

INVESTMENT ADVISORY COMMITTEE MEETING

March 5, 2015

STATE OF MICHIGAN RETIREMENT SYSTEMS
QUARTERLY INVESTMENT REVIEW



R. Kevin Clinton, State Treasurer

Prepared by Bureau of Investments
Michigan Department of Treasury

INVESTMENT ADVISORY COMMITTEE MEETING

MARCH 5, 2015

Agenda



- 9:30 a.m. Call to Order and Opening Remarks
- 9:40 a.m. Approval of Minutes of 12/2/14, IAC Meeting
- 9:45 a.m. Executive Summary & Performance for Periods Ending 12/31/14
- 10:00 a.m. Aon Hewitt Investment Consultants – Performance
- 10:20 a.m. Current Asset Allocation Review
- Markets Review and Outlook
- 10:30 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*
- 10:50 a.m. Closing Remarks ~ Adjournment



2015 Meeting Schedule

Thursday, June 4, 2015
Thursday, September 3, 2015
Tuesday, December 1, 2015

All meetings start at 9:30 a.m.

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**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

MINUTES

INVESTMENT ADVISORY COMMITTEE MEETING

MARCH 5, 2015



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

INVESTMENT ADVISORY COMMITTEE

The Investment Advisory Committee (IAC) held its quarterly meeting on Tuesday, December 2, 2014, 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
Mike Zimmer, LARA
John Roberts, DTMB
L. Erik Lundberg - via phone

In attendance from the Department of Treasury: State Treasurer R. Kevin Clinton, Jon M. Braeutigam, Gregory J. Parker, Robert L. Brackenbury, Jim Elkins, Peter Woodford, Karen Stout, Brian Liikala, Jack Behar, Dan Quigley, Amanda Ellis, Woody Tyler, Ryan Marr, Dick Holcomb, Jane Waligorski, Ann Storberg, Marge McPhee, Janet Sudac, and Emma Khavari.

Others in attendance: Max Kotary, Steve Cummings, Tim McEnery, Randy Bitner, Molly Jason, Chuck Abshagen, Joe Curtin, and June Morse.

Call to Order

Chairman Khouri called the December 3, 2014, IAC meeting to order at 9:29 a.m. and thanked everyone for taking time from their busy schedules to attend the meeting. Chairman Khouri reflected on 2014 noting it is a good time to review the year to determine what worked, what did not, and what it means for 2015. He discussed the U.S. equities, private equities markets, the Barclays Aggregate, and the performance of the fund over the past three years noting 2014 was a good year and congratulated staff on the returns.

Approval of Minutes of September 5, 2014

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

Executive Summary – Performance Section

Chairman Khouri turned the meeting over to Mr. Jon Braeutigam to discuss the performance section of the Executive Summary. Mr. Braeutigam noted that over the ten years fund returns have exceeded peer median. He discussed interest rates and the low interest rate environment going forward. He noted why the pension funds' returns may moderate going forward. He discussed reasons for the outperformance of the fund

noting that picking great managers is essential, along with reducing fees. Mr. Parker noted it has been a great year in terms of selectivity. There is a lot of work required to achieve good returns.

Mr. Braeutigam also discussed the performance of the fund and some of the returns in the different asset classes. A discussion on some of the asset classes followed.

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

Mr. Braeutigam turned the meeting over to Mr. Greg Parker to review the Asset Allocation Section of the Executive Summary. Mr. Parker noted that the plan has outstanding capital commitments, and liquidity is being increased. He discussed private equity and real estate noting they are less liquid asset classes and explained that sales in real estate helped to increase cash flow.

He discussed capital markets noting that assumptions, used for determining strategic asset allocations, are being decreased across the board. He noted that equity markets continue to be strong. There was a discussion of hedge fund activity.

Mr. Parker then discussed the economy noting the U.S. dollar strengthened during 2014 and reasons this strengthening will continue in 2015. There was also a discussion on energy, and the costs going into the production of oil and gas. It was noted that domestic equity is underweight in the energy space.

Hewitt EnnisKnupp – Mr. Stephen Cummings – President; Mr. Max Kotary, Partner; and Mr. Timothy McEnergy, Senior Consultant

Chairman Khouri introduced Mr. Stephen Cummings, President of Hewitt EnnisKnupp, the new consultant for the plan (note: after January 1, 2015, Hewitt EnnisKnupp will be Aon Hewitt Investment Consultants). Mr. Cummings stated he has been consulting for nearly thirty years and has led the company since 2000. Mr. Max Kotary, Partner has been with the company for eleven years. He has several specializations including: endowment foundations, insurance, publishing corporate entities, and public institutions. Mr. Tim McEnergy, Senior Consultant, has been with the company for eight years. His focus is on public institutions, corporations, and endowment foundations.

Mr. Cummings gave a brief introduction of the company noting they are a leading institutional advisor and have extensive experience in the field. He noted his firm provides advisory services with approximately 300 consulting professionals and about \$2 trillion worth of assets in the United States. In addition, they provide project work for a few other clients with approximately an additional \$1 trillion in assets. He provided a brief overview of the organization noting the diversity and complexity of the individual teams. Mr. Cummings discussed their goals for the plan, noted other clients they serve/served including the U.S. Department of Treasuries TARP Program, and several other State retirement systems. There was a brief discussion on the TARP program and the impact it had on the financial industry.

Mr. Cummings discussed the resources and research tools they have available and the importance of taking advantage of them at the proper time. He touched on what topics are being discussed in the market today including the diminishing expectations that most investors have about what to expect from the capital markets going forward, understanding asset liability studies, and internal versus external management. There was a lengthy discussion regarding these topics.

Mr. Cummings discussed hedge funds and the reasons they are beneficial in the diversification of portfolios. He noted the fees for hedge funds are becoming more competitive. Mr. Cummings shared some thoughts other clients have regarding interest rate risk and credit risk. He discussed internal versus external management noting many public sector clients are considering having a passive and active internal management within their portfolios. There was also much discussion on arithmetic versus geometric assumptions, capital market assumptions and asset liability study comparisons.

Mr. Cummings thanked everyone for the opportunity to introduce Hewitt EnnisKnupp and to provide consulting services to the Bureau of Investments. Chairman Khouri and Mr. Braeutigam thanked Mr. Cummings, Mr. Kotary, and Mr. McEnery for their insightful introduction.

Asset Allocation, Markets Review and Outlook, Investment Reports, 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, March 5, 2015. The meeting was adjourned by Chairman Khouri at 10:35 a.m.

Approved:

Nick Khouri, Chairman

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

EXECUTIVE SUMMARY

INVESTMENT ADVISORY COMMITTEE MEETING

MARCH 5, 2015



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

EXECUTIVE SUMMARY

December 2014

Performance

An overview.

MPSERS Plan (12/31/14)	1-Year	3-Years	5-Years	7-Years	10-Years
Annualized Returns	11.3%	13.4%	11.2%	5.4%	7.3%
Policy Return	9.3%	13.7%	11.1%	5.7%	7.0%
Peer Median Return	6.9%	12.1%	10.2%	5.0%	6.6%
Rank vs. Peers	4	15	7	32	8

- For the periods ending December 30, 2014; the past one, three, and five years have been especially strong as the markets have rebounded from the 2008-09 financial crisis.
- On a relative basis, the returns have also been equally as good. The returns exceeded the policy benchmark over the past year by 2%. The largest contributions for the relative performance can be attributed to good selectivity in most asset classes; especially in the real return & opportunistic, real estate, international equity, and domestic equity asset classes. An overweight to private equity 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 4.4% 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 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

Tactically modestly increasing liquidity.

- The combined systems paid out \$2.1 billion net of contributions over the past twelve months ending in December 2014; 3.5% of the December 2014 AUM.
- Over the past year, the plans put to work \$1.3 billion in absolute return strategies. Over the same time period, the plans reduced the allocation to private equity by \$2.0 billion, real estate by \$0.7 billion, and realized \$0.5 billion of gains in real return & opportunistic. The allocation to short term cash marginally decreased by \$0.1 billion.
- According to the State Street peer universe data, the peer median allocation for the long-term fixed income asset class is 23% versus the plan's allocation of 11.7%. The strategic target allocation for fixed income is now 10.5%. With the 10-year U.S. Treasury yielding approximately 1.6% and cash yielding approximately 20 basis points (bps) at the end of January 2015, 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 \$6.8 billion in illiquid asset classes, primarily private equity. This figure is about 11.1% of the December 2014 market value and is an additional liquidity consideration.

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.
- Equity markets continue to be strong. The broad domestic market index, S&P 1500, returned 13.1% over the past year, 20.4% over the past three years, and 15.6% per year over the past five years ending December 2014. Over the past one, three, five, seven, and ten years ending December 2014, the broad international market index, MSCI ACWI ex USA, underperformed the S&P 1500 index by 17.6%, 10.5%, 10.7%, 8.2%, and 2.6% annualized respectively.
- Globally, rates are very low. The 10-year Japanese and German rates were roughly 0.3% ending January 2015. Spanish rates were 1.4% while Italian rates were on par with U.S. rates at 1.6%.
- The U.S. dollar continues to surge in value relative to other currencies. As measured by the DXY Index, the dollar strengthened 17% over the past year ending January 2015. The last time the U.S. dollar was this strong was in September of 2003.

Economic Backdrop

Decoupling global growth.

- The most recent reading of the annualized U.S. GDP growth was 2.6%, below the consensus estimate of 3.0%. Current estimates for 2015 GDP growth for the U.S. is 3.2%. 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 Euros at least until September 2016 in order to fight deflation in the Eurozone.
- In the January 2015 IMF World Economic Outlook, the U.S. growth forecast was revised up by 0.5% to 3.6%. No other G7 or BRIC country's growth expectations were revised upward; all but the U.K. was revised down.

Investment Update*Highlighting the quarter.*

(\$ Millions)

NEW COMMITMENTS**October 1 – December 31, 2014**

Asset Class	Fund Name	Commitment*
Private Equity	TPG VII	\$150
Private Equity	New Leaf Ventures III & New Leaf Growth Fund	150
Private Equity	Kelso Investment Associates IX	100
Private Equity	Freeman Spogli Partners VII	100
Private Equity	Public Pension Capital, LLC	50
Private Equity	Khosla Ventures V	50
Private Equity	Flagship Ventures Fund V	22
Private Equity	Advent Latin American Private Equity Fund VI	20
Real Estate & Infrastructure	Invesco Mortgage Recovery Fund II	100
Real Estate & Infrastructure	TPG Real Estate Finance Trust	100
Real Estate & Infrastructure	Blackstone Energy Partners II, LP	85
Real Estate & Infrastructure	Lubert-Adler Real Estate Fund VII, LP	75
Real Estate & Infrastructure	Orange Investors, LLC	50
Real Estate & Infrastructure	Paladin Realty Latin America Investors IV-CI, LP	50
Real Estate & Infrastructure	Clarion Gables Multifamily Trust	25
Real Return & Opportunistic	Apollo HK TMS Investments Holdings, LP	100
Real Return & Opportunistic	KKR Lending Partners II, LP	100
Real Return & Opportunistic	Napier Park Aircraft Leasing Vehicle I, LP	100
Real Return & Opportunistic	Merit Energy Partners, LP	35
Total		\$1,462

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

PERFORMANCE

**FOR PERIODS ENDING
DECEMBER 31, 2014**

INVESTMENT ADVISORY COMMITTEE MEETING

MARCH 5, 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 December 31, 2014

	% of Portfolio 12/31/14	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	7.3	8	5.4	32	11.2	7	13.4	15	11.3	4	1.8	34
Median - Greater than \$10 Billion ²		6.6		5.0		10.2		12.1		6.9		1.4	
MPERS Total Plan Policy		7.0		5.7		11.1		13.7		9.3		1.8	
DOMESTIC EQUITIES	31.7	8.0	36	7.8	33	15.4	49	21.3	4	14.1	8	5.1	44
Median ²		7.7		7.3		15.4		19.9		11.1		4.8	
S&P 1500 Index		7.9		7.5		15.6		20.4		13.1		5.2	
PRIVATE EQUITIES	16.3	14.3	5	8.9	11	16.8	9	16.4	16	18.1	18	-0.2	78
Median ²		10.9		6.3		12.3		13.8		13.4		0.8	
Alternative Blended Benchmark ³		11.5		11.4		19.8		26.0		22.9		1.9	
INTERNATIONAL EQUITIES	14.8	4.8	71	-0.1	61	5.6	69	10.5	67	-1.7	27	-2.6	24
Median ²		5.1		0.2		5.9		11.2		-3.1		-3.0	
International Blended Benchmark ⁴		4.3		-0.8		4.5		9.4		-3.6		-3.9	
BONDS	11.8	5.4	28	5.7	33	5.2	64	3.6	50	5.7	43	1.4	52
Median ²		4.9		5.3		5.4		3.6		5.6		1.4	
Barclays Aggregate		4.7		4.8		4.5		2.7		6.0		1.8	
REAL ESTATE & INFRASTRUCTURE	9.2	6.4	51	1.8	55	11.2	54	13.2	40	19.7	26	4.0	32
Median ²		6.5		2.3		11.4		12.5		13.7		3.2	
NCREIF - Property Blended Index ⁵		7.0		3.4		10.7		9.7		10.4		2.7	
NCREIF Open Fund Index Net		6.1		1.9		12.9		11.4		11.5		3.0	
ABSOLUTE RETURN	6.4					5.9		8.5		5.5		0.2	
HFR1 FOF Cons 1 month lagged						3.3		4.8		3.6		0.0	
REAL RETURN AND OPPORTUNISTIC	5.8							12.4		25.4		2.8	
50% (CPI +500 bps) + 50% (8% actuarial rate)								7.2		6.9		0.9	
CASH EQUIVALENTS	4.1	1.5		0.2		0.3		0.3		0.3		0.1	
1 Month T-Bill		1.4		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.

Cumulative and Consecutive Total Fund Returns

MPSERS

Cumulative For Years Ending 12/31/14

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MPSERS	11.3	13.8	13.4	10.8	11.2	11.3	5.4	6.1	7.0	7.3
Public Plan - Median (> \$10 billion)*	6.9	11.6	12.1	9.3	10.2	10.9	5.0	5.6	6.4	6.6
Rank	4	12	15	6	7	33	32	19	10	8
bp Difference - Median	446	226	130	156	102	47	34	44	61	74
Consecutive For Years Ending										
	12/14	12/13	12/12	12/11	12/10	12/09	12/08	12/07	12/06	12/05
MPSERS	11.3	16.4	12.6	3.3	12.7	12.1	-24.2	11.1	15.0	9.9
Public Plan - Median (> \$10 billion)*	6.9	16.3	13.3	1.3	12.7	17.2	-25.5	9.3	14.8	7.7
Rank	4	48	69	14	49	79	42	16	36	24
bp Difference - Median	446	7	-62	206	2	-508	131	181	27	223

MSERS

Cumulative For Years Ending 12/31/14

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MSERS	11.3	13.8	13.4	10.7	11.1	11.2	5.3	6.0	6.9	7.2
Public Plan - Median (> \$1 billion)*	6.8	11.5	12.1	9.2	10.0	11.0	5.1	5.6	6.5	6.7
Rank	3	11	18	7	11	45	46	30	20	19
bp Difference - Median	451	230	127	153	105	20	14	39	43	50
Consecutive For Years Ending										
	12/14	12/13	12/12	12/11	12/10	12/09	12/08	12/07	12/06	12/05
MSERS	11.3	16.3	12.6	3.2	12.5	11.9	-24.4	11.0	15.0	9.9
Public Plan - Median (> \$1 billion)*	6.8	16.1	13.2	1.1	12.9	17.8	-25.8	9.3	14.7	8.0
Rank	3	48	69	12	61	83	35	12	35	21
bp Difference - Median	451	17	-65	212	-36	-595	138	176	30	191

*State Street Public Funds Universe

Cumulative and Consecutive Total Fund Returns

MSPRS

Cumulative For Years Ending 12/31/14

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MSPRS	11.3	13.7	13.3	10.7	11.1	11.2	5.3	6.0	7.0	7.3
Public Plan - Median (> \$1 billion)*	6.8	11.5	12.1	9.2	10.0	11.0	5.1	5.6	6.5	6.7
Rank	3	12	18	7	11	46	46	30	18	17
bp Difference - Median	447	224	120	152	106	14	14	42	46	53
Consecutive For Years Ending										
	12/14	12/13	12/12	12/11	12/10	12/09	12/08	12/07	12/06	12/05
MSPRS	11.3	16.2	12.5	3.3	12.6	11.5	-24.2	11.2	15.1	10.0
Public Plan - Median (> \$1 billion)*	6.8	16.1	13.2	1.1	12.9	17.8	-25.8	9.3	14.7	8.0
Rank	3	48	72	8	61	87	32	10	34	18
bp Difference - Median	447	9	-72	227	-29	-633	160	197	38	198

MJRS

Cumulative For Years Ending 12/31/14

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MJRS	11.0	13.3	13.0	10.5	10.8	10.7	5.0	5.8	6.7	7.0
Public Plan - Median (> \$1 billion)*	6.8	11.5	12.1	9.2	10.0	11.0	5.1	5.6	6.5	6.7
Rank	3	15	25	13	17	65	54	44	32	24
bp Difference - Median	424	184	93	125	76	-37	-9	19	23	25
Consecutive For Years Ending										
	12/14	12/13	12/12	12/11	12/10	12/09	12/08	12/07	12/06	12/05
MJRS	11.0	15.6	12.5	3.1	12.2	9.9	-23.3	11.0	14.8	9.3
Public Plan - Median (> \$1 billion)*	6.8	16.1	13.2	1.1	12.9	17.8	-25.8	9.3	14.7	8.0
Rank	3	57	72	12	69	90	23	12	44	28
bp Difference - Median	424	-48	-76	201	-66	-794	255	177	8	131

*State Street Public Funds Universe

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

ASSET ALLOCATION REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

MARCH 5, 2015

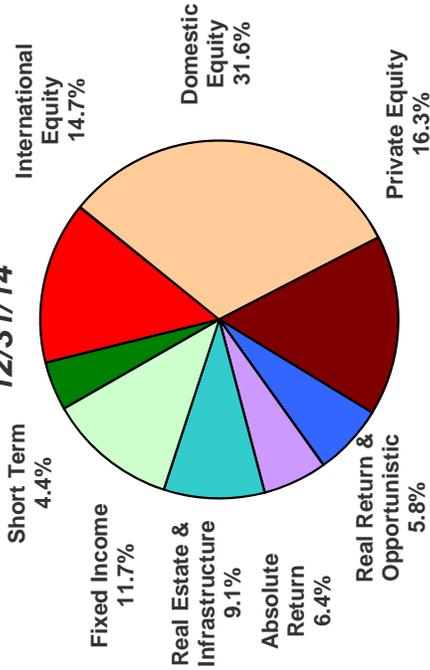


**Jon M. Braeutigam
Chief Investment Officer
Bureau of Investments**



STATE OF MICHIGAN RETIREMENT SYSTEMS PROFILE - DECEMBER 2014

Asset Allocation 12/31/14



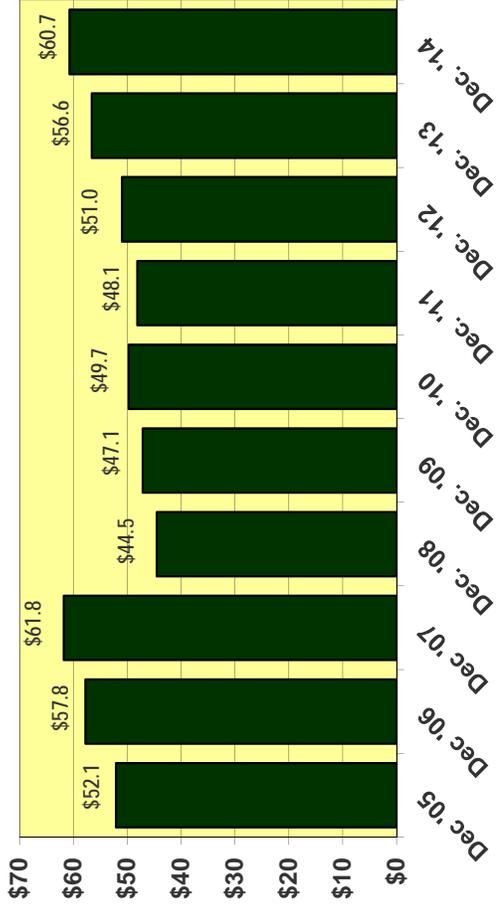
Asset Allocation By Market Value (In Millions)

Investment Strategies	12/31/14	9/30/14
Domestic Equity	\$19,164	\$18,311
Private Equity	9,888	10,368
International Equity	8,945	9,184
Fixed Income	7,108	7,014
Real Estate & Infra.	5,550	5,462
Absolute Return	3,854	3,118
Real Return & Opport.	3,501	2,931
Short Term***	2,642	3,832
TOTAL	\$60,652	\$60,220

Short Term Equivalents (in Billions)

Short Term Strategy***	\$2.6
Short Term in Other Inv. Strategies	0.8
TOTAL SHORT TERM	\$3.4
	5.6% of Total Funds

Market Value* (Billions of Dollars)



Market Value By Plan ~ 12/31/14 (in Millions)

	Pension Plan Mkt. Value	OPEB** Mkt. Value	Combined Mkt. Value	%
MPERS	\$43,829	\$3,115	\$46,944	77.4%
MSERS - (closed)	10,989	1,108	12,097	19.9%
MSPRS	1,259	81	1,340	2.2%
MJRS - (closed)	270	1	271	0.5%
TOTAL	\$56,347	\$4,305	\$60,652	100.0%



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



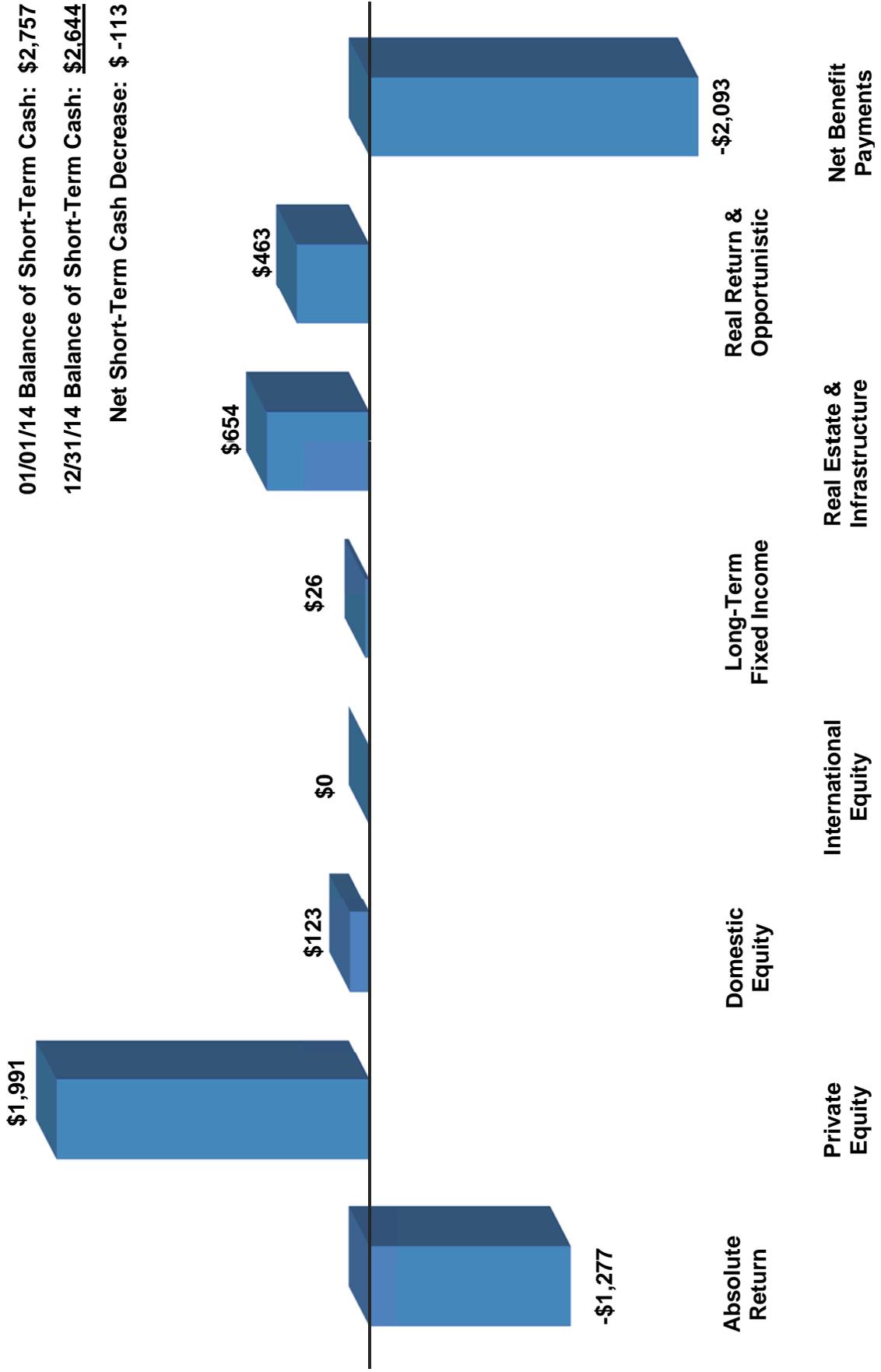
Pensions & Investments Survey - February 9, 2015 Issue

*The combined net payout for the plans for FY2013 was \$2.4 billion (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

January 2014 ~ December 2014



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 12/31/14

Asset Class	MPSERS			MSERS			MSPRS			MJRS			SMRS
	Actual	Target	Target*	Ranges									
	12/31/14	9/30/15	9/30/16	12/31/14	9/30/15	9/30/16	12/31/14	9/30/15	9/30/16	12/31/14	9/30/15	9/30/16	
Broad U.S. Equity	31.7%	29.2%	28.0%	31.6%	29.2%	28.0%	31.6%	29.2%	28.0%	31.8%	29.2%	28.0%	20% - 50%
Private Equity	16.3%	17.6%	18.0%	16.3%	17.6%	18.0%	16.3%	17.6%	18.0%	16.4%	17.6%	18.0%	10% - 25%
Broad Int'l Equity	14.8%	15.6%	16.0%	14.8%	15.6%	16.0%	14.8%	15.6%	16.0%	14.8%	15.6%	16.0%	10% - 20%
U.S. Fixed Income Core	11.8%	11.1%	10.5%	11.7%	11.1%	10.5%	11.7%	11.1%	10.5%	11.8%	11.1%	10.5%	8% - 25%
Real Estate / Infrastructure	9.1%	9.5%	10.0%	9.0%	9.5%	10.0%	9.0%	9.5%	10.0%	9.2%	9.5%	10.0%	0% - 15%
Real Return / Opportunistic	5.8%	7.2%	9.5%	5.8%	7.2%	9.5%	5.8%	7.2%	9.5%	5.8%	7.2%	9.5%	0% - 15%
Absolute Return	6.4%	5.6%	6.0%	6.4%	5.6%	6.0%	6.4%	5.6%	6.0%	6.4%	5.6%	6.0%	0% - 12%
Cash	4.1%	4.2%	2.0%	4.4%	4.2%	2.0%	4.4%	4.2%	2.0%	3.8%	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

MARCH 5, 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%	11.1%	Trim
International Equity	9.6%	21.5%	5.1%	Hold
Domestic Equity	8.5%	19.4%	7.9%	Trim
Real Estate (Core)	6.8%	12.5%	7.0%	Trim
Absolute Return	6.8%	8.0%	5.4%	Add
Real Ret/Oppportunistic	8.3%	12.6%	7.1%	Hold
Long-Term Fixed	3.1%	3.5%	4.7%	Hold
Short-Term	2.2%	1.0%	1.4%	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 13.1% over the past year, 20.3% over the past three years, and 15.6% per year over the past five years ending December 2014. 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 December 2014, the broad international market index, MSCI ACWI ex USA, underperformed the S&P 1500 index by 17.6%, 10.5%, 10.7%, 8.2%, and 2.6% annualized respectively. Technical price trends are neutral at best, and the U.S. dollar looks to be a headwind.
- The 10-year U.S. Treasury closed December 2014 at 2.2%, by the end of January 2015 the rate dropped another 60 bps to close at 1.6%. Year-over-year ending January, the 10-year and 30-year rates fell approximately a full percent. In terms of the shape of the yield curve, it has not been this flat since early January 2008.
- 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.
- At the end of January 2015, commodity prices, as measured by the Thomson Reuters CRB Index, collapsed 30% since June 2014. Since its peak in 2008, prices are down by more than 50%, and prices are now less than 10% away from the March 2009 levels.

