Fund	72,325,834	0
First Reserve Energy Infrastructure Fund II, LP	1,113,069	73,800,000
GCM Grosvenor Infrastructure Investment Program, LP	53,546,193	0
* GCM Grosvenor Customized Infrastructure Strategies II, LP	3,141,655	56,858,345
JP Morgan AIRRO India Sidecar Fund US, LLC	73,268,782	5,033,815
JP Morgan AIRRO Fund II US, LLC	13,135,737	83,384,246
* KKR Eagle Co-Invest GP LTD	15,417,457	14,582,543
KKR Global Infrastructure Investors, LP	67,626,819	11,215,625
StonePeak Infrastructure Fund LP	26,222,019	51,867,585
	<u>\$ 552,894,248</u>	<u>\$ 499,370,506</u>
Short-Term Investments and Other	34,815,043	0
Total Infrastructure Investments	<u>\$ 587,709,291</u>	<u>\$ 499,370,506</u>
TOTAL INVESTMENTS	<u>\$ 5,549,791,402</u>	<u>\$ 1,108,067,167</u>

* New or additional commitment made during the quarter reported

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

BASKET CLAUSE REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

JUNE 4, 2015



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



Basket Clause Investments

3/31/15

<u>Asset Class</u>	<u>Value</u>
Total Absolute Return	\$4,182,454,286
Total Real Return and Opportunistic	752,423,391
Total International Equity	322,823,569
Total Long-Term Fixed Income	<u>38,000,410</u>
Total Basket Clause Investments	<u>\$5,295,701,656</u>

The basket clause investments at March 31, 2015, were \$5.3 billion or 8.6% of the total portfolio value of \$61.3 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.