Domestic Equity

Large caps continue to run.

- The U.S. stock market levels continue the steady ascension started from the bottom of March 2009, 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 13.1% over the past year, 20.3% over the past three years, and 15.6% per year over the past five years ending December 2014.
- 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 one and three years ending December 2014, large has annually outperformed small by 7.5% and 0.14% respectively. Last year ending in December, growth slightly outperformed value by 0.2%; and over the past three years by 0.4% annually. However, over the last five years, value beat growth by 0.5% per year.
- The active portfolio is now slightly defensively oriented relative to the S&P 1500 benchmark. This action seems prudent after five-and-a-half 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 increased in value by nearly 95% since then.

International Equity

International equity continues to underperform.

- International Equities continue to underperform domestic. Over the past one, three, five, seven and ten years ending December 2014, the broad international market index, MSCI ACWI ex USA, underperformed the S&P 1500 index by 17.6%, 10.5%, 10.7%, 8.2%, and 2.6% annualized respectively.
- Within international equities, over the past one and ten years ending in December 2014, emerging markets have outperformed developed markets annualized by 2.2%, and 3.5% respectively. However, over the past three, five and seven years developed markets have outperformed emerging markets by 6.2%, 3.4% and 1.0% annualized.
- The price trend (measured in local currency) of developed international and emerging markets appears to be neutral at best. At the end of 2014, most foreign market indices were priced below their 200-day moving averages, indicating market weakness.
- The plan increased its weight to international equity over the last year by slightly more than \$450 million though it remains below its strategic target weight of 16%. The plan is underweight international equity against a global benchmark (approximately 33% versus 50%) and it is also slightly underweight peers; 14.8% versus 17.2%. Actual emerging market exposure is approximately 25.5% of total international equity which is 3.8% overweight.
- Based on a price-to-earnings valuation multiple, excluding non-earning companies, developed international equity markets trade at a 20% discount to the U.S. counterparts, while emerging markets trade at over a 40% 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 December 2014 at 2.2%, by the end of January 2015 the rate dropped another 60 bps to close at 1.6%. Year-over-year ending January, the 10-year and 30-year rates fell approximately a full percent. In terms of the shape of the yield curve, it has not been this flat since early January 2008.
- The Barclays U.S. Aggregate Index returned just under 6% over the past year ending December 2014.
- Globally, rates are very low. The 10-year Japanese and German rates were roughly 0.3% ending January 2015. Spanish rates were 1.4% while Italian rates were on par with U.S. rates at 1.6%. It is difficult to see how U.S. 10-year rates could rise very much until other sovereign rates also increase.
- Spreads have become more attractively priced. At the end of January 2015, both investment grade 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 January 2015 were priced at 1.6%. This is lower than the Fed's target rate of long term 2% inflation; the market is effectively 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 December 2014, the Barclays Aggregate Index had a duration of 5.6. At this stage in the economic cycle, credit risk is still preferable to duration risk.

Real Estate

Need to be selective at these valuations.

- The publicly traded FTSE Nareit REIT Index was up an incredible 28% over the past year for the period ending December 2014. Over the past three and five years, the index is up 16.4% and 16.9% respectively.
- Privately held real estate normally lags the REIT Index by one year. Because of this fact, the plan's real estate returns could continue to see modestly positive returns though valuations are a concern.
- 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.
- The price trend of the FTSE Nareit REIT Index accelerated upwards, breaking out of its trading range. This is short-term bullish for real estate. Selective private market transactions take time to execute and could still make long-term sense, however, caution is warranted.

Commodities

A weak outlook.

- At the end of January 2015, commodity prices, as measured by the Thomson Reuters CRB Index, collapsed 30% since June 2014. Since its peak in 2008, prices are down by more than 50%, 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 17% over the past year ending January 2015. The last time the U.S. dollar was this strong was in September of 2003.

ECONOMIC OUTLOOK

Select Historic Economic Growth with Forecasts

An eye to 2015.

Real GDP Growth Actual/Forecasts	2012	2013	2014	2015	2016
World	2.1	2.2	2.4	2.8	3.1
U.S.	2.3	2.2	2.4	3.2	2.8
Developed (G10)	1.2	1.3	1.7	2.2	2.2
Asia	6.3	6.3	6.6	6.1	6.1
EMEA	2.5	2.3	1.7	-0.2	2.1
Europe	-0.7	-0.4	0.8	1.1	1.6
Latin America	2.6	2.6	0.8	1.5	2.8
China	7.7	7.7	7.4	7.0	6.8

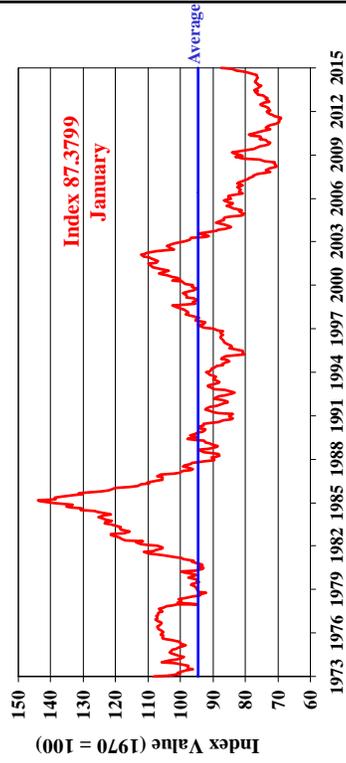
*Source: Bloomberg

Economic Overview

U. S. economy remains the bright spot.

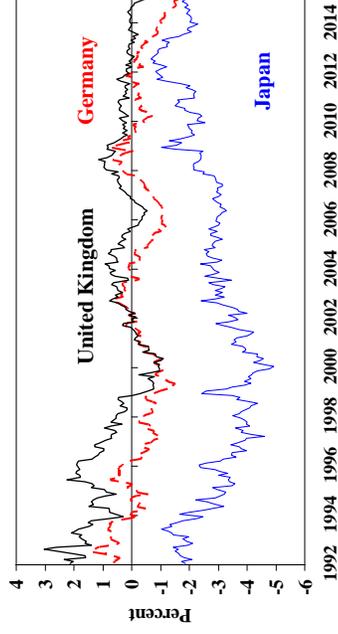
- The most recent reading of the annualized U.S. GDP growth was 2.6%, below the consensus estimate of 3.0%. Current estimates for 2015 GDP growth for the U.S. is 3.2%. Coincidental economic indicators such as the Institute for Supply Management's Manufacturing and Non-Manufacturing PMI Indexes are nicely 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.
- Over the past twelve months ending January 2015, the U.S. dollar appreciated by more than 16% as measured by the DXY index. At the end of January, the dollar was at its highest value since September 2003.
- The price of crude oil ended January 2015 at \$48.24, its lowest month-end closing level since February 2009. Since June, 2014 the price for a barrel of oil has dropped nearly 55%. Gasoline prices, as measured by the U.S. Department of Energy, ended January 2015 at \$2.04 per gallon; the lowest price since April 2009 and down \$1.65 from the one year peak in prices.

Trade Weighted U.S. Dollar



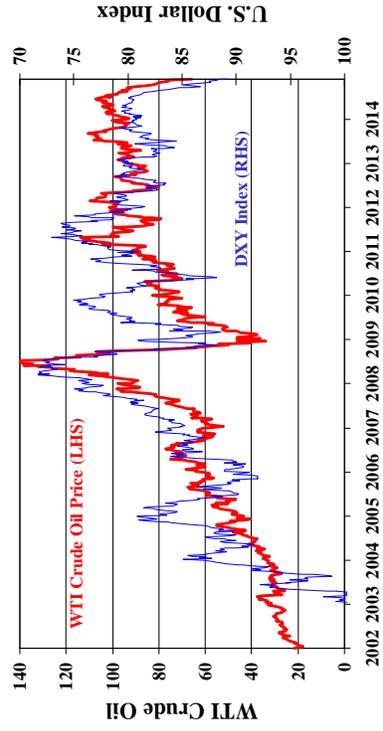
Source: Federal Reserve Board

Sovereign 10-Year Rates Spreads



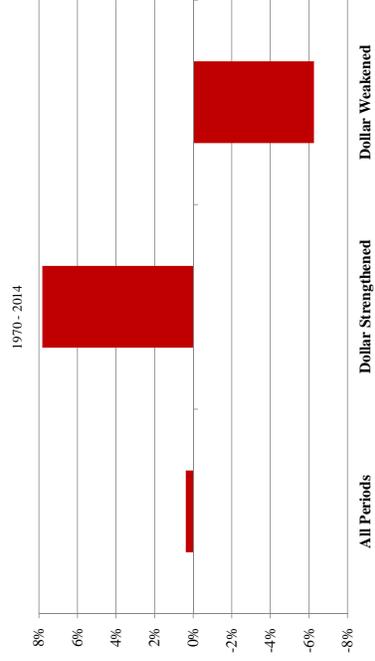
Source: Bloomberg

U.S. Dollar & Oil Prices



Sources: Bloomberg

S&P 500 – MSCI EAFE Average Annual Excess Returns



Sources: Wilshire Compass

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

ABSOLUTE AND REAL RETURN REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

MARCH 5, 2015



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

EXECUTIVE SUMMARY

Absolute Return

MPSERS Plan	1-Year	3-Years	5-Years	7-Years	10-Years
Absolute Return	5.5%	8.5%	5.9%	NA	NA
HFRI FOF Conservative*	3.6%	4.8%	3.3%	0.3%	2.7%

*One month lag on the index

- The strategy of the Absolute Return portfolio is to 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 to help manage portfolio risk.
- Multi-Strategy/Event – The strategy was modestly down for the quarter. In the event space, opportunities were in M&A across the Healthcare, Telecom, Energy, and Industrials sectors during the year. Event-driven managers were hurt from energy positions, while consumer-related positions drove contributions. Trading-oriented managers did particularly well, navigating the market effectively as oil prices tapered off in late November and were able to pick up opportunistic exposure.
- Credit – The credit strategy was modestly up for the quarter. Mortgage and structured credit managers demonstrated positive performance as spreads held in despite broader market volatility stemming from falling commodity prices. The outlook for the mortgage space continues to be positive as the relatively benevolent U.S. economic backdrop should enable consumers to strengthen their balance sheets. Performance on the corporate front was mixed primarily due to the heightened volatility in the high-yield market, which was worsened by the changing liquidity composition and structure of credit markets.
- Equity – The equity strategy delivered positive performance for the quarter. Three themes emerged as key performance drivers: 1) dislocation in the energy markets, 2) heightened volatility driven by deleveraging, and 3) continued outperformance of relative value strategies. Equities in the global energy sector declined significantly, primarily driven by the substantial drop in crude oil prices in October. Given the market dislocations, volatility levels spiked over the course of the quarter, driven in part by both the energy sector moves and deleveraging in crowded names. Finally, relative value strategies, including those specializing in energy investments, continued to generate strong performance from both an absolute return and alpha standpoint and were able to capitalize on market volatility without relying heavily on directional views.
- Diversifying – The diversifying strategy was modestly up for the quarter. Macro managers experienced difficulties as spikes in volatility caused some managers to stop out of positions and reduce risk. Performance was challenged, especially from front-end short positions in U.S. rates and curve steepening positions in G3 rates as major interest rate curves experienced a powerful bull-flattening. CTAs had a strong quarter offsetting losses from long global equity positions with gains from longs in fixed income markets, shorts in energy and a long USD bias against various currencies. The majority of outperformance was attributable to strong trends in FX and fixed income markets during the second half of the year. Despite generating mixed returns in the fourth quarter, commodities managers broadly generated

positive alpha as correlations continued to normalize and markets moved on fundamental data. Given the sharp sell-off in oil and natural gas, energy managers were the strongest performers in the commodities space.

- Strategy allocations remained similar to last quarter. Year-over-year allocations saw a modest rotation out of arbitrage and macro and into equity. CTA exposure was replaced with quantitative equity managers, and gains in arbitrage and credit were used to fund activist strategies. Short alpha has been elusive over the recent past, but could potentially improve throughout 2015. Current U.S. market valuations increase the potential for a correction, which should benefit the short opportunity set.
- During the quarter, no new investment managers were retained in this portfolio.

Real Return and Opportunistic

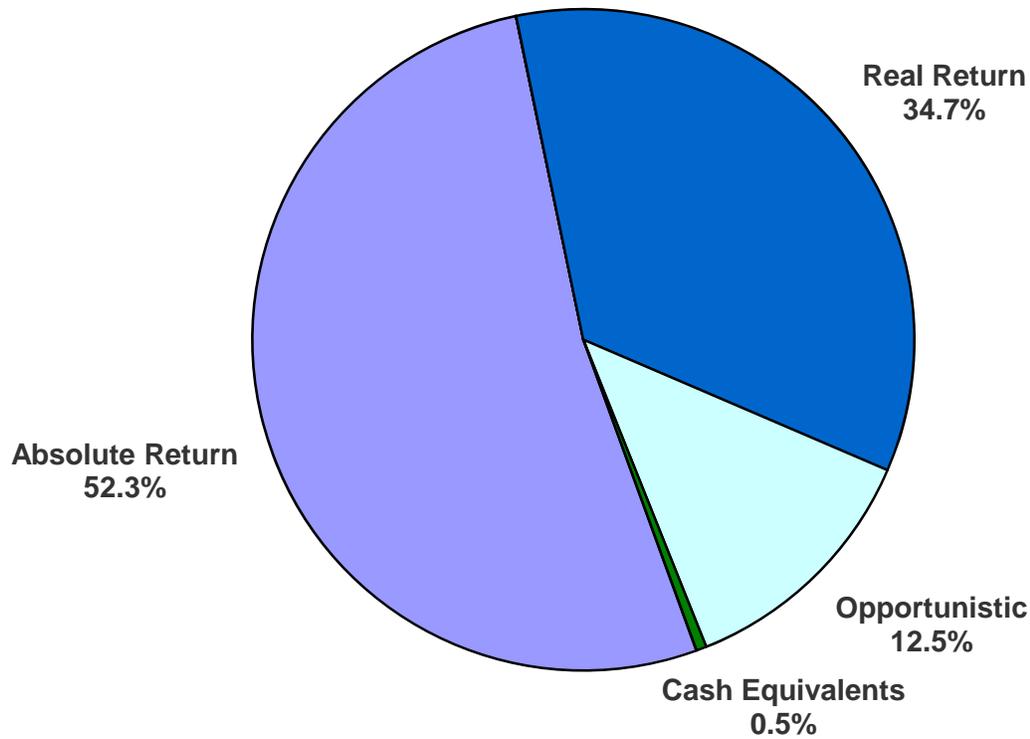
MPSERS Plan	1-Year	3-Years	5-Years	7-Years	10-Years
Real Return and Opport.	25.4%	12.4%	NA	NA	NA
Custom Benchmark	6.9%	7.2%	NA	NA	NA

- 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.
- The portfolio had a strong one-year return, partially due to a large Twitter (TWTR) holding that had a very positive market response to an initial public offering.
- Senior Secured Credit – Performing non-investment grade credit managers generated slightly negative returns during the quarter due to declining oil prices and European weakness, buoyed quality credit selection in October and November. The S&P/LSTA Leveraged Loan Index and Merrill Lynch U.S. High Yield Master II Index were down -0.50% and -1.07% respectively, for the quarter. Market technicals continued to be weak in fourth quarter, as net new supply from CLO formation outweighed demand.
- Direct Lending – This year brought a significantly busier than normal end to the year for direct lending with the portfolio funding over \$170 million of new loan deals. Spreads in private lending widened with the volatility in credit markets. The sharp decline in oil and gas prices had negligible effects on the portfolio thanks to hedged production and has created excellent opportunities with the widening spreads in the energy sector.
- Energy Funds – Oil was down over 40% and natural gas was down nearly 30% in the quarter. While STARR’s energy exposure (6.2% of the Real Return and Opportunistic Portfolio) incurred negative marks as a result of the sharp decrease in commodity prices, with only 21% 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, four new commitments were closed: Merit Energy Partners I LLC for a \$35 million commitment (Energy), Napier Park Aircraft Leasing Vehicle I LP totaling a \$100 million commitment (Real Assets), KKR Lending Partners Fund II with a \$100 million commitment (Direct Lending), and Apollo HK TMS for a \$100 million commitment (Credit Co-invest).



SMRS

Absolute, Real Return and Opportunistic 12/31/14



Market Value in Millions				
	12/31/14		9/30/14	
Absolute Return	\$3,843	52.3%	\$3,106	51.3%
Real Return	2,549	34.7%	2,012	33.3%
Opportunistic	923	12.5%	882	14.6%
Cash Equivalents	40	0.5%	49	0.8%
Total Investments	<u>\$7,355</u>	<u>100.0%</u>	<u>\$6,049</u>	<u>100.0%</u>



SMRS

Absolute Return

12/31/14

Net Market Values by Entity

	<u>Net Market Value</u>
Absolute Return Capital Partners, L.P.	\$43,710,666
Apollo Offshore Credit Strategies Fund Ltd.	142,174,321
Brevan Howard Multi-Strategy Fund, L.P.	107,845,329
Drawbridge Opportunities Fund	177,039,760
Elliott International Limited	50,216,674
* EnTrust White Pine Partners L.P.	349,416,116
FrontPoint Multi-Strategy Fund Series A, L.P.	2,091,246
Mastic Commodity Fund LTD	592,245
MP Securitized Credit Master Fund, L.P.	63,108,453
* Sand Hill, LLC	1,316,932,484
Spartan Partners L.P.	38,416,775
* <u>Tahquamenon Fund L.P.</u>	<u>1,551,776,003</u>
Total Market Value	<u><u>\$3,843,320,072</u></u>

* Fund of Funds

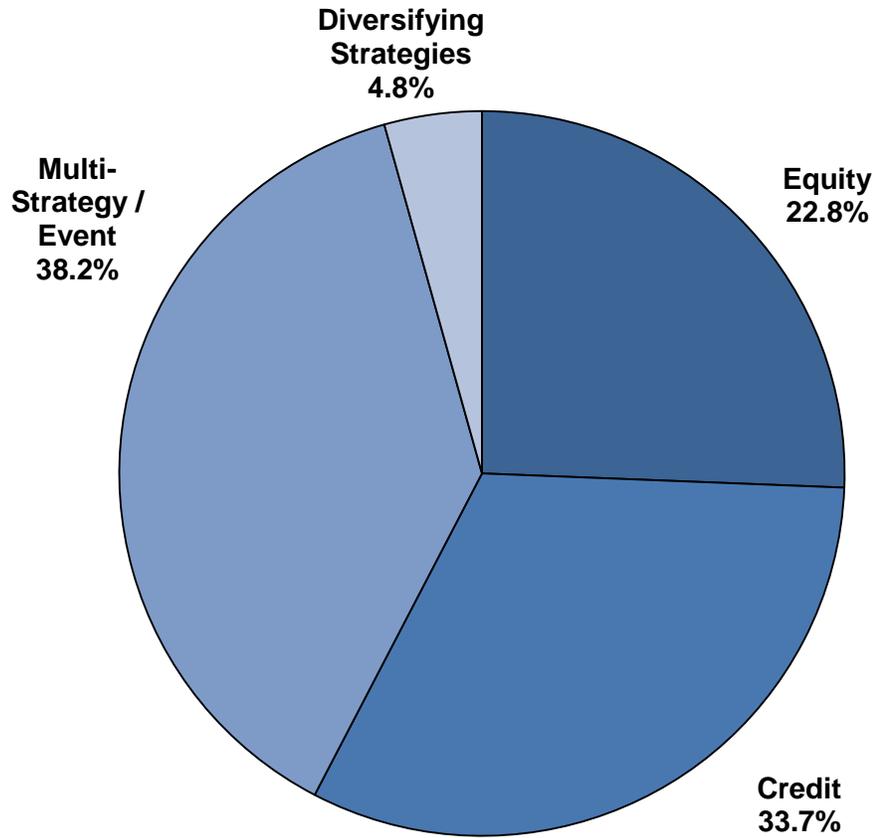


SMRS

Absolute Return

12/31/14

Investments By Strategy



Strategy Breakdown			
Underlying Funds:	103	Median Position Size:	0.5%
Strategies:	4	Average Position Size:	1.0%
Relationships:	12	Largest Position Size:	4.7%



SMRS

Real Return and Opportunistic

12/31/14

Net Market Value by Entity

	<u>Net Market Value</u>	<u>Unfunded Commitment</u>
* Abernathy Fund I, LLC	\$ 260,844,658	\$ 111,483,785
Apollo Credit Opportunities Fund III LP	40,385,163	59,243,371
Apollo European Principal Finance Fund II	42,848,471	19,729,096
Apollo HK TMS Investments Holdings LP	37,500,000	60,601,820
Apollo Offshore Credit Fund Ltd	273,863,849	
Apollo Offshore Structured Credit Recovery Fund II	68,348,524	
Apollo Offshore Structured Credit Recovery Fund III	50,432,825	48,157,336
Carlyle Intl Energy Partners LP	7,301,923	40,234,615
Content Holdings LLC	463,735,488	
Elegantree Fund SPC	25,125,216	25,000,000
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	58,044,240	55,943,653
Financial Credit Investments Fund II	134,638,063	270,645,869
Fortress MSR Opportunities Fund I A LP	124,943,762	16,000,000
* Galaxie Ave. Partners, LLC	99,900,000	
Highbridge Principal Strategies - Specialty Loan Fund III	125,622,243	24,864,593
Hopen Life Sciences Fund II	3,719,224	5,950,000
JP Morgan Global Maritime Investment Fund LP	69,961,775	60,690,448
KANG Fund LP	48,752,377	
KKR EI&G Fund	16,688,443	48,824,174
KKR Lending Partners LP	91,147,996	
KKR Lending Partners II LP	68,024,638	61,895,601
Lakewater LLC, Series 1	163,550,731	60,965,051
Lakewater LLC, Series 2	203,605,703	62,003,834
Lakewater LLC, Series 3	312,190,379	6,785,329
Lakewater LLC, Series 4	36,963,100	13,701,476
Merit Energy Partners I LP	845,503	34,154,497
Napier Park Aircraft Leasing Vehicle I LP	21,944,364	77,966,769
Orion Mine Finance Fund I LP	4,542,909	61,678,252
Orion Mine Finance Fund I-A LP	69,414,055	44,424,368
Renaissance Venture Cap Fund II LP	3,248,109	21,250,000
REOG Fund II Coinvest LP	4,716,394	20,773,832
Ridgewood Energy Oil & Gas II	52,142,959	87,825,427
SJC Direct Lending Fund I, LP	86,822,715	
* SJC Direct Lending Fund II, LP	160,815,784	213,088,122
Social Network Holdings, LLC	169,307,391	
<u>Varo Coinvestment LP</u>	<u>6,996,883</u>	
Total Market Value	<u>\$3,471,214,317</u>	<u>\$1,684,058,478</u>

* Fund of Funds

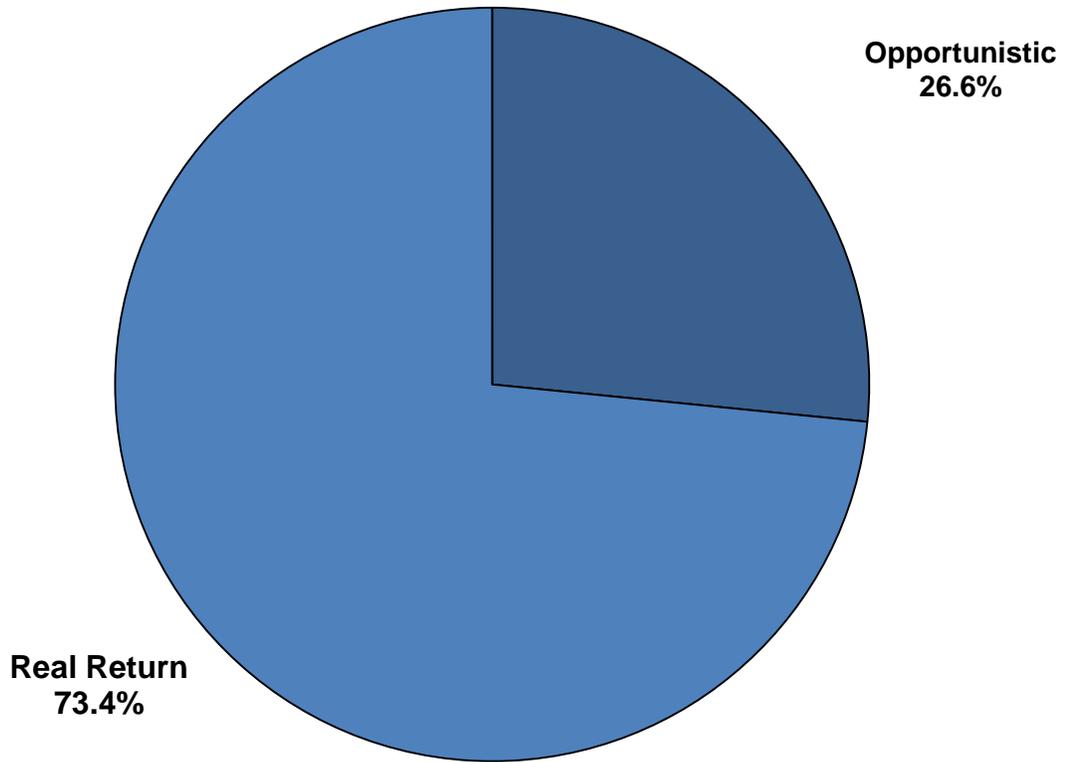


SMRS

Real Return and Opportunistic

12/31/14

Investments By Strategy



Investment Strategy	
Opportunistic:	\$922,619,134
Real Return:	\$2,548,595,183

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

DOMESTIC EQUITY REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

MARCH 5, 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	14.1%	21.3%	15.4%	7.7%	8.0%
S&P 1500	13.1%	20.4%	15.6%	7.5%	7.9%
Peer Median Return	11.1%	19.9%	15.4%	7.3%	7.7%
Rank vs. Peers	8	4	49	33	36

Total Domestic Equity, Net	1-Year	3-Years	5-Years
Annualized Returns	14.0%	21.2%	15.2%
S&P 1500	13.1%	20.4%	15.6%
Lipper Multi Core	9.7%	19.0%	14.0%

Total Active Equity, Net	1-Year	3-Years	5-Years
Annualized Returns	14.5%	21.5%	15.0%
S&P 1500	13.1%	20.4%	15.6%
Lipper Multi Core	9.7%	19.0%	14.0%
Rank vs. Lipper Multi Core	10	20	39

- Total Domestic Equity (active and passive management combined), outperformed the S&P 1500 and ranked in the top 10% of its State Street peer group, gross of fees, on a one and a three-year basis. Five-year performance underperformed the benchmark and roughly matched State Street peers.
- Net of fees, Total Active Equity outperformed its benchmark and ranked in the top quartile of its peer group over one and three years. Five-year performance lagged the benchmark, but outperformed the universe of Lipper Multi-Cap Core managers.
- Internal management outperformed the S&P 500 on a one and a three year basis, ranking in the top 15% of Lipper Large-Cap managers over the past one and three years respectively, as well as the top 38% of Lipper Large-Cap managers over the past five years.
 - Three internally managed funds, comprising \$5 billion in assets, currently rank in the top 10% of their respective Lipper fund peer groups over the past one and three years.
 - Four of SMRS' seven internal strategies are outperforming their benchmarks on an inception to date basis.

- External management underperformed its benchmark on a one year, a three year and a five-year basis, while outperforming its peer group over the past year and performing roughly in line with peers over the past three and five years.
 - Strong performance from Fisher Investments, LA Capital, and Michigan-based Clarkston Capital Partners, along with a significantly reduced fee structure, contributed to relative outperformance versus peers.
- The division also benefitted from equitizing its portfolio managers' cash, hedging out much of its small-cap weighting in return for large-cap exposure, and securities lending revenue. This lifted overall results above the weighted average of the division's internal and external manager program returns.

Strategy Update

- Total Active Equity's portfolio trades at nearly 25% discount to its benchmark, the S&P 1500, on the basis of estimated normalized earnings (Total Active Equity at 15.5x versus the S&P 1500 at 18.5x), with slightly less volatility and higher rates of reinvestment going forward.
- We expect Total Active Equity's PE ratio to at least partially converge with that of the S&P 1500 over the next five years, driving annualized outperformance.
- If it does not, we expect the portfolio to outperform on the basis of its normalized net dividend yield (dividends + buybacks) of 4.7%, which is ~1% per year greater than that of the S&P 1500 - on top of similar growth characteristics.
- Total active equity remains significantly overweight the financial sector and defensive stocks, while underweight commodity-related themes and small-cap stocks.
 - Financial stocks will benefit from higher interest rates, while defensive stocks should do well in the event of continued low interest rates, while also protecting the portfolio in the event of a market downturn.
- SMRS continues to look for ways to drive up returns and drive down fees in its external manager portfolio by concentrating and scaling its investment in value-oriented investment managers.

Market Environment and Outlook

- At 18.5x normalized earnings, equity markets look reasonably priced in comparison to bonds.
- Assuming a 3.5% normalized dividend yield and 5% long-term expected earnings growth, the S&P 1500 is poised to return approximately 8.5% over the long-term.
- This compares to the 30-year U.S. Treasury at 2.7%, and a historical average return for the S&P 500 of 9.6%.



SMRS

Domestic Equities

12/31/14

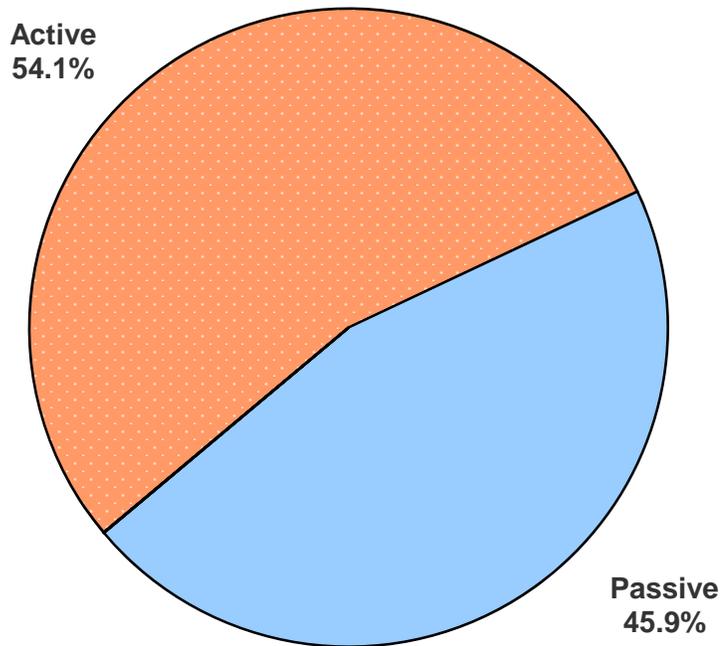
	Amount	% of Total
Passive		
S&P 500	\$7,997,842	
S&P 400	<u>805,774</u>	
Sub Total	\$8,803,616	45.9%
Internal Active		
Large-Cap Core	\$2,590,569	
Large-Cap Growth	1,655,592	
All-Cap GARP	933,083	
Concentrated Equity Fund	448,687	
Absolute Return Income Fund	302,441	
Tactical Asset Allocation	165,198	
Large-Cap Value	112,580	
Concentrated All-Cap Growth	<u>79,398</u>	
Sub Total	\$6,287,548	32.8%
External Active		
Fisher All-Cap Value	\$1,083,640	
Seizert Capital Partners All-Cap Core	753,039	
Los Angeles Capital All-Cap Growth	584,653	
Champlain Mid-Cap Core	547,200	
Cramer Rosenthal McGlynn All-Cap Core	290,435	
Clarkston Small-Cap Core	244,801	
GW Capital All-Cap Value	202,701	
Munder Mid-Cap Core	106,872	
Northpointe All-Cap Core	106,700	
Attucks Asset Management	80,098	
Bivium Capital	<u>72,487</u>	
Sub Total	\$4,072,626	21.3%
TOTAL	<u>\$19,163,790</u>	100.0%

Note: All dollar amounts are expressed in thousands.



SMRS

Domestic Equity Holdings By Category 12/31/14

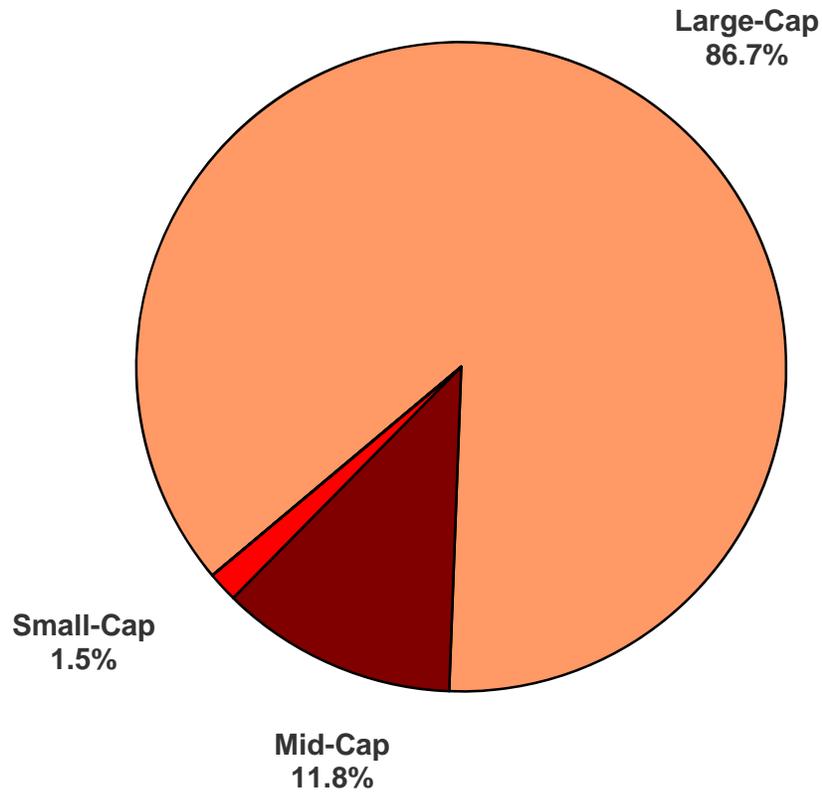


Market Value in Millions				
	<u>12/31/14</u>		<u>9/30/14</u>	
	<u>Assets</u>	<u>Percent</u>	<u>Assets</u>	<u>Percent</u>
Active	\$10,360	54.1%	\$9,913	54.2%
Passive	8,804	45.9%	8,398	45.8%
Total Domestic Equity	<u>\$19,164</u>	<u>100.0%</u>	<u>\$18,311</u>	<u>100.0%</u>



SMRS

Domestic Equity Exposure By Market Cap 12/31/14



Market Value in Millions

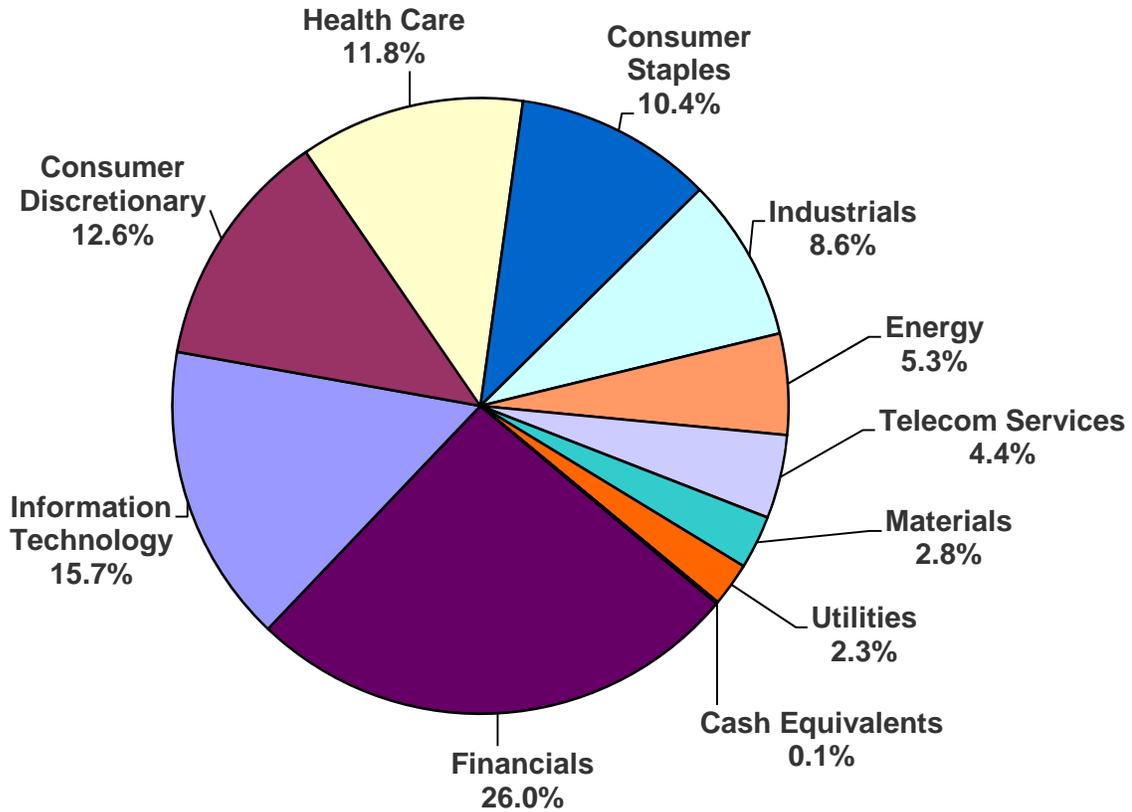
	12/31/14		
	<u>Assets</u>	<u>Percent</u>	<u>S&P 1500</u>
Large-Cap (>\$10B)	\$16,615	86.7%	86.9%
Mid-Cap (>\$5 <\$10B)	2,261	11.8%	5.0%
Small-Cap (<\$5B)	288	1.5%	8.1%
Total Domestic Equity	<u>\$19,164</u>	<u>100.0%</u>	<u>100.0%</u>



SMRS

All Domestic Equity Holdings By Category

12/31/14



	Market Value in Millions			12/31/14		9/30/14	
	Assets	Percent	Benchmark	Assets	Percent		
Financials	\$4,987	26.0%	18.1%	\$4,668	25.5%		
Information Technology	3,007	15.7%	18.8%	3,001	16.4%		
Consumer Discretionary	2,413	12.6%	13.8%	2,216	12.1%		
Health Care	2,268	11.8%	12.3%	2,273	12.4%		
Consumer Staples	2,000	10.4%	9.1%	1,897	10.4%		
Industrials	1,642	8.6%	11.0%	1,537	8.4%		
Energy	1,022	5.3%	7.9%	1,194	6.5%		
Telecom Services	839	4.4%	2.0%	286	1.6%		
Materials	536	2.8%	3.6%	558	3.0%		
Utilities	444	2.3%	3.4%	523	2.8%		
Total Investments	\$19,158	99.9%	100.0%	\$18,153	99.1%		
Cash Equivalents	6	0.1%	0.0%	158	0.9%		
Total	\$19,164	100.0%	100.0%	\$18,311	100.0%		

Benchmark: S&P 1500



SMRS

All Domestic Equities Composite

12/31/14

Date:	<u>12/31/14</u>	<u>9/30/14</u>	<u>6/30/14</u>	<u>3/31/14</u>
Assets (\$million):	\$19,164	\$18,311	\$18,175	\$17,349
Number of Securities:	1,244	1,295	1,237	1,306
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):	\$124.3	\$117.5
Trailing 12-month P/E:	17.3x	19.3x
Forecast P/E:	16.6x	17.6x
Price/Book:	2.5x	2.7x
Beta:	.98	1.0
Dividend Yield:	1.9%	1.9%
3-5 Year EPS Growth Estimate:	11.5%	11.3%
Return on Equity:	19.7%	18.8%

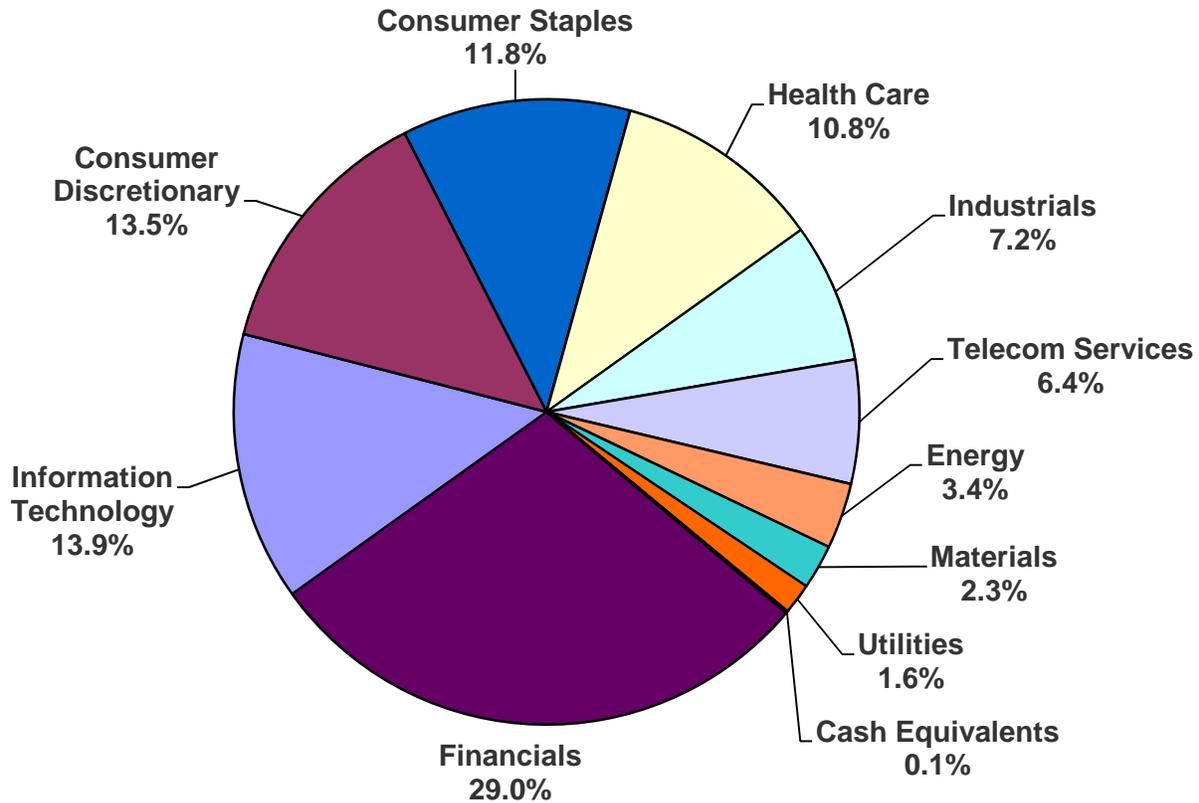
TOP TEN HOLDINGS - All Domestic Equities 12/31/14

	<u>Portfolio Weight</u>	<u>Total Shares</u>	<u>12/31/14 Price</u>	<u>YTD14 Total Return</u>	<u>Market Value</u>
U.S. Bancorp	5.2%	22,260,770	\$44.95	13.8%	\$1,000,621,612
Verizon Communications, Inc.	3.7%	15,239,981	\$46.78	-0.6%	712,926,311
Apple, Inc.	3.6%	6,211,139	\$110.38	40.6%	685,585,523
Wal-Mart Stores, Inc.	3.3%	7,302,922	\$85.88	11.9%	627,174,941
Wells Fargo & Co.	2.9%	10,112,607	\$54.82	24.1%	554,373,116
SPDR S&P 500 ETF Trust	2.5%	2,314,950	\$205.54	13.5%	475,814,823
Goldman Sachs Group, Inc.	1.4%	1,374,992	\$193.83	10.8%	266,514,699
Microsoft Corp.	1.4%	5,671,410	\$46.45	27.5%	263,436,995
Qualcomm, Inc.	1.3%	3,406,037	\$74.33	2.3%	253,170,730
Home Depot, Inc.	<u>1.3%</u>	2,405,130	\$104.97	30.3%	<u>252,466,496</u>
TOTAL	<u>26.6%</u>				<u>\$5,092,085,246</u>



SMRS

All Active Domestic Equity Holdings By Category 12/31/14



Market Value in Millions					
	12/31/14			9/30/14	
	Assets	Percent	Benchmark	Assets	Percent
Financials	\$3,006	29.0%	18.1%	\$2,813	28.4%
Information Technology	1,446	13.9%	18.8%	1,509	15.2%
Consumer Discretionary	1,396	13.5%	12.3%	1,275	12.9%
Consumer Staples	1,228	11.8%	9.1%	1,188	12.0%
Health Care	1,120	10.8%	13.8%	1,205	12.1%
Industrials	742	7.2%	11.0%	681	6.9%
Telecom Services	662	6.4%	2.0%	107	1.1%
Energy	356	3.4%	7.9%	460	4.6%
Materials	240	2.3%	3.6%	255	2.6%
Utilities	163	1.6%	3.4%	273	2.7%
Total Investments	\$10,359	99.9%	100.0%	\$9,766	98.5%
Cash Equivalents	1	0.1%	0.0%	147	1.5%
Total	\$10,360	100.0%	100.0%	\$9,913	100.0%

Benchmark: S&P 1500



SMRS

All Actively Managed Composite

12/31/14

Date:	<u>12/31/14</u>	<u>9/30/14</u>	<u>6/30/14</u>	<u>3/31/14</u>
Assets (\$million):	\$10,360	\$9,913	\$9,802	\$9,348
Number of Securities:	901	983	920	1,020

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):	\$123.8	\$117.5
Trailing 12-month P/E:	16.0x	19.3x
Forecast P/E:	15.9x	17.6x
Price/Book:	2.3x	2.7x
Beta:	.95	1.0
Dividend Yield:	1.9%	1.9%
3-5 Year EPS Growth Estimate:	11.6%	11.3%
Return on Equity:	20.3%	18.8%

TOP TEN HOLDINGS - All Actively Managed 12/31/14

	<u>Portfolio Weight</u>	<u>Total Shares</u>	<u>12/31/14 Price</u>	<u>YTD14 Total Return</u>	<u>Market Value</u>
U.S. Bancorp	9.3%	21,523,732	\$44.95	13.8%	\$967,491,753
Verizon Communications, Inc.	6.1%	13,530,610	\$46.78	-0.6%	632,961,936
Wal-Mart Stores, Inc.	5.5%	6,652,388	\$85.88	11.9%	571,307,081
Wells Fargo & Co.	4.3%	8,168,073	\$54.82	24.1%	447,773,762
Apple, Inc.	4.0%	3,795,308	\$110.38	40.6%	418,926,097
Everest RE Group, Ltd.	2.3%	1,410,000	\$170.30	11.4%	240,123,000
Goldman Sachs Group, Inc.	2.3%	1,208,110	\$193.83	10.8%	234,167,961
Qualcomm, Inc.	2.0%	2,721,142	\$74.33	2.3%	202,262,485
Home Depot, Inc.	1.9%	1,862,290	\$104.97	30.3%	195,484,581
Gilead Sciences, Inc.	<u>1.9%</u>	2,044,471	\$94.26	25.5%	<u>192,711,836</u>
TOTAL	<u>39.6%</u>				<u>\$4,103,210,493</u>

Combined Active Equity Portfolio, Return Expectations 12/31/14

Return Assumption Estimates

	Expected Return ****	Normal Dividend Yield **	LT Growth Rate ***
SAD Combined Active Equity	9.5%	4.7%	4.8%
S&P 1500 All-Cap *****	8.5%	3.5%	5.0%
S&P 500 Large-Cap *****	8.5%	3.7%	4.8%
S&P 500 Historical Average	9.6%		
S&P 400 Mid-Cap	8.4%	1.9%	6.5%
S&P 600 Small-Cap	8.1%	1.1%	7.0%
US 30-Year Treasury	2.7%	2.7%	0.0%

Normal Dividend Yield Decomposition

	Normal Price/Earnings	Normal Earnings Yield*	Normal Payout Ratio	Normal Dividend Yield**
SAD Combined Active Equity	15.1	6.6%	71%	4.7%
S&P 1500 All-Cap	18.7	5.4%	66%	3.5%
S&P 500 Large-Cap	18.4	5.4%	68%	3.7%
S&P 400 Mid-Cap	22.0	4.5%	41%	1.9%
S&P 600 Small-Cap	22.7	4.4%	24%	1.1%

Portfolio and Benchmark Risk Estimates

	Expected Return ****	Standard Deviation	Expected Return/Volatility
SAD Combined Active Equity	9.5%	11.5%	0.8
S&P 1500 All-Cap	8.5%	11.9%	0.7
S&P 500 Large-Cap	8.5%	11.9%	0.7
S&P 400 Mid-Cap	8.4%	12.3%	0.7
S&P 600 Small-Cap	8.1%	13.9%	0.6
US 30-Year Treasury	2.7%	17.4%	0.2

*Earnings Yield = Earnings/Price

**Includes Share Buybacks

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

****Yield to Maturity 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 Internal/External Manager Performance – Net of Fees
12/31/14

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	\$19,163,790,269	14.1%	21.3%	15.4%	7.7%	8.0%
S&P 1500		13.1%	20.4%	15.6%	7.5%	7.9%
<i>Excess Return</i>		1.0%	0.9%	-0.2%	0.2%	0.1%
<i>State Street Peer Group</i>		11.1%	19.9%	15.4%	7.3%	7.7%

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	\$19,163,790,269	14.0%	21.2%	15.2%	7.6%
S&P 1500		13.1%	20.4%	15.6%	7.5%
<i>Excess Return</i>		0.9%	0.8%	-0.4%	0.0%
<i>Pct. Rank vs. Lipper Multi Core</i>		9.7%	19.0%	14.0%	6.7%

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	\$10,360,638,342	14.5%	21.5%	15.1%	7.6%
S&P 1500		13.1%	20.4%	15.6%	7.5%
Style & Risk Adjusted Benchmark		11.5%	19.3%	15.3%	7.2%
<i>Lipper Multi Core</i>		9.7%	19.0%	14.0%	6.7%
<i>Excess Return</i>		1.4%	1.1%	-0.5%	0.1%
<i>Alpha</i>		2.9%	2.2%	-0.2%	0.4%
<i>Pct. Rank vs. Lipper Multi Core</i>		10	20	39	29

Manager Performance, Net of Fees

	<u>Market Value</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>7 Years</u>	<u>Inception</u>	<u>Inception</u>
						<u>Date</u>	<u>Date</u>
Total Internal Active	\$6,119,502,913	14.1%	21.1%	14.6%	7.3%	N/A	N/A
S&P 500		13.7%	20.4%	15.5%	7.3%		
Style & Risk Adjusted Benchmark		10.7%	18.9%	15.0%	7.0%		
<i>Lipper Large-Cap Core</i>		11.5%	19.1%	14.0%	6.5%		
<i>Excess Return</i>		0.4%	0.7%	-0.9%	0.1%		
<i>Alpha</i>		3.4%	2.2%	-0.4%	0.3%		
<i>Pct. Rank vs. Lipper Large-Cap Core</i>		15	15	38	26		
Total External Active	\$4,072,626,382	11.3%	19.0%	14.7%	7.4%	N/A	N/A
S&P 1500		13.1%	20.4%	15.6%	7.5%		
Style & Risk Adjusted Benchmark		10.3%	18.0%	15.3%	8.3%		
<i>Lipper Multi Core</i>		9.7%	19.0%	14.0%	6.7%		
<i>Excess Return</i>		-1.8%	-1.3%	-0.9%	-0.2%		
<i>Alpha</i>		1.0%	1.0%	-0.6%	-0.9%		
<i>Pct. Rank vs. Lipper Multi Core</i>		40	59	48	39		

Manager Performance, Net of Fees
12/31/14

	Market Value	1 Year	3 Years	5 Years	7 Years	Inception	Inception Date
SMRS Large-Cap Core	\$2,590,569,492	20.5%	25.2%	16.2%	8.8%	8.5%	8/31/07
S&P 500		13.7%	20.4%	15.5%	7.3%	7.1%	
Style & Risk Adjusted Benchmark		9.4%	19.5%	15.2%	6.8%	6.5%	
Lipper Large-Cap Core		11.5%	19.1%	14.0%	6.5%	6.5%	
<i>Excess Return</i>		6.8%	4.8%	0.8%	1.6%	1.3%	
<i>Alpha</i>		11.1%	5.6%	1.0%	2.1%	2.0%	
<i>Pct. Rank vs. Lipper Large-Cap Core</i>		1	1	7	5	6	
SMRS Large-Cap Growth	\$1,655,878,038	16.7%	22.7%	15.7%	8.9%	9.5%	5/31/05
S&P 500 Growth index		14.9%	20.5%	16.0%	8.8%	9.3%	
Style & Risk Adjusted Benchmark		12.1%	20.7%	16.2%	8.8%	9.3%	
Lipper Large Growth		10.9%	20.0%	14.5%	7.1%	8.9%	
<i>Excess Return</i>		1.8%	2.3%	-0.4%	0.1%	0.3%	
<i>Alpha</i>		4.6%	2.0%	-0.6%	0.1%	0.2%	
<i>Pct. Rank vs. Lipper Large-Cap Growth</i>		4	7	27	11	30	
Fisher All-Cap	\$1,083,639,591	13.6%	18.1%	15.0%	8.8%	10.6%	10/31/04
S&P 1500/S&P 600 Value Blend		13.1%	19.8%	16.2%	9.0%	9.2%	
Style & Risk Adjusted Benchmark		11.7%	20.3%	17.5%	9.3%	10.2%	
Lipper Multi Core		9.7%	19.0%	14.0%	6.7%	8.2%	
<i>Excess Return</i>		0.5%	-1.7%	-1.2%	-0.3%	1.4%	
<i>Alpha</i>		1.9%	-2.2%	-2.6%	-0.6%	0.3%	
<i>Pct. Rank vs. Lipper Multi Core</i>		17	68	41	12	7	
SMRS All-Cap Garp	\$933,082,564	15.6%	23.5%	--	--	18.8%	4/30/11
S&P 1500 Super Composite		13.1%	20.4%	--	--	14.7%	
Style & Risk Adjusted Benchmark		11.9%	19.6%	--	--	14.3%	
Lipper Multi Core		9.7%	19.0%	--	--	12.5%	
<i>Excess Return</i>		2.5%	3.1%	--	--	4.2%	
<i>Alpha</i>		3.7%	3.9%	--	--	4.5%	
<i>Pct. Rank vs. Lipper Multi Core</i>		5	4	--	--	1	
Seizert Capital Partners	\$753,038,830	8.4%	22.0%	17.4%	--	18.2%	11/30/09
S&P 1500/S&P 400 Value Blend		13.1%	20.4%	18.1%	--	19.8%	
Style & Risk Adjusted Benchmark		10.4%	20.7%	15.1%	--	16.1%	
Lipper Multi Core		9.7%	19.0%	14.0%	--	15.4%	
<i>Excess Return</i>		-4.7%	1.6%	-0.7%	--	-1.6%	
<i>Alpha</i>		-2.0%	1.3%	2.3%	--	2.0%	
<i>Pct. Rank vs. Lipper Multi Core</i>		64	18	4	--	9	
LA Capital All-Cap Growth	\$584,653,186	13.8%	22.0%	17.3%	9.8%	11.7%	5/31/05
S&P 1500 Growth		13.9%	20.3%	16.2%	8.9%	9.4%	
Style & Risk Adjusted Benchmark		13.4%	18.9%	16.0%	9.3%	10.2%	
Lipper Multi-Cap Growth		9.5%	19.4%	14.7%	6.9%	9.1%	
<i>Excess Return</i>		-0.2%	1.7%	1.1%	0.9%	2.3%	
<i>Alpha</i>		0.4%	3.2%	1.3%	0.5%	1.5%	
<i>Pct. Rank vs. Lipper Multi-Cap Growth</i>		18	18	15	12	9	
Champlain Mid-Cap Core	\$547,200,094	8.2%	18.3%	15.6%	--	19.5%	2/28/09
S&P 400 Mid-Cap Index		9.8%	20.0%	16.5%	--	21.6%	
Style & Risk Adjusted Benchmark		9.6%	18.1%	14.0%	--	18.2%	
Lipper Mid Core		8.4%	19.0%	15.0%	--	20.0%	
<i>Excess Return</i>		-1.6%	-1.7%	-1.0%	--	-2.1%	
<i>Alpha</i>		-1.4%	0.2%	1.6%	--	1.3%	
<i>Pct. Rank vs. Lipper Mid-Cap Core</i>		56	64	48	--	65	
Concentrated Equity	\$448,687,177	-13.5%	--	--	--	7.2%	5/31/13
S&P 1500 Super Composite		13.1%	--	--	--	18.7%	
Style & Risk Adjusted Benchmark		9.9%	--	--	--	18.7%	
Lipper Multi Core		9.7%	--	--	--	17.2%	
<i>Excess Return</i>		-26.5%	--	--	--	-11.5%	
<i>Alpha</i>		-23.3%	--	--	--	-11.5%	
<i>Pct. Rank vs. Lipper Multi Core</i>		100	--	--	--	98	

**Manager Performance, Net of Fees
12/31/14**

	Market Value	1 Year	3 Years	5 Years	7 Years	Inception	Inception Date
SMRS Absolute Return Income Fund	\$302,440,690	6.8%	14.1%	13.4%	--	15.1%	1/31/09
60% S&P 500/40% Barclays AGG		10.6%	13.1%	11.2%	--	12.4%	
Style & Risk Adjusted Benchmark		9.5%	13.6%	8.6%	--	10.6%	
Lipper Mixed Target Allocation Moderate/Growth Blend		5.6%	11.4%	9.2%	--	11.7%	
<i>Excess Return</i>		-3.9%	1.0%	2.2%	--	2.8%	
<i>Alpha</i>		-2.7%	0.5%	4.8%	--	4.5%	
<i>Pct. Rank vs. Lipper Mixed Target Allocation</i>		35	13	2	--	5	
Cramer Rosenthal All- Cap	\$290,435,166	4.9%	18.1%	14.4%	8.1%	10.0%	5/31/05
S&P 400 Value/S&P 1500 Blend		13.1%	21.9%	16.8%	9.5%	10.4%	
Style & Risk Adjusted Benchmark		9.1%	17.4%	16.3%	8.5%	9.2%	
Lipper Multi Core		9.7%	19.0%	14.0%	6.7%	8.2%	
<i>Excess Return</i>		-8.2%	-3.8%	-2.4%	--	-0.4%	
<i>Alpha</i>		-4.3%	0.7%	-1.9%	--	0.8%	
<i>Pct. Rank vs. Lipper Multi Core</i>		88	68	51	20	9	
Clarkston Capital	\$244,800,725	16.6%	--	--	--	16.6%	1/1/14
S&P 600		--	--	--	--	5.8%	
Style & Risk Adjusted Benchmark		--	--	--	--	7.9%	
Lipper Small Cap Core		--	--	--	--	3.9%	
<i>Excess Return</i>		--	--	--	--	10.8%	
<i>Alpha</i>		--	--	--	--	8.7%	
<i>Pct. Rank vs. Lipper Small-Cap Core</i>		--	--	--	--	1	
GW Capital	\$202,701,443	1.4%	--	--	--	1.4%	1/1/14
S&P 1500 Value		--	--	--	--	12.1%	
Style & Risk Blended Benchmark		--	--	--	--	12.2%	
Lipper Multi-Cap Value		--	--	--	--	9.0%	
<i>Excess Return</i>		--	--	--	--	-10.8%	
<i>Alpha</i>		--	--	--	--	-10.8%	
<i>Pct. Rank vs. Lipper All-Cap Value</i>		--	--	--	--	91	
SMRS Large-Cap Value	\$109,446,970	10.1%	16.3%	12.5%	4.7%	3.2%	7/31/07
S&P 500 Value Index		12.4%	20.4%	14.9%	5.7%	4.6%	
Style & Risk Adjusted Benchmark		13.7%	18.0%	13.8%	5.7%	4.9%	
Lipper Large Value		10.8%	19.3%	13.8%	5.9%	4.7%	
<i>Excess Return</i>		-2.2%	-4.1%	-2.3%	-0.9%	-1.4%	
<i>Alpha</i>		-3.5%	-1.7%	-1.2%	-1.0%	-1.7%	
<i>Pct. Rank vs. Lipper Large Cap Value</i>		71	89	79	82	88	
NorthPointe All-Cap Core	\$106,700,214	2.2%	19.0%	12.7%	6.5%	7.4%	10/31/04
NorthPointe Blended Benchmark		5.8%	20.2%	16.2%	9.1%	9.2%	
Style & Risk Adjusted Benchmark		5.8%	20.2%	17.9%	9.5%	10.1%	
Lipper Multi Core		9.7%	19.0%	14.0%	6.7%	8.2%	
<i>Excess Return</i>		-3.5%	-1.3%	-3.5%	-2.5%	-1.8%	
<i>Alpha</i>		-3.6%	-1.3%	-5.1%	-3.0%	-2.7%	
<i>Pct. Rank vs. Lipper Multi Core</i>		96	60	74	58	80	
Concentrated All-Cap Growth	\$79,397,982	-12.3%	--	--	--	-1.1%	5/31/13
S&P 600		5.8%	--	--	--	19.2%	
Style & Risk Adjusted Benchmark		8.9%	--	--	--	12.4%	
Lipper Small-Cap Core		3.9%	--	--	--	16.2%	
<i>Excess Return</i>		-18.0%	--	--	--	-20.3%	
<i>Alpha</i>		-21.2%	--	--	--	-13.5%	
<i>Pct. Rank vs. Lipper Small-Cap Core</i>		100	--	--	--	100	

Manager Performance, Net of Fees
12/31/14

	<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>
Attucks Asset Management	\$80,098,010	7.4%	18.1%	14.1%	6.7%	6.1%	11/30/07
S&P 1500 Super Composite		13.1%	20.4%	15.6%	7.5%	6.6%	
Style & Risk Adjusted Benchmark		10.8%	18.7%	15.3%	8.3%	7.5%	
Lipper Multi Core		9.7%	19.0%	14.0%	6.7%	5.7%	
<i>Excess Return</i>		-5.7%	-2.3%	-1.5%	-0.8%	-0.5%	
<i>Alpha</i>		-3.4%	-0.6%	-1.1%	-1.6%	-1.4%	
<i>Pct. Rank vs. Lipper Multi Core</i>		71	68	60	56	47	
Munder Mid-Cap Core	\$106,871,696	11.5%	20.2%	16.7%	--	21.6%	
S&P 400 Mid-Cap Growth		7.6%	18.8%	16.7%	--	22.6%	
Style & Risk Adjusted Benchmark		9.0%	18.3%	15.3%	--	20.2%	
Lipper Mid-Cap Growth		6.7%	18.1%	15.2%	--	20.7%	
<i>Excess Return</i>		3.9%	1.5%	-0.1%	--	-1.0%	
<i>Alpha</i>		2.6%	2.0%	1.4%	--	1.3%	
<i>Pct. Rank vs. Lipper Mid-Cap Core</i>		11	24	20	--	34	
Bivium Capital Partners	\$72,487,426	8.6%	18.5%	14.4%	6.8%	5.9%	11/30/07
S&P 1500 Super Composite		13.1%	20.4%	15.6%	7.5%	6.6%	
Style & Risk Adjusted Benchmark		11.7%	19.6%	16.1%	7.9%	7.1%	
Lipper Multi Core		9.7%	19.0%	14.0%	6.7%	5.7%	
<i>Excess Return</i>		-4.5%	-1.9%	-1.3%	-0.8%	-0.7%	
<i>Alpha</i>		-3.1%	-1.1%	-1.7%	-1.2%	-1.2%	
<i>Pct. Rank vs. Lipper Multi Core</i>		64	65	53	56	52	

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

FIXED INCOME REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

MARCH 5, 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%	3.6%	5.2%	5.7%	5.4%
Barclays Aggregate	6.0%	2.7%	4.5%	4.8%	4.7%
Peer Median Return	5.6%	3.6%	5.4%	5.3%	4.9%
Rank vs. Peers	43	50	64	33	28

- Long-Term Fixed Income returns underperformed the Barclay's Aggregate Index on a one-year basis due to the lower duration positioning of the portfolio versus the index. The portfolio's performance was aided by an overweight to corporate bonds as investment grade credit outperformed U.S. Treasuries on a one-year basis.

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 (7.3% of fund assets) and securitized credit mandates (14.3% 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.
- 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 yielding 2.75%, down from 3.97% on December 31, 2013. This yield was within 10 basis points (bps) of its all-time low. 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 the 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 widened by 17 bps to 130 bps during the calendar year. High-yield spreads experienced increased volatility during the quarter and ended the year at 483 bps, an increase of roughly 100 bps for the calendar year. This spread movement was driven primarily by high yield energy debt due to the large decline in the price of oil. High yield energy spreads widened by over 300 bps during 2014, finishing the year at 729 bps.

- Despite the rally in U.S. Treasuries, and the corresponding reduction in interest rates during the quarter, U.S. interest rates remain relatively attractive when compared with other developed global fixed income markets. The 10-year U.S. Treasury currently yields 2.17% which compares favorably to yields of 0.54% and 0.32% on 10-year German and Japanese government debt.
- The portfolio remains defensively positioned for interest rate increases after the bond rally year-to-date. This defensive positioning has been reduced during the calendar 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

12/31/14

	Amount	% of Total
Core	(in millions)	
LTFID Internal	\$4,605	
Dodge & Cox	<u>245</u>	
Sub Total	\$4,850	68.2%
Credit		
Prudential	<u>\$257</u>	
Sub Total	\$257	3.6%
Securitized Debt		
Principal Global	\$329	
Met West Securitized Ops	<u>687</u>	
Sub Total	\$1,016	14.3%
High Yield		
Columbia Management	\$261	
Prudential High Yield	<u>257</u>	
Sub Total	\$518	7.3%
Tactical		
Pyramis	\$260	
Loomis Core Plus	<u>207</u>	
Sub Total	\$467	6.6%

TOTAL

\$7,108

100.0%



SMRS

Fixed Income Holdings Portfolio Characteristics

Benchmark: Barclays Aggregate

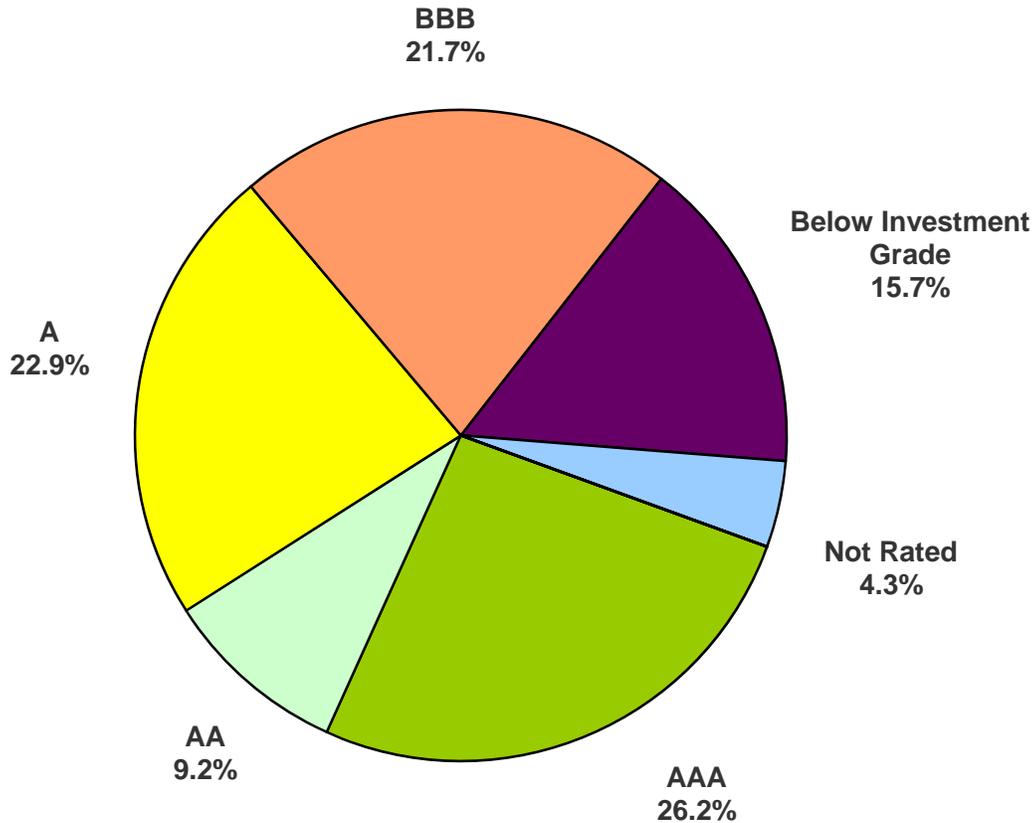
12/31/14

<u>Characteristic</u>	<u>Portfolio</u>	<u>Benchmark</u>	<u>Relative (%)</u>
Average Life	6.7	7.5	89.4
Average Life w/Cash Equiv.	6.6	7.5	88.9
Duration (Yrs)	5.3	5.8	90.1
Duration (Yrs) w/Cash Equiv.	5.2	5.8	89.5
Coupon (%)	3.8	3.4	112.6
Yield to Maturity (%)	3.2	2.2	142.9
Moody's Credit Rating	A3	Aa2	
S&P Credit Rating	BBB	AA-	



SMRS

Fixed Income By Rating Total U.S. Long-Term Fixed Income 12/31/14



	Market Value in Millions				
	12/31/14			9/30/14	
	Assets	Percent	Benchmark	Assets	Percent
AAA	\$1,863	26.2%	73.5%	\$1,840	26.2%
AA	655	9.2%	5.0%	660	9.4%
A	1,627	22.9%	11.2%	1,594	22.7%
BBB	1,544	21.7%	10.0%	1,652	23.6%
Not Rated	306	4.3%	0.2%	114	1.6%
* Below Investment Grade	1,113	15.7%	0.1%	1,154	16.5%
Total Investments	\$7,108	100.0%	100.0%	\$7,014	100.0%

* Comprised of approximately 10.1% High Yield Credit and 5.6% High Yield RMBS/ABS

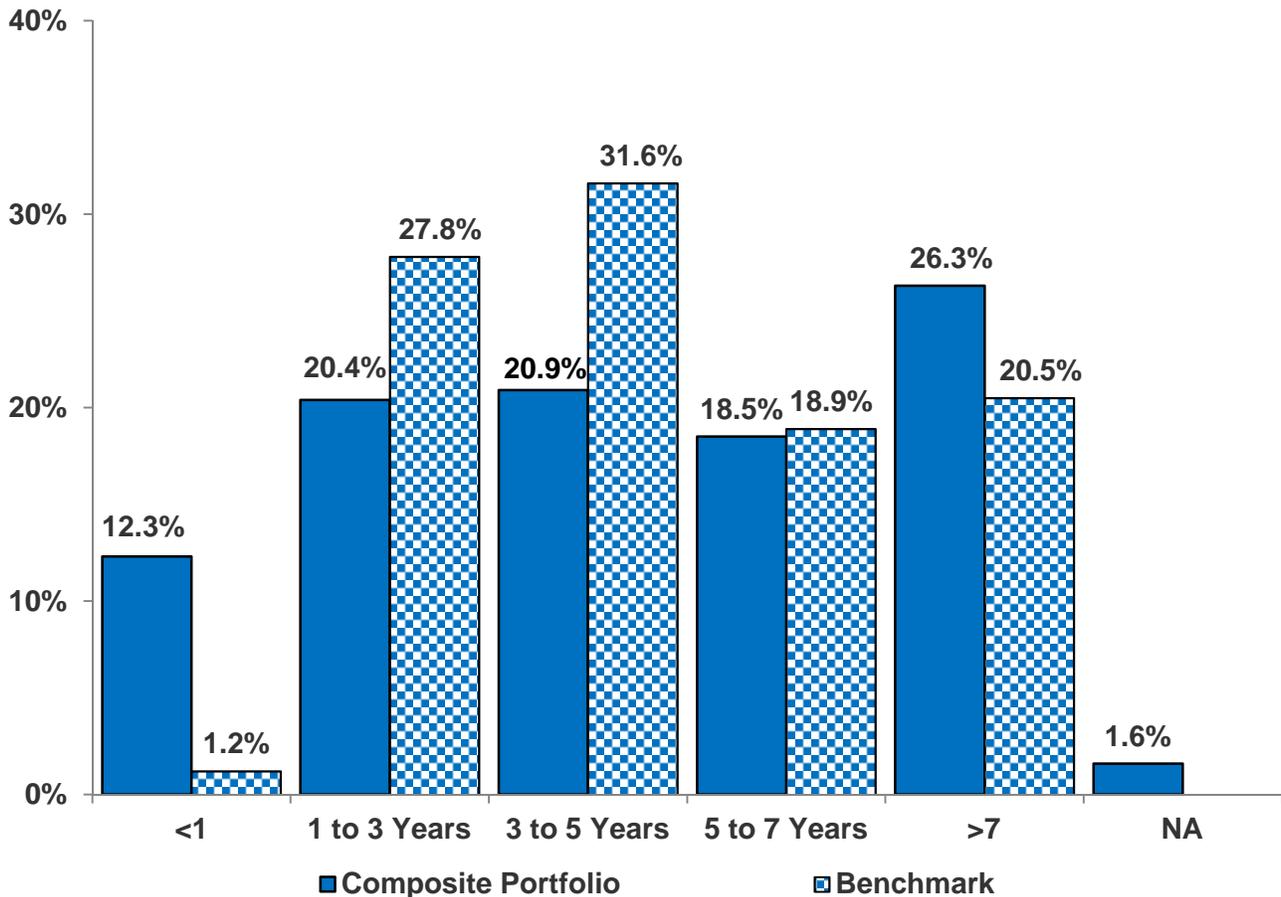
Benchmark: Barclays US Aggregate



SMRS

Duration Distribution

Fixed Income Composite Versus Benchmark 12/31/14



Source: Factset

Market Value in Millions					
Duration	Assets	Portfolio Weight	Benchmark Weight	Portfolio Duration	Benchmark Duration
<1	\$876	12.3%	1.2%	0.5	0.9
1 to 3 Years	1,450	20.4%	27.8%	2.2	2.0
3 to 5 Years	1,486	20.9%	31.6%	4.0	4.0
5 to 7 Years	1,314	18.5%	18.9%	6.0	5.8
>7	1,872	26.3%	20.5%	8.5	12.6
NA	110	1.6%	0.0%	0.0	0.0
Total	\$7,108	100.0%	100.0%	5.3	5.8

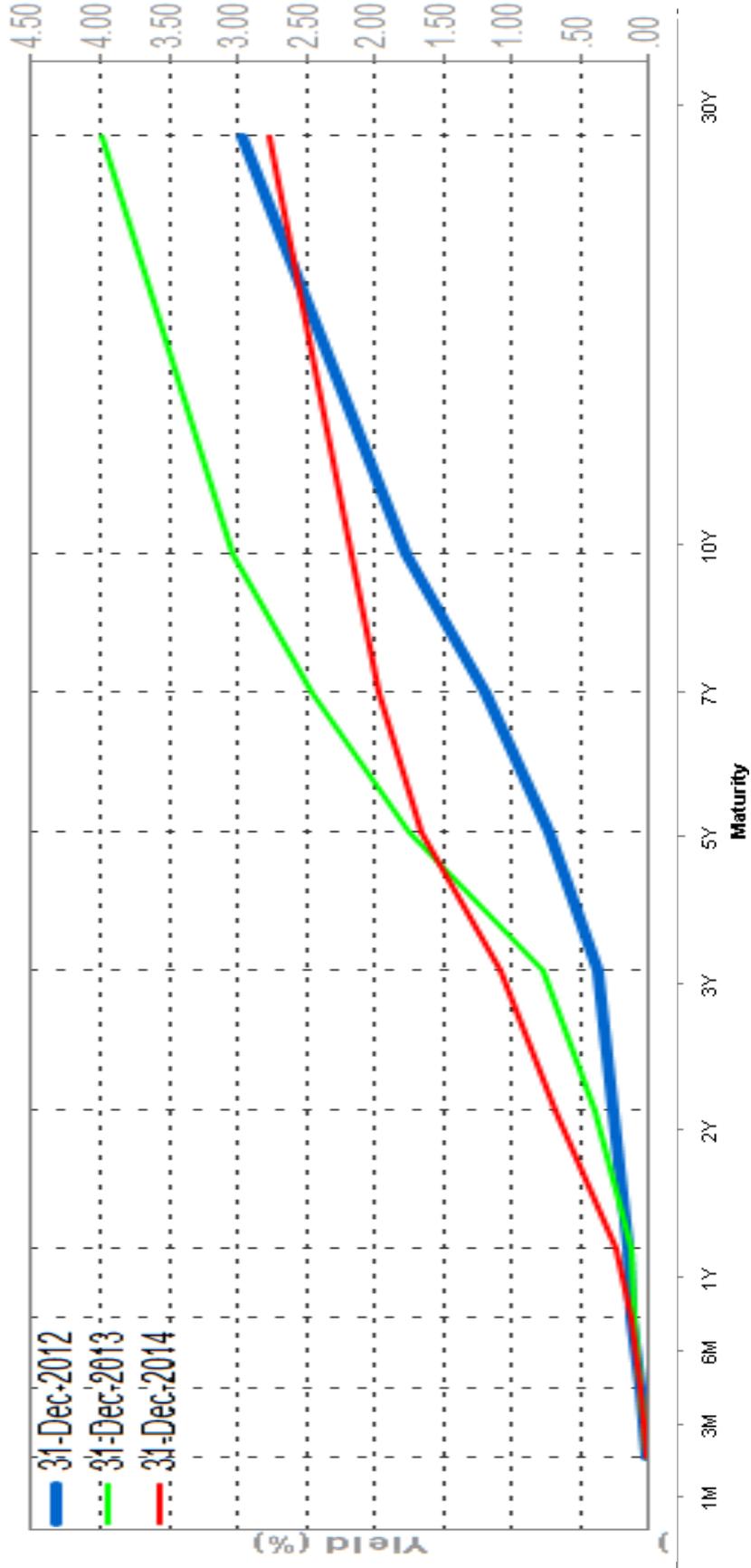
SMRS Internal/External Manager Performance – Net of Fees

12/31/14

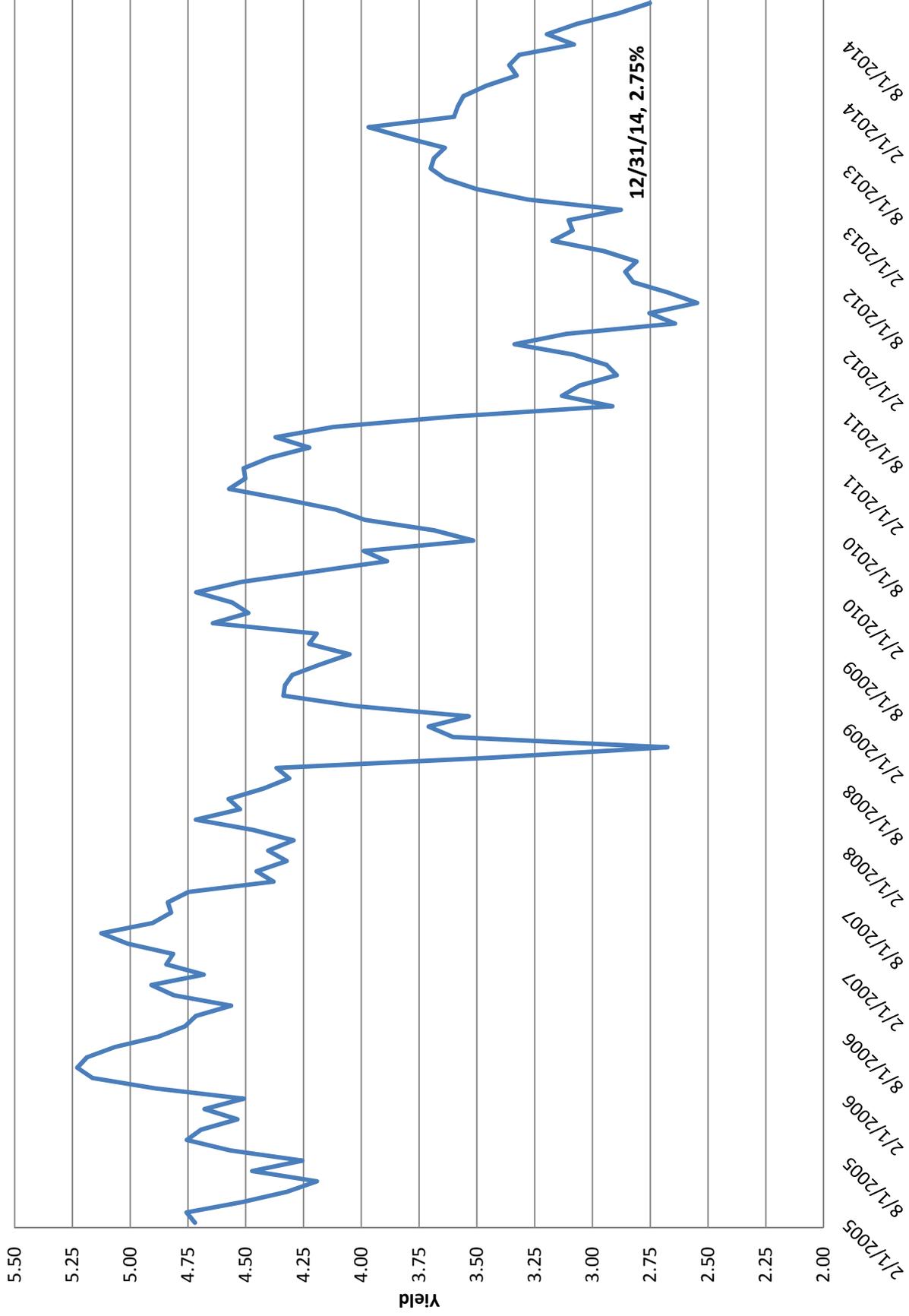
Total Fixed Income Performance, Net of Fees

	<u>Market Value</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>7 Years</u>
Total Fixed Income	\$7,108,243,959	5.6%	3.5%	5.1%	5.6%
<i>Barclays Aggregate Bond Index</i>	N/A	6.0%	2.7%	4.5%	4.8%
Internal Fixed Income	\$4,604,852,871	5.6%	2.9%	4.6%	5.5%
External Fixed Income	\$2,503,391,088	5.6%	4.5%	5.8%	5.6%
Dodge & Cox Core	245,075,141	5.9%	4.7%	5.3%	5.9%
Loomis Sayles CorePlus	207,222,717	6.6%	--	--	--
Pyramis Tactical Bond Fund	260,186,917	--	--	--	--
Prudential Investment Grade	256,637,412	7.5%	5.7%	6.9%	7.4%
MetWest Securitized Opportunities	686,683,909	3.5%	--	--	--
Principal CMBS	329,053,741	9.2%	14.4%	19.2%	--
<i>Barclays Aggregate Bond Index</i>	N/A	6.0%	2.7%	4.5%	4.8%
Columbia Management High Yield	261,426,833	4.3%	--	--	--
Prudential High Yield	257,104,418	4.0%	--	--	--
<i>Barclays US HY BA/B 2% Cap</i>	N/A	3.4%	--	--	--

U.S. Yield Curve Movement

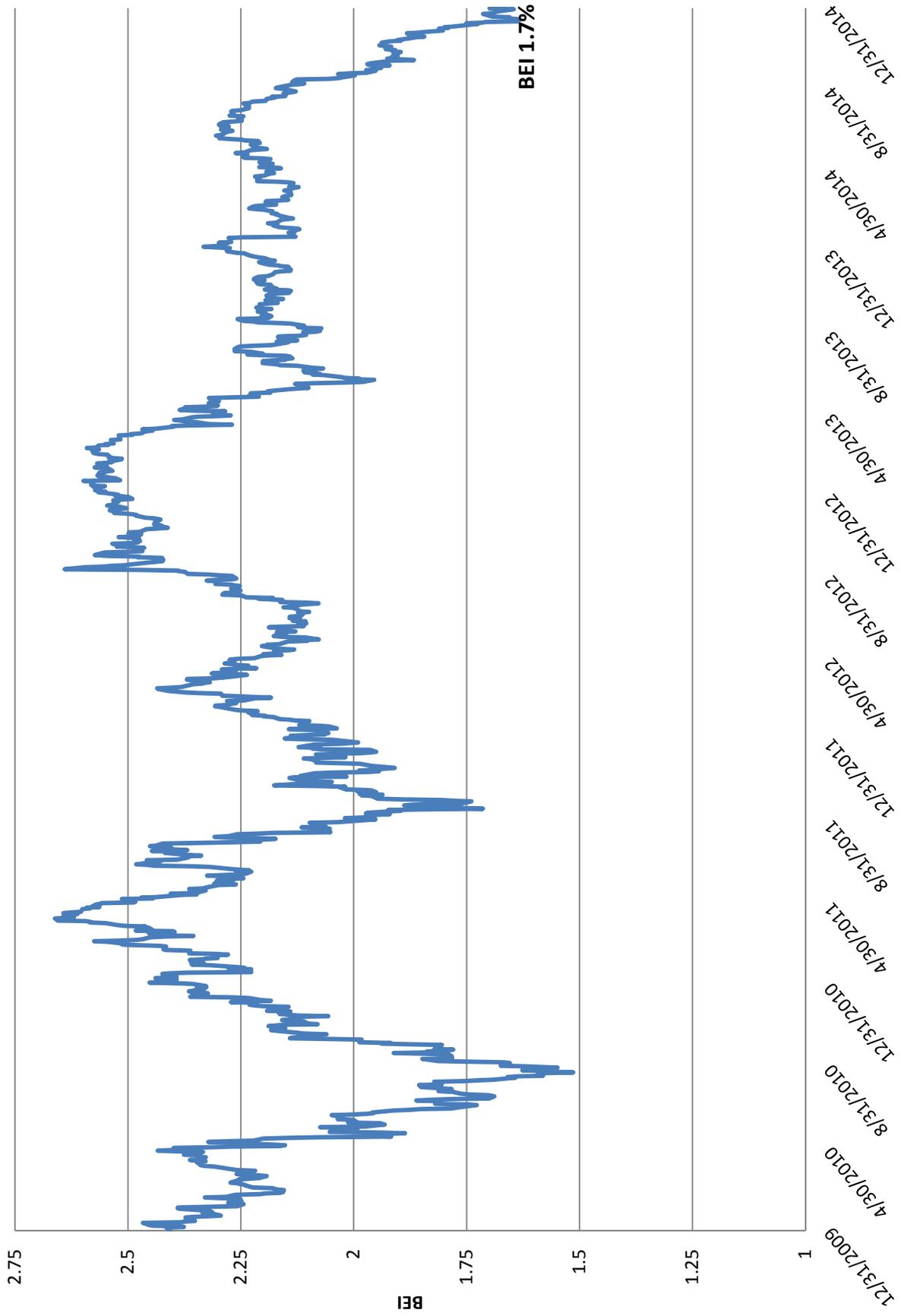


30-Year U.S. Treasury



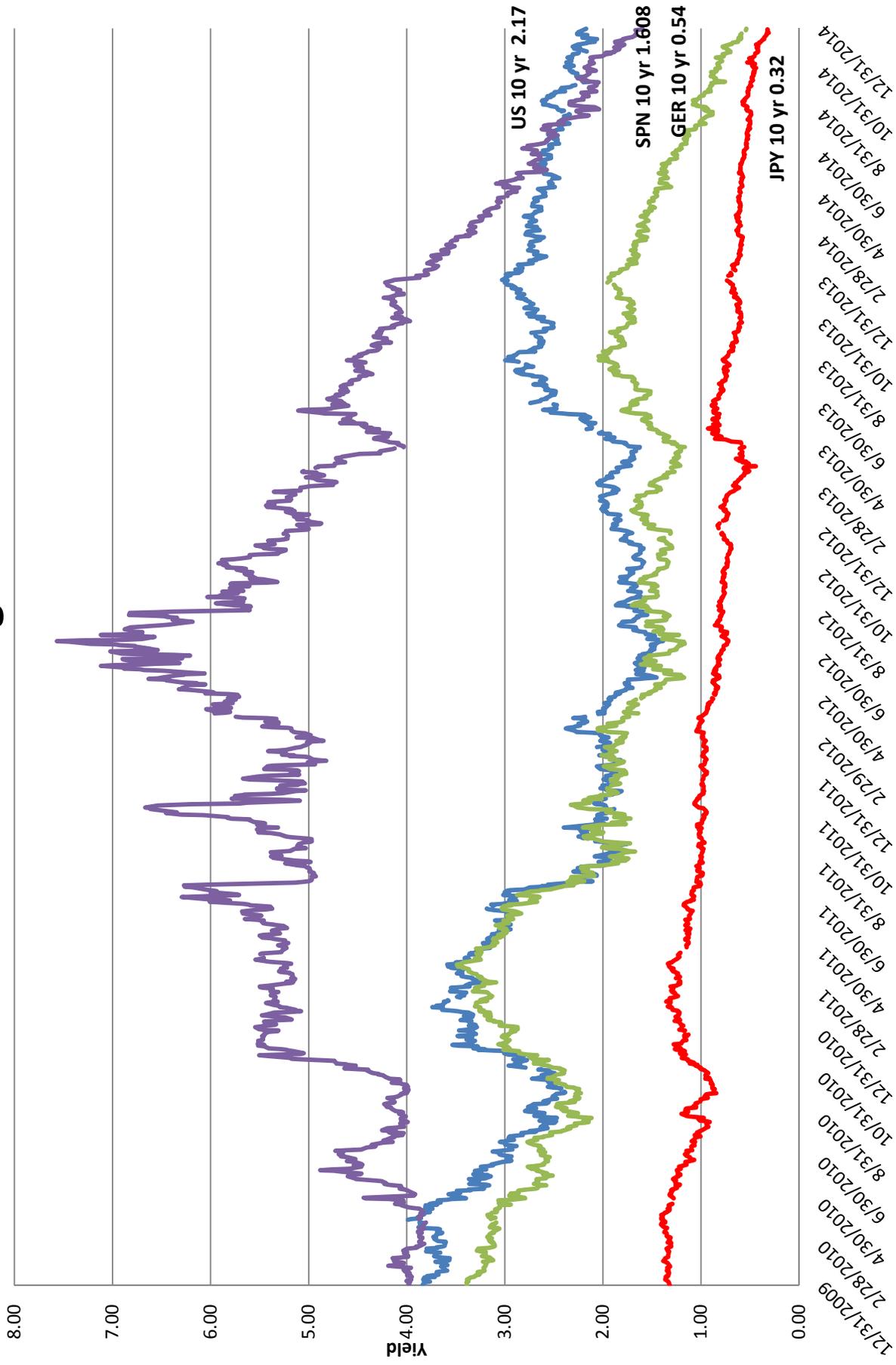
Source: Bloomberg

10 Year U.S. Treasury Breakeven Inflation



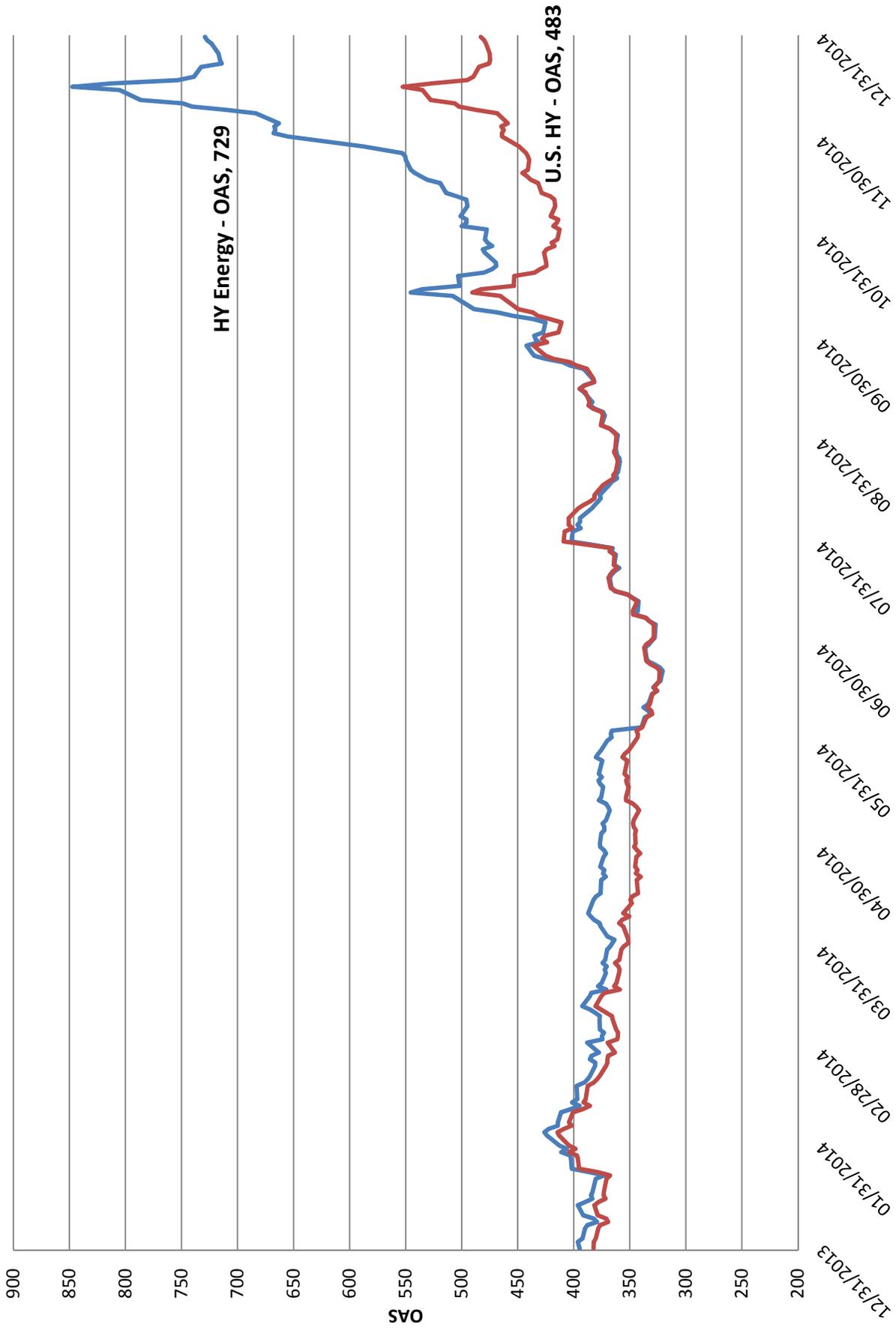
Source: Bloomberg

Global Sovereign Yields



Source: Bloomberg

High Yield Market-Spread Movement



Source: Barclay's

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

INTERNATIONAL EQUITY REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

MARCH 5, 2015



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

EXECUTIVE SUMMARY

Performance

MPSERS Plan	1-Year	3-Years	5-Years	7-Years	10-Years
Annualized Returns	-1.7%	10.5%	5.6%	-0.1%	4.8%
Benchmark Return	-3.6%	9.4%	4.5%	-0.8%	4.3%
Peer Median Return	-3.1%	11.2%	5.9%	0.2%	5.1%
Rank vs. Peers	27	67	69	61	71

- The total international equity portfolio is exceeding its one-year benchmark due to earlier rebalancing activities and favorable stock plus style impacts. Developed market performance led emerging markets in the fourth quarter, however, emerging markets exceeded developed market performance in the trailing year when currency impacts are included. The U.S. dollar strengthened versus the Pound, Euro, and Yen. Globally, geopolitical risks have increased and economic growth has slowed. International portfolio returns have exceeded their internal benchmark over all time periods.
- International performance comparisons with peer group returns still remain difficult to effectively measure. Peers may have had a lower allocation to emerging markets when those markets underperformed developed markets. Our portfolio has maintained a higher allocation to passive strategies over time, and that strategy choice underperformed active strategies in several time periods. The indexed holdings have reduced overall risks and variance, and lowered the overall management cost. Many peers use global mandated funds for their international exposure allocations, which have included the outperforming U.S. equity securities category.
- The internally managed stock plus funds both outperformed their benchmarks, using a conservative approach to managing fixed income and dividend stock assets underlying the 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 53% of international developed markets equity exposure. That composite had a return of -2.0% in the fourth quarter and -0.8% for the year.
- Active developed market fund managers had a return of -2.5% for the quarter and -3.6% 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 external stock plus strategies are recovering from earlier underperformance, and their strategies are positioned well for a slow global growth economic environment with energy sector underweights.

- Total Emerging Market equity returns were -3.9% for the quarter, and +0.2% for the trailing year. Active exposure to the RAFI fundamental factor subset index was positive for the trailing year, but negative value stock returns impacted the quarter. The Research Affiliates Fundamental Index (RAFI) is a value style strategy with a long time horizon, deep value characteristics and an additional level of political risk sensitivity that makes it quite volatile in shorter periods. Forty-four percent of exposure to Emerging Markets is indexed. Additional EM exposure results from the Developed Market External Manager use of substitute stocks and some specific broader risk platforms.

Outlook

- The outlook for international equities is cautiously positive based on discounted slow improvement in the European economy, improving bank reserve levels, no serious long lasting disruption of trade resulting from geopolitical tensions, European Central Bank support of liquidity (i.e. QE plans), and attractive relative valuation with the U.S. market. Emerging Markets have been negatively affected by slower growth and both geopolitical and internal political problems. Many concerns appear to be discounted, and relative growth expectations remain a long term positive. Political instability and currency devaluation remain important concerns.
- 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 is currently challenged, and small and mid-cap international stocks are experiencing greater volatility. Stock Plus strategies are expected to continue to enhance returns by focusing on credit and security selection and trading opportunities to earn returns in excess of overlay costs.
- Emerging markets continue to benefit from growing local consumer demand trends and slowly improving governance, regulation, and financial reforms in select countries. The Wellington Emerging Local Equity fund based directly on those local themes has been a solid contributor to returns. Political instability, systemic corruption, lack of tested legal systems, and changing tax regimes remain concerns. Infrastructure investments and projects should stimulate emerging market economies, and the need for foreign capital and expertise might speed some financial reforms.

Investment Plan

- Move slowly toward longer-term objectives as a slow global recovery develops and relative valuations of international markets remain positive.
- Take advantage of attractive corporate spreads and high quality, less liquid securities to enhance the returns in stock plus strategies. Collaborate with internal fixed income staff for an effective hybrid approach to security research and selection.
- Prepare for derivative market product and regulatory changes by focusing on standardized, exchange-supported structures as they become available, and the management of collateral positions.



SMRS

International Equities

12/31/14

Markets	Indexed	Active	Total Indexed & Active	% of Total
Developed Markets - Large/Mid Cap				
Internal Stock Plus Combination	\$1,672			
SSgA PMI Fund	998			
Vanguard Developed Markets Fund	543			
PIMCO Stock Plus Fund		\$982		
Wellington Int'l Research Equity Fund		572		
Baillie Gifford ACWI Ex US Alpha Fund		353		
Marathon-London EAFE Fund		327		
T Rowe Price Int'l Core Equity		213		
Lazard Int'l Equity		209		
Sub Total Developed Large/Mid Cap	\$3,213	\$2,656	\$5,869	65.6%
Developed Markets - Small Cap				
SSgA EMI Fund	\$721			
Franklin Templeton Int'l Small Cap Fund		\$193		
MFS Int'l Small Cap Fund		180		
SSgA Int'l Small Cap Alpha Fund		166		
Sub Total Developed Small Cap	\$721	\$539	\$1,260	14.1%
Total Developed Markets	\$3,934	\$3,195	\$7,129	79.7%
Emerging Markets - All Cap				
Vanguard Emerging Mkt Stock Index Fund	\$712			
Internal Emerging Market Equity Fund	119			
PIMCO Emerging Market Fund		\$493		
LACM Emerging Market Fund		317		
Wellington Emerging Market Fund		175		
Sub Total Emerging All Cap	\$831	\$985	\$1,816	20.3%

TOTAL

\$4,765

\$4,180

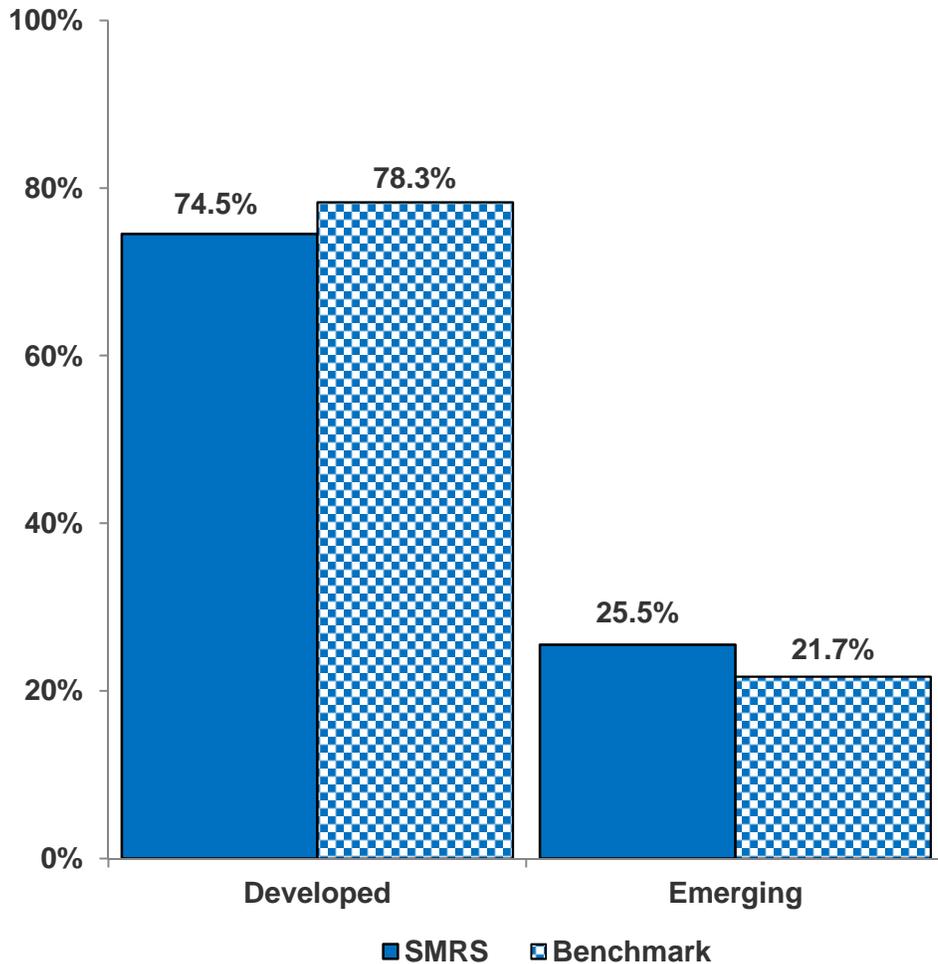
\$8,945

100.0%



SMRS

International Equity Exposure By Category SMRS Versus Benchmark 12/31/14



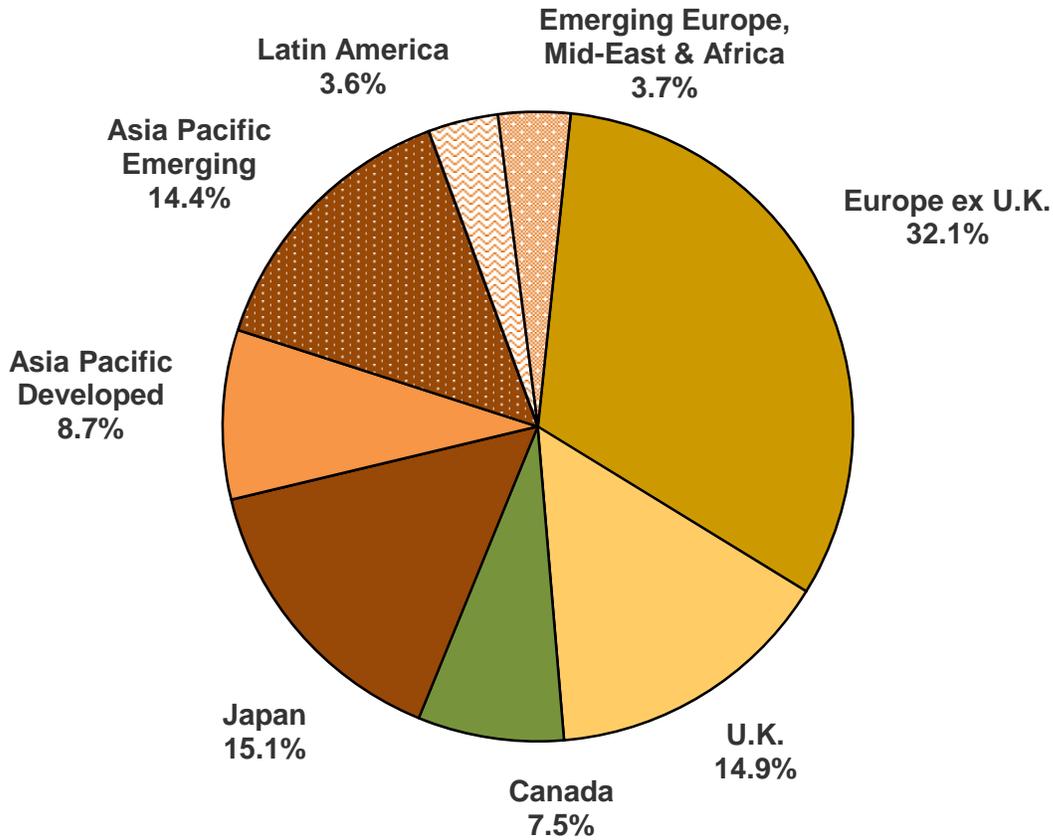
Investments by Region		
	<u>SMRS</u>	<u>MSCI ACWI ex USA</u>
Developed	74.5%	78.3%
Emerging	25.5%	21.7%
Total	<u><u>100.0%</u></u>	<u><u>100.0%</u></u>



SMRS

MSCI ACWI ex USA

12/31/14

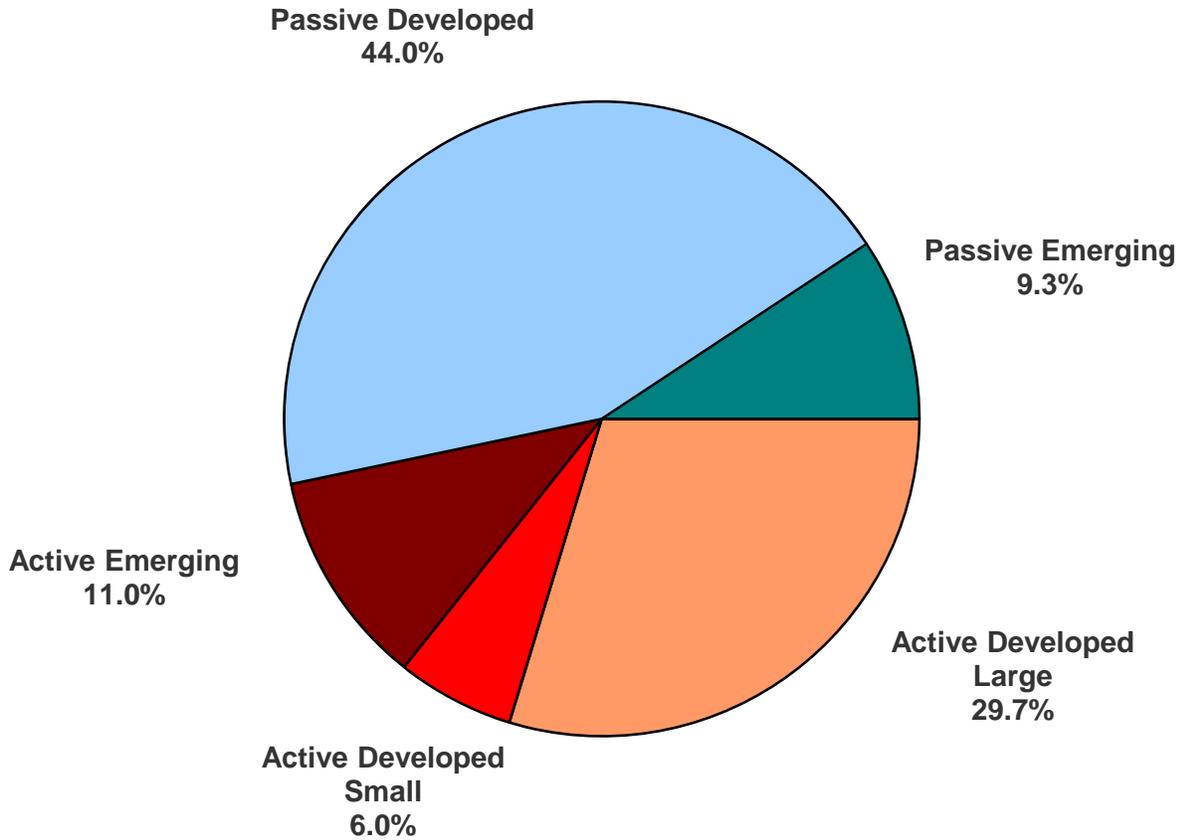


<u>Developed</u>	<u>Benchmark</u>
Europe ex U.K.	32.1%
U.K.	14.9%
Japan	15.1%
Asia Pacific Developed	8.7%
Canada	7.5%
Total Developed	78.3%
<u>Emerging</u>	
Asia Pacific Emerging	14.4%
Latin America	3.6%
Emerging Europe, Mid-East & Africa	3.7%
Total Emerging	21.7%
Total	100.0%



SMRS

International Equity Holdings By Category 12/31/14

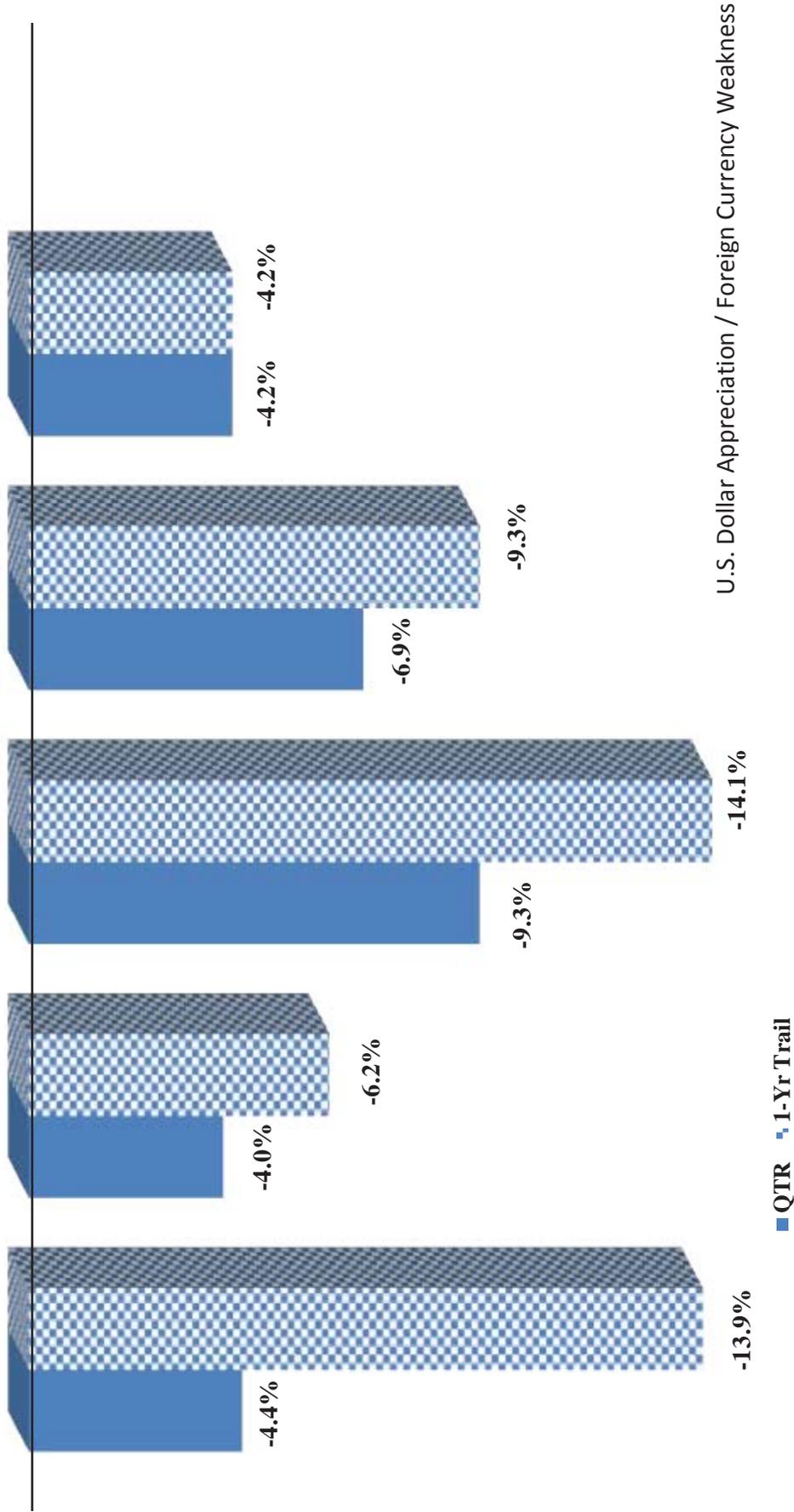


Market Value in Millions				
	12/31/14		9/30/14	
Active				
Developed Large	\$2,656	29.7%	\$2,733	29.8%
Developed Small	539	6.0%	547	5.9%
Emerging	985	11.0%	1,025	11.2%
Total Active Equity	4,180	46.7%	4,305	46.9%
Passive				
Developed	\$3,934	44.0%	\$4,066	44.3%
Emerging	831	9.3%	813	8.8%
Total Passive Equity	4,765	53.3%	4,879	53.1%
Total International Equity	\$8,945	100.0%	\$9,184	100.0%

Currency Performance vs. the U.S. Dollar

12/31/14

U.S. Dollar Depreciation / Foreign Currency Strength



U.S. Dollar Appreciation / Foreign Currency Weakness

■ QTR ■ 1-Yr Trail

Euro **Pound** **Yen** **Aussie Dollar** **S. Korean Won**

International Manager Performance – Net of Fees
12/31/14

Manager Performance, Net of Fees

	<u>Market Value</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>7 Years</u>	<u>Inception Date</u>
PIMCO Inter. Stocks Plus TR Strategy	\$982,175,306	-4.9%	13.9%	--	--	10/1/10
MSCU EAFE Net Div. Index (unhedged)		-4.9%	11.1%	--	--	
Wellington Inter. Research Equity	\$572,321,165	-3.8%	11.6%	6.0%	-0.2%	12/1/05
S&P BMI World Ex-US Index		-4.3%	10.6%	5.6%	0%	
PIMCO Emerging	\$493,385,832	-1.4%	5.6%	--	--	10/1/10
MSCI Emerging Market Index		-2.2%	4.0%	--	--	
Baillie Gifford ACWI Ex-US Alpha Strategy	\$352,889,778	-2.8%	--	--	--	3/1/12
MSCI ACWI Ex-US		-3.4%	--	--	--	
Marathon-London Inter. Fund	\$326,932,670	-4.5%	--	--	--	2/1/12
MSCI EAFE Index		-4.9%	--	--	--	
LA Capital Emerging Market	\$317,215,372	0.2%	4.7%	4.2%	--	12/8/09
MSCI Emerging Market Index		-2.2%	4.0%	1.8%	--	
T Rowe Price Inter. Core	\$213,263,555	--	--	--	--	4/1/14
MSCI EAFE Index		--	--	--	--	
Lazard Wilmington Inter. Equity Portfolio	\$209,475,000	--	--	--	--	5/1/14
MSCI EAFE Net Div. Index (unhedged)		--	--	--	--	
Templeton Inter. Smaller Companies Fund	\$192,805,739	-2.9%	--	--	--	6/1/12
MSCI All Country World Index Ex-US Small-Cap		-3.1%	--	--	--	
MFS Inter. Small-Cap Equity Fund	\$179,603,827	-2.2%	--	--	--	5/1/12
MSCI All Country World Index Ex-US Small-Cap		-3.1%	--	--	--	
Wellington Emerging Local Equity	\$174,670,932	2.6%	10.0%	--	--	12/1/11
MSCI Emerging Market Index		-2.2%	4.0%	--	--	
SSGA Small-Cap Inter. Alpha Strategy	\$166,131,715	-3.6%	15.7%	10.5%	--	5/1/07
S&P Developed Ex-US Small-Cap		-3.8%	12.6%	8.1%	--	

International Indexed Manager Performance, Net of Fees
12/31/14

	<u>Market Value</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>7 Years</u>	<u>Inception Date</u>
SSgA PMI Fund	\$997,639,000	-4.1%	10.3%	--	--	4/1/10
S&P Developed Ex US Large/Midcap		-4.6%	10.2%	--	--	
Vanguard Developed Markets Fund	\$543,387,000	-5.6%	--	--	--	4/1/10
FTSE Developed Market Fund		-4.6%	--	--	--	
SSgA EMI Fund – Europe/Pacific	\$720,737,000	-3.2%	14.2%	--	--	4/1/10
S&P EPAC Small-Cap		-3.2%	14.0%	--	--	
Vanguard Emerging Market	\$711,536,000	0.7%	4.4%	2.0%	--	7/1/09
FTSE Emerging Index		1.2%	4.6%	2.3%	--	

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

PRIVATE EQUITY REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

MARCH 5, 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	18.1%	16.4%	16.8%	8.9%	14.3%
Benchmark Return	22.9%	26.0%	19.8%	11.4%	11.5%
Peer Median Return	13.4%	13.8%	12.3%	6.3%	10.9%
Rank vs. Peers	18	16	9	11	5

- The Private Equity Division annualized returns have been strong in absolute terms for all time periods over the past ten years; returning 18.1% and 14.3% 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 20% 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 2.8% annualized excess returns over the public benchmark.

Strategy Update

Over the past 12 months, the Private Equity Division returned roughly \$2 billion to the pension fund. Over the same time period, the allocation to private equity decreased from 18.9% to 16.3%. This trend will continue, at least in the near term. 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 \$3.8 billion in unfunded commitments. New commitments closed during the quarter include:
 - \$150 million TPG Partners (TPG VII) focused on large buyout
 - \$150 million New Leaf Ventures (NLV III and NLV Growth) focused on venture and growth equity
 - \$100 million Kelso Investment Associates (KIA IX) focused on middle market buyout
 - \$100 million Freeman Spogli Equity Partners (FS Equity Partners VII) focused on middle market buyout
 - \$50 million Public Pension Capital (PPC) focused on growth and buyout
 - \$50 million Khosla Ventures (KV V) focused on venture
 - \$22 million Flagship Ventures (FV V) focused on venture
 - \$20 million Advent Latin American Private Equity (LAPEF VI) focused on buyout

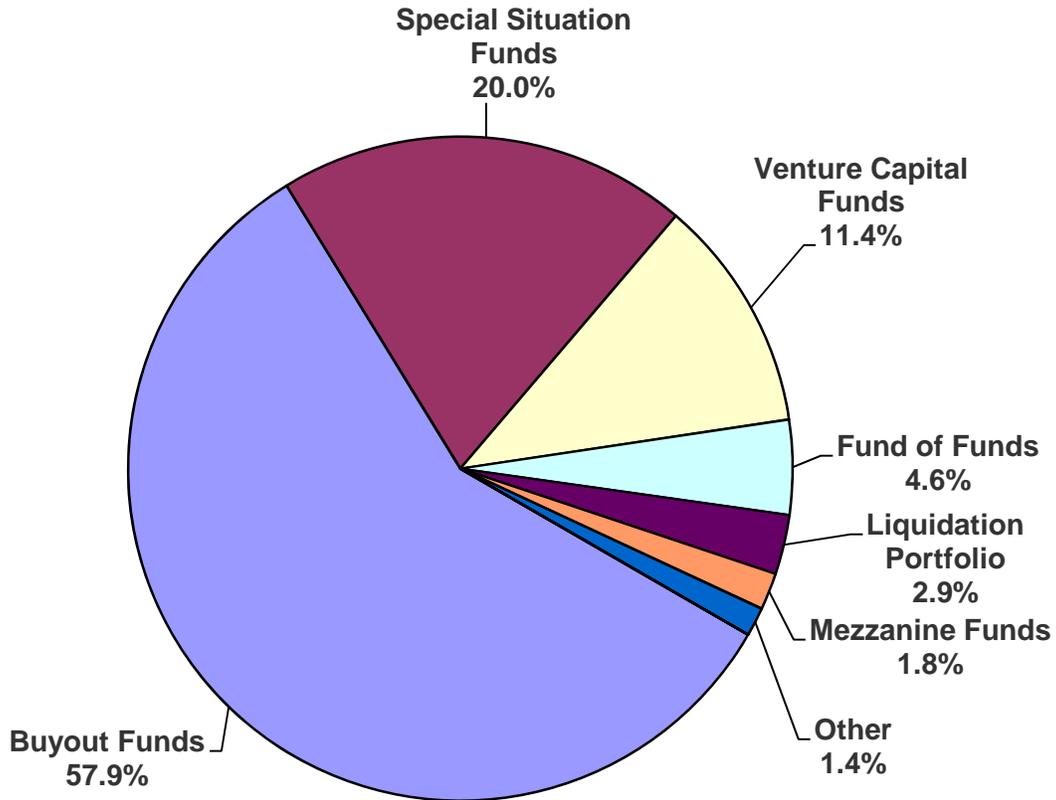
- The Private Equity Division strategy is focused on the asset classes of: leveraged buyouts, venture, distressed debt, mezzanine debt, and special situations. The Division is overweight leveraged buyouts because this strategy has resulted in higher, more consistent long-term returns (10+ years) vs. 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 Private Equity Division has also invested in venture capital funds selectively, when this asset class fell out of favor.
- Recently, the Private Equity Division began evaluating direct co-investments and secondary opportunities to enhance returns and to average down fees.

Market Environment

- Overall market sentiment remains positive, but the market is frothy and significant challenges remain. Capital to fund transactions is plentiful and competing alternatives for sellers are robust from both financial and non-financial buyers.
- In light of accommodative credit markets and an improving U.S. macro economy, current market conditions favor asset sellers rather than buyers. This trend is likely to continue until credit markets tighten or asset prices peak.
- Although a net positive for the overall U.S. economy, the collapse in oil prices will adversely impact energy funds. The Private Equity Division has a small exposure, approximately 5%, to this sector. If prices remain low for an extended period, consolidation within the industry is likely and distressed or energy credit funds will likely emerge.



SMRS Private Equity 12/31/14



Market Value in Millions				
	12/31/14		9/30/14	
Buyout Funds	\$5,729	57.9%	\$5,877	56.7%
Special Situation Funds	1,979	20.0%	2,274	21.9%
Venture Capital Funds	1,126	11.4%	1,153	11.1%
Fund of Funds	459	4.6%	475	4.5%
Liquidation Portfolio	289	2.9%	284	2.7%
Mezzanine Funds	184	1.8%	177	1.7%
Other	122	1.4%	128	1.4%
Total	\$9,888	100.0%	\$10,368	100.0%



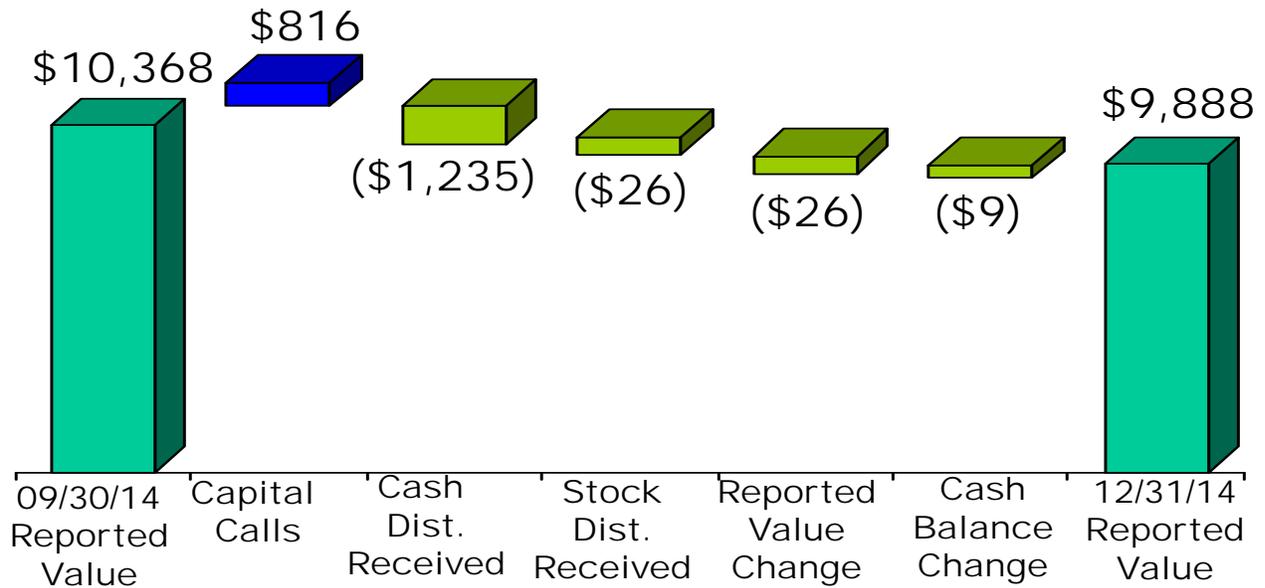
SMRS

Private Equity

12/31/14

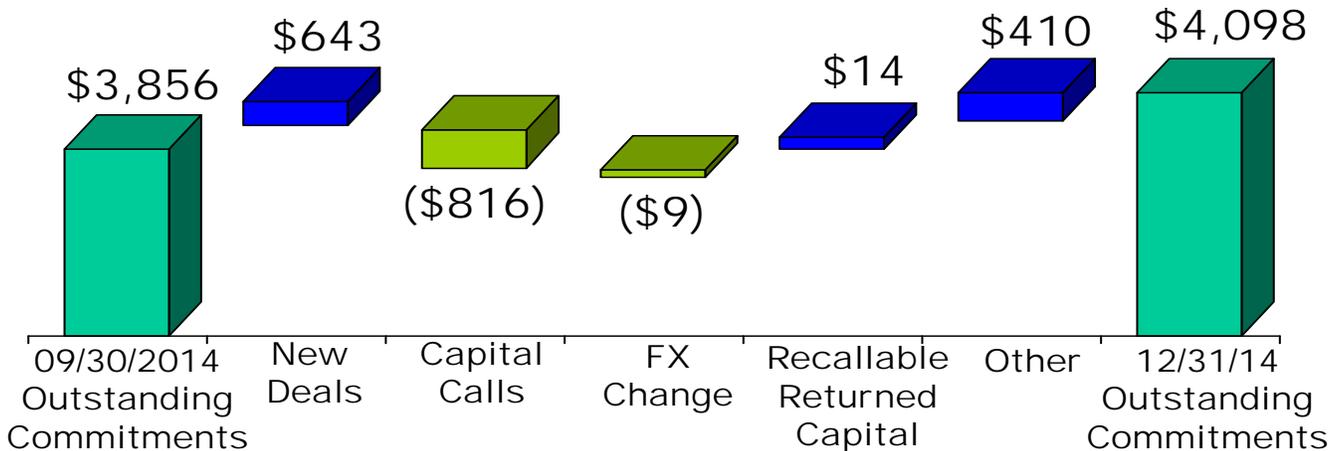
Invested Commitments

(\$ Millions)



Outstanding Commitments

(\$ Millions)



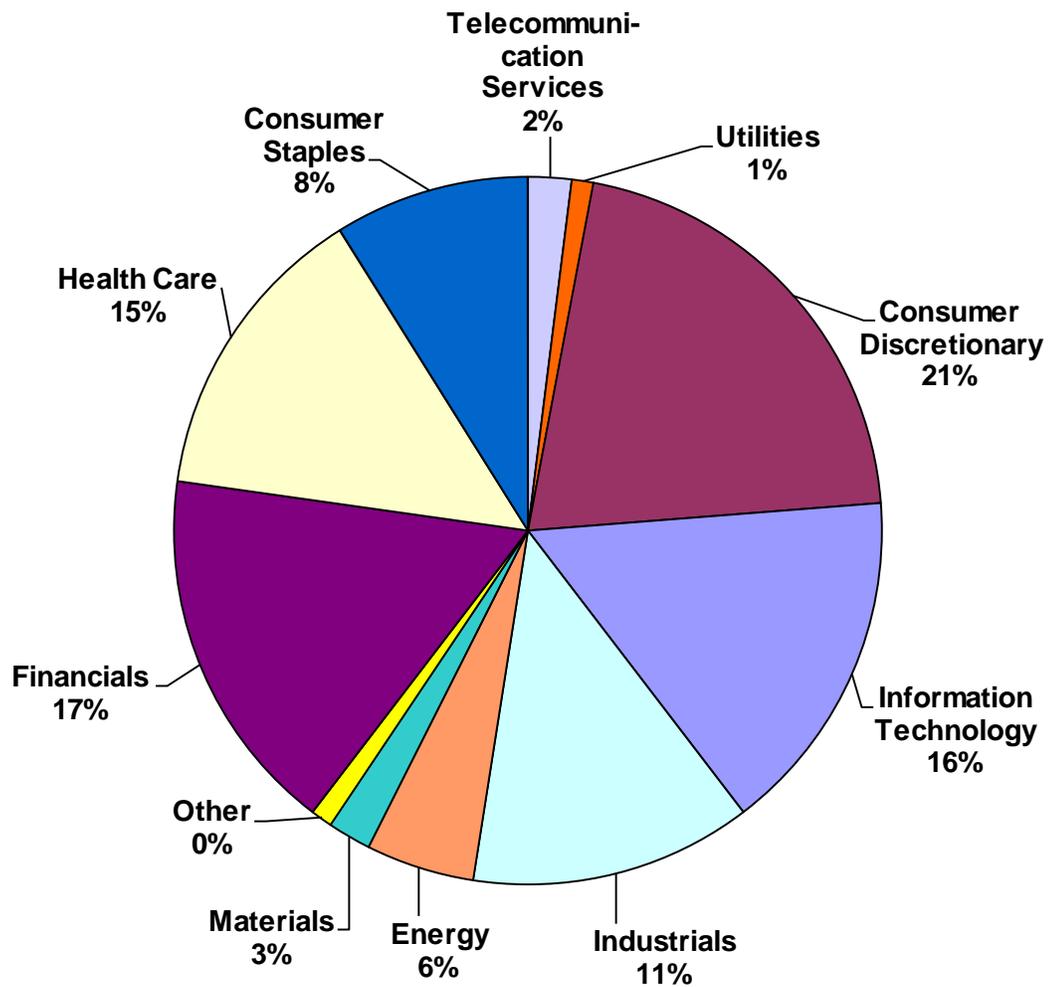


SMRS

Private Equity

12/31/14

Investments by Industry

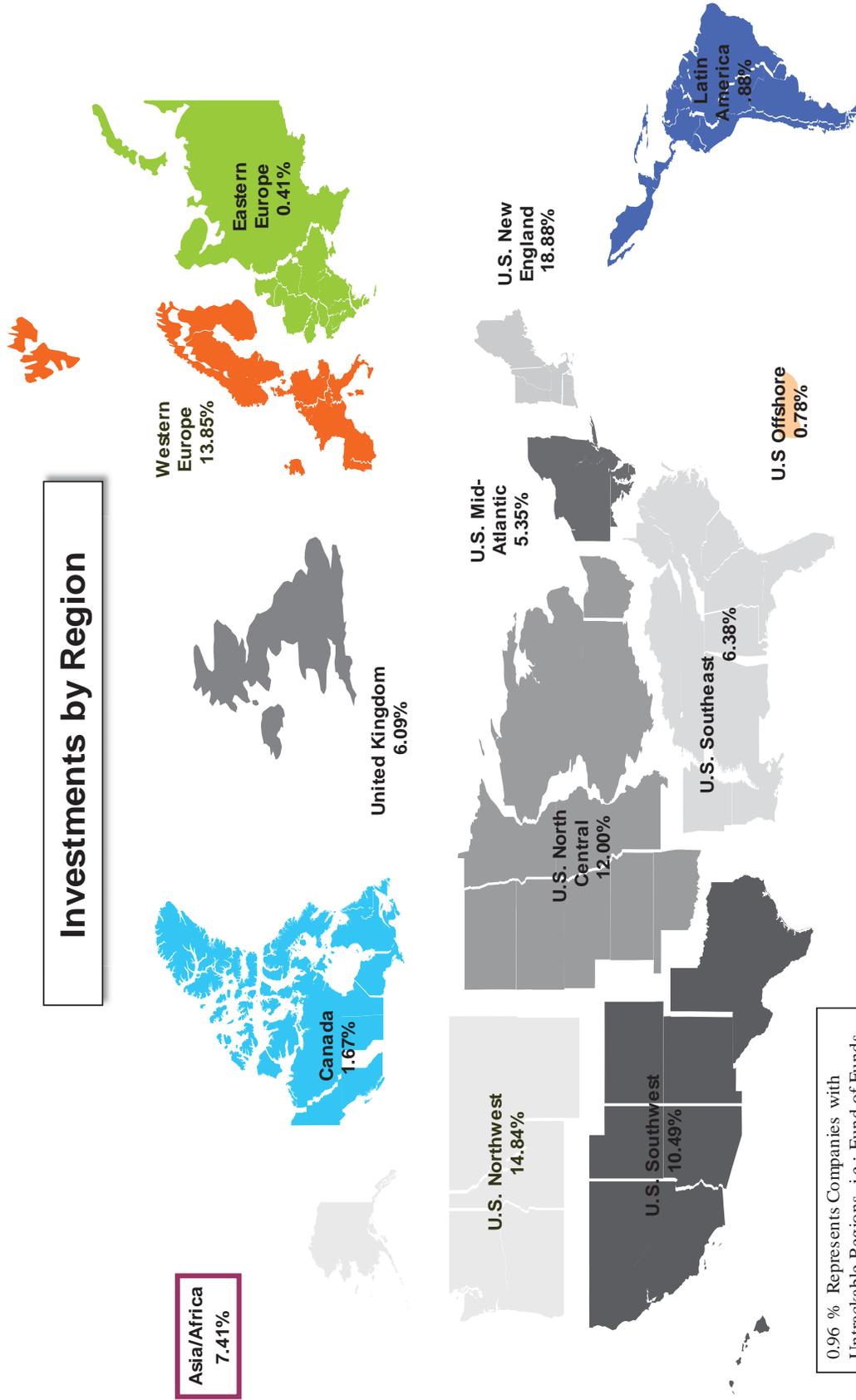


These numbers are based on the most recent available General Partner Data; primarily 09/30/14 and are subject to change.



Private Equity
12/31/14

Investments by Region



0.96 % Represents Companies with Untrackable Regions, i.e.; Fund of Funds

Geographic Report: North America 71%, Europe 21%, Asia 7%, Other 1%



SMRS

Private Equity

12/31/14

Portfolio by Vintage Year

(\$ Millions)

<u>Asset Vintage</u>	<u>Reported Value</u>	<u>Outstanding Commitment</u>	<u>Total Exposure</u>
1986-98	\$ 60	\$ 21	\$ 81
1999	75	19	94
2000	131	32	163
2001	238	21	259
2002	229	17	246
2003	116	18	134
2004	396	53	449
2005	611	98	709
2006*	2,424	388	2,812
2007	1,470	209	1,679
2008	1,633	405	2,038
2009	167	23	190
2010	237	92	329
2011	404	242	646
2012	866	915	1,781
2013	276	439	715
2014	434	1,122	1,556
Cash	116	-	116
Act. Small Cap - Stock Dist	5	-	5
Total	\$ 9,888	\$ 4,114	\$ 14,002

*Liquidation portfolio is 2006 vintage

FX Exposure

	<u>Reported Value</u>	<u>Outstanding Commitment</u>	<u>Total Exposure</u>	<u>Total (USD)</u>
Euro (\$1.26/ €)	€877	€167	€1,044	1,319
Pound (\$1.62/ £)	£7	£1	£8	13



Private Equity
12/31/14

Top 10 Sponsors

(\$ Millions)

<u>Asset Type</u>	<u>Reported Value</u>	<u>Outstanding Commitment</u>	<u>Total</u>
GCM Grosvenor	\$ 696	\$ 239	\$ 935
Kohlberg Kravis Roberts & Co	732	147	879
Warburg Pincus Capital	538	219	757
Carlyle Group	480	224	704
Blackstone Capital Partners	496	176	672
TPG	504	76	580
Glencoe Capital	513	45	558
Advent International	404	108	512
Green Equity Investors	376	105	481
Apax Partners, Inc.	333	86	419
Top 10 Total Value	<u>\$5,072</u>	<u>\$ 1,425</u>	<u>\$6,497</u>

Cash Weighted Rates of Return*

<u>(Net IRR)</u>	<u>Current Qtr.</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
Buyout	-0.9%	17.3%	16.2%	16.8%	17.1%
Venture Capital	-0.3%	21.4%	13.5%	17.2%	11.2%
Special Situations	-0.2%	16.2%	15.5%	14.7%	11.2%
Fund of Funds	3.3%	21.6%	11.2%	12.4%	11.1%
Mezzanine Debt	1.1%	7.7%	13.7%	20.6%	8.5%

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



SMRS
Private Equity
12/31/14

Net Market Values by Ownership Entity

	<u>Adjusted Reported Value</u>	<u>Unfunded Commitment</u>
Accel Europe I, L.P.	18,082,802	1
Accel Europe II	18,101,039	3,300,000
Accel Growth Fund II, L.P.	11,800,270	1,620,000
Accel Growth Fund III, L.P.	4,632,495	9,240,000
Accel IX, L.P.	14,585,538	3,000,000
Accel VI, L.P.	2,024,205	0
Accel VI-S	3,163,973	652,611
Accel VII, L.P.	2,617,784	5,000,000
Accel VIII, L.P.	3,019,797	4,782,499
Accel X, L.P.	19,767,307	1,250,000
Accel XI, L.P.	6,620,353	2,080,000
Accel XII, L.P.	1,833,907	5,075,000
Advent Global Private Equity III	784,149	20
Advent Global Private Equity IV	1,792,874	0
Advent Global Private Equity V	34,196,516	10,500,000
Advent International GPE VI-A LP	223,080,602	9,099,980
Advent International GPE VII-B, L.P.	143,227,425	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.	114,363,503	17,894,671
Affinity Asia Pacific Fund IV (No.2) L.P.	31,268,241	96,937,912
APA Excelsior IV, L.P.	0	0
APA Excelsior V	86,952	545,625
Apax Europe Fund VI	83,531,837	2,559,011
Apax Europe V, L.P.	4,241,326	0
Apax Europe VII, L.P.	141,055,842	3,428,473
Apax Excelsior VI	1,566,208	1,614,434
Apax US VII	23,015,719	417,509
Apax VIII - B, L.P.	32,759,564	68,550,315
Apollo Investment Fund VIII L.P.	8,048,153	91,148,021
Arboretum Ventures II	3,815,706	410,096
Arboretum Ventures III, L.P.	11,255,932	3,720,000
Ares Corporate Opportunities Fund II	24,750,091	11,643,796
Ares Corporate Opportunities Fund III, LP	88,981,772	13,258,609

	Adjusted Reported Value	Unfunded Commitment
Ares Corporate Opportunities Fund IV, L.P.	54,438,283	48,385,270
ASF Norman, LLC Receivable	263,984,415	0
Austin Ventures VIII, L.P.	3,017,531	0
Avenue Special Situations Fund IV, L.P.	479,959	0
Avenue Special Situations Fund V, L.P.	1,978,680	0
Avenue Special Situations Fund VI (B), L.P.	41,634,654	0
AXA ASF Miller Co-Investment	64,037,765	23,421,187
Axiom Asia Private Capital Fund III, L.P.	10,693,116	24,201,764
Banc Fund VI	5,529,507	0
Banc Fund VII	37,687,769	0
Banc Fund VIII	24,843,720	0
Battery Ventures VI, L.P.	1,390,283	0
Battery Ventures VII, L.P.	11,672,997	0
Battery Ventures VIII	23,746,731	701,800
BC European Capital IX	49,578,586	40,103,232
BC European Capital VII, L.P.	647,188	0
BC European Capital VIII, L.P.	74,182,508	12,548,218
Berkshire Fund IV, L.P.	12,842	1,898,016
Berkshire Fund V, L.P.	213,419	3,281,560
Berkshire Fund VI, L.P.	33,719,921	6,929,420
Berkshire Fund VII, L.P.	69,983,864	8,728,494
Berkshire Fund VIII, L.P.	60,627,014	58,701,448
Blackstone Capital Partners IV	66,481,067	5,225,731
Blackstone Capital Partners V	170,674,075	21,120,289
Blackstone Capital Partners V-S	25,653,075	712,476
Blackstone Capital Partners VI, LP	204,793,677	134,398,750
Bridgepoint Europe IV	49,837,886	4,961,887
Brockway Moran & Partners Fund III	11,183,880	4,026,923
Carlyle Europe Partners	0	410,679
Carlyle Europe Partners II	18,114,663	4,483,566
Carlyle Europe Partners III	98,209,470	15,231,201
Carlyle Partners IV, L.P.	53,493,502	13,397,831
Carlyle Partners V L.P.	232,803,959	63,786,981
Carlyle Partners VI, L.P.	50,237,355	120,338,071
Castle Harlan Partners IV	10,795,139	5,286,319
Castle Harlan Partners V	43,887,012	41,721,990
CCMP Capital Investors II	103,585,675	10,472,084
CCMP Capital Investors III, L.P.	19,956,087	29,068,388
Cerberus SMRS Partners, L.P.	80,824,151	19,804,657
Clarus Life Sciences II, L.P.	54,704,892	4,615,000
Clarus Lifesciences I	15,311,298	4,079,460
Clearstone Venture Partners II (idealab)	4,655,300	0

	Adjusted Reported Value	Unfunded Commitment
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.	25,954,700	2,000,000
Coller International Partners IV	6,139,026	4,000,000
Coller International Partners V, L.P.	69,335,055	43,600,000
Coller International Partners VI, L.P.	51,528,411	52,937,132
Crescent Mezzanine Partners VI, L.P.	49,694,559	27,838,132
DLJ Investment Partners II	1,384,762	(202)
DLJ Investment Partners III	21,943,712	66,656,542
DLJ Merchant Banking Partners III, L.P.	6,362,403	1,854,201
DLJ Merchant Banking Ptrs II, L.P.	433,908	1,786,970
Doughty Hanson & Co IV	51,547,841	2,904,914
Doughty Hanson & Co V	75,956,318	35,529,684
Doughty Hanson Co. III L.P.	22,323,624	3,102,822
EDF Ventures III	1,970,908	0
Essex Woodlands Health IV	2,980,295	0
Essex Woodlands Health V	7,415,531	0
Essex Woodlands Health Ventures Fund VIII	64,311,876	7,875,000
Essex Woodlands Health VI	16,224,738	687,500
Essex Woodlands Health VII	57,753,108	0
FirstMark Capital I, L.P.	59,455,831	196,596
FirstMark Capital OF I, L.P.	2,637,303	17,300,000
Flagship Ventures Fund 2004	18,107,186	0
Flagship Ventures Fund 2007, L.P.	48,667,065	525,000
Flagship Ventures Fund IV, L.P.	20,848,382	4,350,000
* Flagship Ventures Fund V	0	22,796,006
Fox Paine Capital Fund II, LP	21,812,087	15,831,920
Frontenac VIII	72,364	1,800,000
* FS Equity Partners VII, L.P.	11,241,216	88,785,892
G-II Acquisition Holdings Note	6,479,046	0
GCM Grosvenor Fund Investment Program I, L.P.	23,779,290	1,454,574
GCM Grosvenor Fund Investment Program II, L.P.	76,192,707	16,741,875
GCM Grosvenor Fund Investment Program III - 2004	95,871,957	5,835,755
GCM Grosvenor Fund Investment Program III - 2006	103,951,520	18,773,655
GCM Grosvenor Fund Investment Program V, L.P.	91,264,154	29,805,542
GCM Grosvenor Fund Investment Program VI, L.P.	8,928,403	25,354,241
GCM Grosvenor SeasPriFIP LP (PIS06-10)	89,407,310	32,665,574
GCM Grosvenor SeasPriFIP LP (PIS14)	35,286,561	76,344,491
GCM Grosvenor SeasPriFIP LP (Seed)	163,895,499	13,933,191
Glencoe Capital Michigan Opportunities Fund, LP	78,945,371	13,995,212
Globespan Capital Partners IV (Jafco)	18,875,736	250,000

	Adjusted Reported Value	Unfunded Commitment
Globespan Capital Partners V, LP	48,100,500	6,187,500
Green Equity Investors III	25,003	9,112,215
Green Equity Investors IV	53,773,506	1,136,036
Green Equity Investors V	262,199,795	25,966,435
Green Equity Investors VI, L.P.	62,175,850	64,614,555
Grotech Partners V	139,748	0
Grotech Partners VI	8,313,394	0
GSO Capital Opportunities Fund II, L.P.	16,141,172	26,127,225
H.I.G. Bayside Debt & LBO Fund II, LP	9,571,938	5,000,000
H.I.G. Brightpoint Capital Partners II	429,687	0
H.I.G. Capital Partners IV, L.P.	17,936,585	1,040,833
H.I.G. Europe Capital Partners L.P.	26,166,763	1,623,185
HarbourVest Dover Street VIII, L.P.	31,438,688	38,475,000
HarbourVest Int'l III Direct	2,855,963	1,000,000
HarbourVest Int'l III Partnership	4,957,725	1,200,000
HarbourVest V Partnership	343,788	300,000
HarbourVest VI - Direct Fund LP	5,648,375	750,000
HarbourVest VI Partnership	20,645,704	2,000,000
Healthcare Venture V	0	0
Healthcare Venture VI	675,012	0
Healthcare Venture VII	4,559,243	0
Healthcare Venture VIII	26,186,396	3,500,000
InterWest Partners IX	11,131,258	1,600,000
JAFCO America Technology Fund III	523,721	0
JP Morgan Partners Global Investors	8,011,179	(13,764,056)
JPMorgan Global Investors Sell-down	7,465,794	(2,479,950)
* Kelso Investment Associates IX, L.P.	0	100,000,000
Kelso Investment Associates VII	9,379,785	4,970,176
Kelso Investment Associates VIII	134,265,967	38,123,985
Khosla Ventures III, L.P.	68,157,083	4,250,000
Khosla Ventures IV, L.P.	45,980,544	12,500,000
* Khosla Ventures V, L.P.	8,500,000	41,500,000
KKR 2006 Fund, L.P.	237,367,652	8,462,754
KKR Asia	76,068,009	3,777,237
KKR Asian Fund II, L.P.	17,565,101	34,652,122
KKR China Growth Fund	27,988,588	23,883,888
KKR E2 Investors (Annex) Fund	12,173,577	587,747
KKR European Fund II	61,724,134	0
KKR European Fund III	106,224,117	18,718,128
KKR European Fund LP 1	3,148,864	0
KKR Millennium Fund	92,962,634	0
KKR North America Fund XI, L.P.	73,805,288	61,149,674

	Adjusted Reported Value	Unfunded Commitment
Lightspeed Venture Partners VI	6,115,253	0
Lightspeed Venture Partners VII, L.P.	46,329,818	160,436
Lion Capital Fund I (HME II)	2,276,966	12,260,240
Lion Capital Fund II	33,940,681	5,246,566
Lion Capital Fund III, L.P.	81,335,209	19,941,795
Long Point Capital Fund	11,732	41,415
Long Point Capital Fund II	0	786,150
Matlin Patterson Global Opportunities Partners	37,306	0
MatlinPatterson Global Opportunities Partners II	2,391,031	92,719
MatlinPatterson Global Opportunities Partners III	67,353,228	6,828,461
Menlo Ventures IX, L.P.	10,601,594	0
Menlo Ventures VIII	2,599,416	0
Menlo Ventures X, L.P.	34,428,146	0
Menlo Ventures XI, L.P.	39,783,472	5,000,000
MeriTech Capital Partners II, L.P.	2,858,455	1,850,000
Meritech Capital Partners III, L.P.	32,793,534	600,000
Meritech Capital Partners IV, L.P.	21,526,581	1,700,000
Meritech Capital Partners V, L.P.	1,815,858	18,150,000
Michigan Growth Capital Partners II, L.P.	71,153,947	111,525,173
Michigan Growth Capital Partners, LP	158,149,653	23,289,207
Midtown Fund III, L.P.	1,718,649	0
Midtown II Liquidating Trust	1,309,702	0
MPM BioVentures III	5,871,594	0
* New Leaf Growth Fund I, L.P.	10,000,000	102,500,000
New Leaf Ventures II, L.P.	20,638,885	350,000
* New Leaf Ventures III, L.P.	0	37,500,000
Nordic Capital VI, L.P.	38,633,230	(48,906)
Nordic Capital VII	65,667,719	11,857,764
Nordic Capital VIII, L.P. (Alpha)	16,770,983	31,589,310
North Castle Partners III	3,274,533	438,297
Oak Investment Partners X, L.P.	11,808,881	0
Oak Investments Partners IX, L.P.	2,563,742	0
OCM Opportunities Fund IX, L.P.	63,255,167	15,000,000
OCM Opportunities Fund VII (B), L.P.	8,450,528	25,127,447
OCM Opportunities Fund VII, L.P.	10,333,201	0
OCM Opportunities Fund VIII B, L.P.	43,420,596	0
OCM Opportunities Fund VIII, L.P.	25,177,713	0
OCM Principal Opportunities Fund IV	24,638,783	5,002,377
Ocqueoc Holdings, LLC	6,854,120	0
One Liberty Fund III	546,306	0
One Liberty Fund IV	2,065,696	0
One Liberty Ventures 2000	10,847,009	0

	<u>Adjusted Reported Value</u>	<u>Unfunded Commitment</u>
Paine & Partners Capital Fund III, LP	146,266,295	7,026,517
Parthenon Investors II	7,078,212	3,186,779
Parthenon Investors III	59,556,138	6,143,748
Parthenon Investors IV, L.P.	15,532,682	25,039,071
Peninsula Capital Fund III	206,112	1,400,000
Peninsula Capital Fund IV	12,122,550	2,201,026
Permira Europe III LP	4,563,520	201,473
Permira IV, L.P.	83,561,056	7,744,320
Phoenix Equity Partners IV	10,425,729	931,987
Primus Capital Fund IV	0	0
Primus Capital Fund V	6,524,553	712,500
Providence Equity Partners V, L.P.	45,758,918	13,259,419
Providence Equity Partners VI, L.P.	190,576,518	26,578,634
* Public Pension Capital, LLC	0	50,000,000
Questor Partners Fund II	15,134,701	5,883,006
RFE Investment Partners VII, LP	19,579,212	173,332
RFE Investment Partners VIII, L.P.	14,386,112	14,037,760
RFE IV Venture	345,976	0
Riverside Capital Appreciation Fund VI, LP	18,017,316	54,914,977
Riverside Micro Cap Fund I, LP	27,564,816	6,697,145
Riverside Micro-Cap Fund II, L.P.	41,021,866	2,437,424
Riverside Micro-Cap Fund III, L.P.	23,036,608	16,988,553
Silver Lake Partners II	15,268,324	3,362,316
Silver Lake Partners III	96,346,608	19,494,246
Silver Lake Partners IV, L.P.	14,629,334	38,617,116
SM/TCP L.P.	18,539,210	31,460,790
Sprout Capital IX	781,436	0
TCW Shared Op Fund III	1,767,784	0
TCW Shared Op Fund IV	1,103,012	4,524,779
TCW Shared Op Fund V	3,893,445	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	61,513,886	15,546,729
The Huron Fund III, L.P.	28,040,219	5,392,500
The Huron Fund IV, L.P.	6,802,110	27,370,000
The Shansby Group 4	1,341,307	520,829
The Shansby Group 5 (TSG5)	75,122,110	8,578,686
TPG IV (Texas Pacific Group IV)	16,762,431	211,725
TPG Partners III, LP	8,352,876	2,087,002
TPG Partners VI, L.P.	234,480,598	30,431,278
* TPG Partners VII, L.P.	0	150,000,000
TPG V (Texas Pacific Group V)	226,943,416	34,917,668

	Adjusted Reported Value	Unfunded Commitment
Trilantic Capital Partners V (North America) Fund A, L.P.	16,171,152	33,115,789
TSG6, L.P.	65,326,127	76,277,014
Tullis - Dickerson Capital II	6,348,188	0
Tullis - Dickerson Capital III	11,553,361	0
Turnbridge Capital Partners I , LP	17,095,824	82,904,176
Unitas Asia Opportunity Fund	457,865	0
Unitas Asia Opportunity Fund II	273,240	26,604,144
Unitas Asia Opportunity Fund III	59,388,231	35,054,326
Veritas Capital Fund V, L.P.	0	75,000,000
Veritas V Co-Investors, L.P.	0	25,000,000
Vista Equity Partners Fund V, L.P.	15,550,450	33,880,087
Warburg Pincus Energy MCIP, L.P.	3,217,479	21,782,521
Warburg Pincus Energy, L.P.	3,197,645	96,139,416
Warburg Pincus Equity Partners, L.P.	14,088,835	0
Warburg Pincus International Partners	20,432,255	0
Warburg Pincus Private Equity IX	70,816,812	0
Warburg Pincus Private Equity VIII, L.P	35,219,169	0
Warburg Pincus Private Equity X, L.P.	242,536,548	0
Warburg Pincus Private Equity XI, L.P.	127,725,378	86,738,594
Weiss, Peck & Greer V (adm: Opus Capital)	1,239,668	386,240
WestAm COREplus Private Equity QP	7,898,371	2,086,719
WestAm Special Private Equity Partners	6,464,008	2,317,427
Wind Point Partners III	2,439,978	0
Wind Point Partners IV	104,013	1,541,518
Wind Point Partners V, L.P.	11,957,731	0
Wind Point Partners VI	33,132,757	9,417,035
Wind Point Partners VII	61,674,983	18,296,388
Total Private Equity	\$ 9,766,922,579	\$ 4,097,963,968
Cash	91,083,254	-
** Active Small Cap Cash	25,016,724	-
*** Active Small Cap	5,353,369	-
Grand Total	\$ 9,888,375,925	\$ 4,097,963,968

* New Commitments made during quarter reported

** T. Rowe Price short term cash position

*** T. Rowe Price in-kind distributions held for liquidation

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

**REAL ESTATE AND
INFRASTRUCTURE REVIEW**

INVESTMENT ADVISORY COMMITTEE MEETING

MARCH 5, 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	19.7%	13.2%	11.2%	1.8%	6.4%
NCREIF NPI	10.4%	9.7%	10.7%	3.4%	7.0%
Peer Median Return	13.7%	12.5%	11.4%	2.3%	6.5%
Rank vs. Peers	26	40	54	55	51

- Total Real Estate and Infrastructure Division (REID) value was \$5.6 billion with a total one-year return of 19.7%. 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 select apartments and medical office buildings in 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 at favorable pricing, yielding attractive returns.
- The REID has been selling core assets with limited increases in leasing income, at historically low capitalization rates. The REID is also working with its advisors in executing the disposition of non-strategic properties in secondary markets at attractive values.
- The REID sold a large apartment portfolio in New York City at attractive pricing, and a U.S. warehouse portfolio, which the REID was an investor in, was liquidated.
- REID has approximately \$1 billion in unfunded commitments. New commitments closed during the quarter include:
 - \$25 million Clarion Gables Multifamily Trust focused on U.S. apartment properties
 - \$100 million Invesco Mortgage Recovery Fund II, LP focused on U.S. and European distressed properties
 - \$75 million Lubert-Adler Real Estate Fund VII, LP focused on U.S. retail and apartment properties
 - \$50 million Orange Investors, LLC managed by Heitman Real Estate Advisors focused on European apartment properties
 - \$50 million Paladin Realty Latin America Investors IV-CI, LP focused on development of for-sale housing in Brazil, Columbia, Peru, and Mexico
 - \$100 million TPG RE Finance Trust focused on financing transitional U.S. real estate properties
 - \$85 million Blackstone Energy Partners II, LP. focused on power generation, downstream, and natural resource assets in N. America and globally

Market Environment

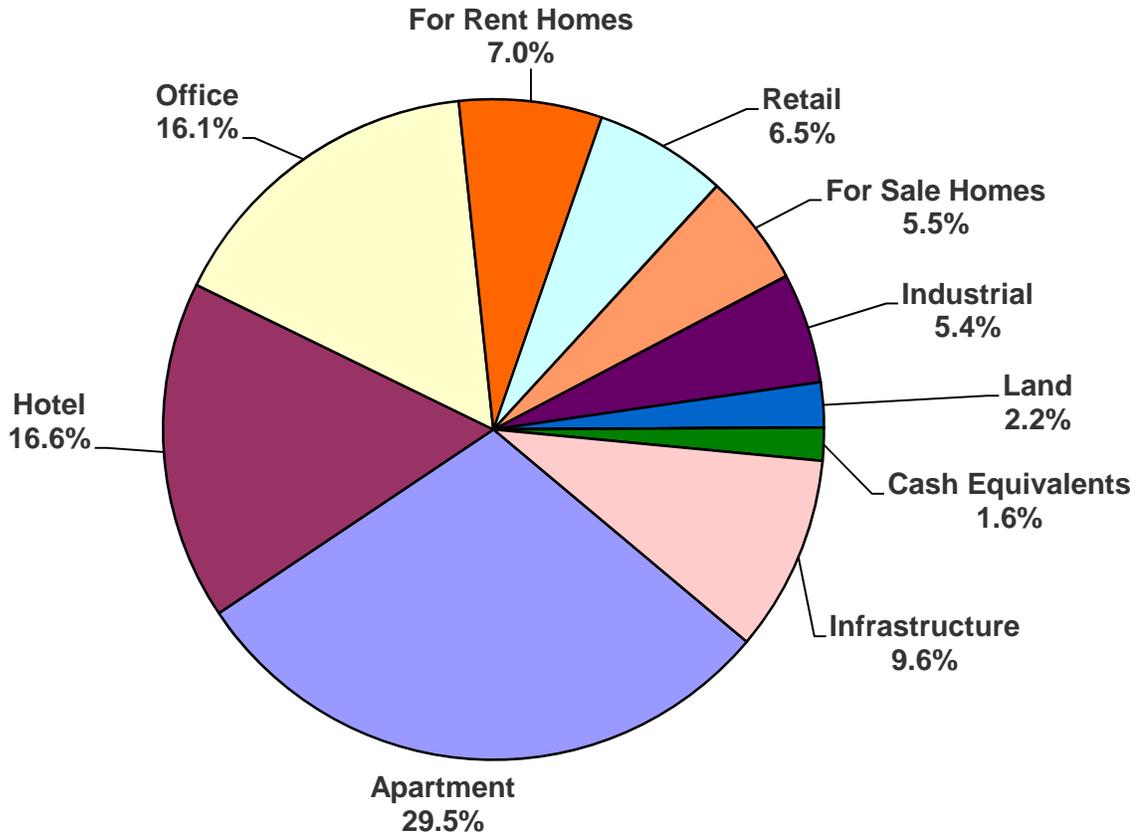
- High quality, cash flowing, core assets have appreciated as investors seek current yield and protection from volatility. In major markets including New York, San Francisco, and Boston, properties are trading at near record low capitalization rates. Secondary markets are being targeted by investors seeking higher yields. Debt is fully available and competitive between lenders resulting in low coupons 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, European transportation, power generation, and emerging market fundamental infrastructure projects.
- In the commercial mortgage-backed securities (CMBS) market, spreads over the swap rate for AAA-rated securities decreased 12 basis points (bps) from the prior quarter and now stand at 84 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

12/31/14



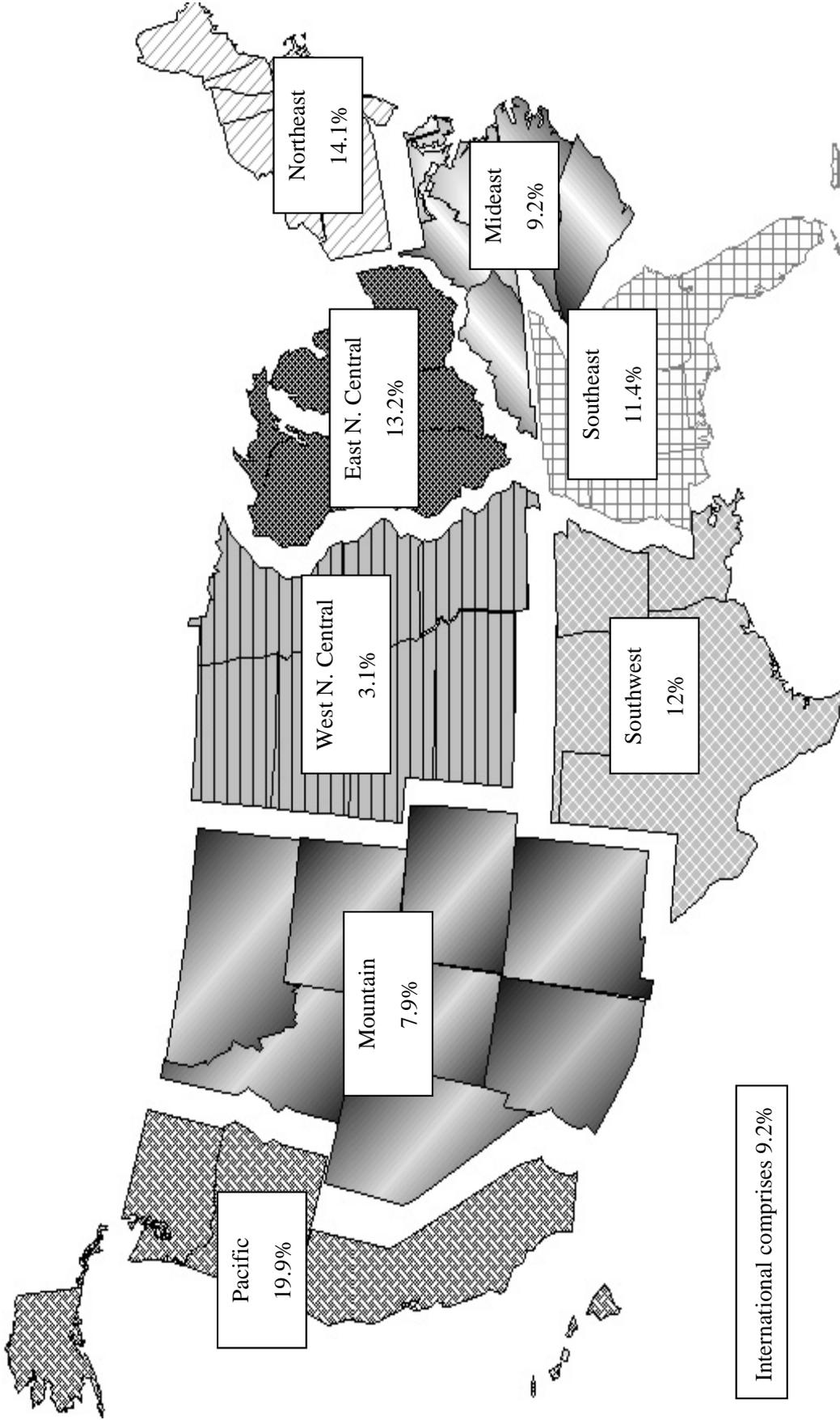
Market Value in Millions

	12/31/14		9/30/14	
Apartment	\$1,639	29.5%	\$1,602	29.3%
Hotel	921	16.6%	912	16.7%
Office	895	16.1%	843	15.4%
Infrastructure	531	9.6%	510	9.3%
For Rent Homes	389	7.0%	366	6.7%
Retail	361	6.5%	372	6.8%
For Sale Homes	306	5.5%	240	4.4%
Industrial	300	5.4%	410	7.5%
Land	121	2.2%	144	2.7%
	<u>\$5,463</u>	<u>98.4%</u>	<u>\$5,399</u>	<u>98.8%</u>
Cash Equivalents	<u>87</u>	<u>1.6%</u>	<u>63</u>	<u>1.2%</u>
Total Investments	<u>\$5,550</u>	<u>100.0%</u>	<u>\$5,462</u>	<u>100.0%</u>



Real Estate by Region

Based on Net Market Value
(excludes cash & cash equivalents)
12/31/14



Geographic regions defined by NCREIF, whose property index composition is: Pacific 30.0%, Mountain 5.5%, West N. Central 1.6%, Southwest 11.2%, East N. Central 7.9%, Southeast 9.6%, Northeast 20.6%, Midwest 13.7%



SMRS

12/31/14

**Top Ten
Advisors or Companies**

<u>Advisor or Company</u>	<u>Net Market Value</u>
MWT Holdings, LLC	\$ 1,080,662,575
Clarion Partners (formerly ING Clarion)	648,693,079
Blackstone Group	527,097,721
Kensington Realty Advisors, Inc.	282,223,274
CIM Group, Inc.	275,867,411
Five Star Realty Partners, LLC	233,113,453
Principal Real Estate Investors	223,335,816
Bentall Kennedy LP	205,547,468
KBS Realty Advisors	169,409,811
Rialto Capital	126,558,645
	<u>\$ 3,772,509,253</u>

**Occupancy
by Property Type**

	Apartment	Office	Industrial	Retail	Hotel
SMRS Portfolio	95.3%	90.6%	90.6%	92.8%	65.5%
National Average	92.6%	85.9%	89.4%	93.5%	70.3%



Real Estate

Net Market Values by Ownership Entity

12/31/14

	Net Market Value	Unfunded Commitment
801 Grand Avenue Capital, LLC	\$ 85,483,528	\$ 0
AGL Annuity Contract GVA 0016	290,174,902	0
Avanath Affordable Housing I, LLC	26,344,907	2,492,748
Beacon Capital Strategic Partners IV, LP	12,468,000	0
Beacon Capital Strategic Partners V, LP	12,341,780	2,500,000
Blackstone R/E IH3 Co-Inv Partners	387,762,144	0
Blackstone Real Estate Partners V, LP	49,902,808	2,087,026
Blackstone Real Estate Partners VI, LP	89,432,769	4,117,734
Capri Select Income II	7,105,105	0
Capri Urban Investors, LLC	19,926,576	0
CIM Fund III, LP	109,104,512	0
CIM Fund VIII, L.P.	51,873,477	43,351,912
CIM Urban REIT, LLC	89,256,198	0
CIM VI (Urban REIT), LLC	25,633,224	0
City Lights Investments, LLC	6,139,866	0
* Clarion Gables Multifamily Trust	0	25,000,000
Cobalt Industrial REIT	2,211,000	0
Cobalt Industrial REIT II	3,237,000	0
CPI Capital Partners N.A., LP	3,019,452	0
CPI Capital Partners N.A., Secondary, LP	8,420,553	0
Crown Small Cap Real Estate	2,103,939	23,000,000
Devon Real Estate Conversion Fund, LP	5,778,879	0
Domain GVA 1, LLC	89,242,531	60,000,000
Domain Hotel Properties, LLC	486,930,547	0
Dynamic Retail Trust	72,584,881	0
Gateway Capital R/E Fund II, LP	75,157,948	2,048,500
Great Lakes Property Group Trust	268,307,047	0
Invesco Mortgage Recovery Feeder Fund	26,579,884	140,620
* Invesco Mortgage Recovery Fund II, L.P.	15,793,011	53,850,000
JBC Opportunity Fund III, LP	16,764,719	0
JP Morgan India Property Fund II, LLC	13,519,078	27,521,013
KBS/SM Fund III, LP	105,982,058	0
L & B Medical Properties Partners, LP	217,078	0
Landmark Real Estate Partners V, LP	23,799,282	3,900,000
LaSalle Asia Opportunity Fund II, LP	280,956	0
LaSalle Asia Opportunity Fund III, LP	24,167,669	4,000,000
Lion Industrial Trust	138,870,660	0
Lion Mexico Fund, LP	22,891,872	0
Lowe Hospitality Investment Partners	1,133,553	0
* Lubert-Adler Real Estate Fund VII, LP	7,500,000	67,500,000
MERS Acquisitions, Ltd.	114,659,605	0
MG Alliance, LLC	15,616,372	5,000,000
Morgan Stanley R/E Fund V - International	4,508,941	0
Morgan Stanley R/E Fund VI - International	38,989,349	0
Morgan Stanley R/E Fund V - U.S.	11,802,716	0
Morgan Stanley R/E Special Situations Fund III	63,423,797	0
MWT Holdings, LLC	1,080,662,575	48,000,000
Northpark-Land Associates, LLLP	28,761,335	0
* Orange Investors LLC	31,929,330	0
Paladin Realty Brazil Investors III (USA), LP	41,023,180	0
* Paladin Realty Latin America Investors IV-CI, LP	18,944,640	31,055,360
Principal Separate Account	137,852,287	0
Proprium RE Spec Situations Fund LP	10,139,425	9,000,000
Rialto Real Estate Fund, LP	36,560,747	8,277,006
Rialto Real Estate Fund II, LP	34,413,606	10,633,468
Rialto Mezzanine Partners Fund	55,584,292	18,667,864
SM Brell II, LP	63,427,753	0
Stockbridge Real Estate Fund II-C, LP	32,730,899	0
Strategic LP	176,392,047	48,950,931
* TPG RE Finance Trust	81,702,288	18,297,712
Trophy Property Development LP	76,039,526	8,908,100
True North High Yield Investment Fund II	31,294,990	5,000,000
Venture Center, LLC	40,625,727	0
Western National Realty Fund II, LP	27,087,484	0
	<u>\$ 4,931,616,304</u>	<u>\$ 533,299,994</u>
Short-Term Investments and Other	66,770,176	0
Total Real Estate Investments	<u>\$ 4,998,386,480</u>	<u>\$ 533,299,994</u>

* New commitment made during the quarter reported



Infrastructure Investments

Net Market Values by Ownership Entity

12/31/14

	<u>Net Market Value</u>	<u>Unfunded Commitment</u>
ASF VI Infrastructure B LP	\$ 15,771,735	\$ 23,948,674
ASF Como Co-Investment LP	35,009,848	24,497,409
Balfour Beatty Infrastructure Partners, LP	14,086,273	32,600,853
Blackstone Energy Partners, LP	46,188,645	15,724,000
* Blackstone Energy Partners II, LP	0	85,000,000
Brookfield Infrastructure Fund II-B, L.P.	20,478,604	24,356,638
Customized Infrastructure Strategies, LP	98,448,437	8,678,303
Dalmore Capital Fund	76,591,215	-
First Reserve Energy Infrastructure Fund II, L.P.	808,670	73,800,000
GCM Grosvenor Infrastructure Investment Program, LP	53,719,625	-
JP Morgan AIRRO India Sidecar Fund US, LLC	74,937,182	5,033,815
JP Morgan AIRRO Fund II US, LLC	13,086,354	83,384,246
KKR Global Infrastructure Investors, LP	66,215,582	12,852,625
StonePeak Infrastructure Fund LP	16,215,484	57,810,785
	<u>\$ 531,557,654</u>	<u>\$ 447,687,348</u>
Short-Term Investments and Other	19,992,291	0
Total Infrastructure Investments	<u>\$ 551,549,945</u>	<u>\$ 447,687,348</u>

* New commitment made during the quarter reported

**STATE OF MICHIGAN
RETIREMENT SYSTEMS**

BASKET CLAUSE REVIEW

INVESTMENT ADVISORY COMMITTEE MEETING

MARCH 5, 2015



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



SMRS

Basket Clause Investments

12/31/14

<u>Asset Class</u>	<u>Value</u>
Total Absolute Return	\$3,843,320,073
Total Real Return and Opportunistic	710,271,263
Total International Equity	317,215,373
Total Long-Term Fixed Income	<u>36,163,603</u>
Total Basket Clause Investments	<u>\$4,906,970,312</u>

The basket clause investments at December 31, 2014, were \$4.91 billion or 8.09% of the total portfolio value of \$60.65 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.

