

# INVESTMENT ADVISORY COMMITTEE MEETING

September 6, 2012

STATE OF MICHIGAN RETIREMENT SYSTEMS  
QUARTERLY INVESTMENT REVIEW



**Andy Dillon, State Treasurer**

Prepared by Bureau of Investments  
Michigan Department of Treasury



# INVESTMENT ADVISORY COMMITTEE MEETING

September 6, 2012

## Agenda



- 9:30 a.m. Call to Order and Opening Remarks
- 9:40 a.m. Approval of Minutes of June 14, 2012, Meeting
- 9:45 a.m. Executive Summary & Performance for Periods Ending 6/30/12
- 10:00 a.m. Current Asset Allocation Review  
Capital Markets Overview – *File*
- 10:10 a.m. Round Table Discussion
- 10:35 a.m. R.V. Kuhns – Asset Liability Study
- 11:00 a.m. R.V. Kuhns – Review of Goals and Objectives
- Economic and Market Review and Outlook – *File*
- Review of Investment Reports
- Active Domestic Equity – *File*
  - Alternative Investments – *File*
  - Absolute and Real Return/Oppportunistic – *File*
  - International Equity – *File*
  - Indexed Domestic Equity – *File*
  - Fixed Income – *File*
  - Real Estate & Infrastructure – *File*
- Basket Clause – *File*
- 11:30 a.m. Adjournment

### 2012 Meeting Schedule

Thursday, December 6, 2012

### TENTATIVE ~ 2013 Meeting Schedule

Thursday, March 7, 2013

Thursday, June 6, 2013

Thursday, September 5, 2013

Thursday, December 5, 2013

All meetings start at 9:30 a.m.



## **INVESTMENT ADVISORY COMMITTEE**

The Investment Advisory Committee held its quarterly meeting on Thursday, June 14, 2012, at the Bureau of Investments, Great Lakes Conference Room, 2501 Coolidge Road, Suite 400, East Lansing, Michigan.

Members Present:

Nick A. Khouri, Chairman  
L. Erik Lundberg  
James B. Nicholson  
Steven H. Hilfinger, LARA  
Phillip J. Stoddard, DTMB

In attendance from the Department of Treasury: State Treasurer Andy Dillon, Jon M. Braeutigam, Gregory J. Parker, Robert L. Brackenbury, Karen Stout, Brian Liikala, Richard Holcomb, Peter Woodford, Paul Nelson, Jack Behar, Jim Elkins, Ed Mikolay, Jane Waligorski, Marge McPhee, and Emma Khavari.

Others in attendance: Becky Gratsinger, Jim Voytko, Dan Krivinskas, Felicity Gates, Michael Lashendock, Alex Harlan, John Ide, Ron Farnum, June Morse, and Jason Diotte.

### **Call to Order**

Chairman Khouri called the June 14, 2012, meeting to order at 9:35 a.m. He thanked everyone for taking time from their busy schedules to attend the meeting.

### **Approval of Minutes of March 1, 2012**

Chairman Khouri asked for a motion to approve the minutes from the March 1, 2012, meeting. Mr. Nicholson so moved; there were no objections.

### **Opening Remarks**

Chairman Khouri noted that these are very interesting times with the continuing rolling crisis in Europe, China and India economies are slowing, and the U.S. macro economy appears to have problems. This is not an easy time to be investing \$50 billion for the SMRS funds. He addressed the discussion points of future Investment Advisory Committee (IAC) meetings in that there will be more detail on asset classes at each meeting. This will provide time for the Board members to become familiar with each asset class and the staff to understand the views of the Board members by asking questions and discussing strategies of the particular asset class. He noted that the topic for this meeting is infrastructure with two guests addressing the topic. Chairman Khouri turned the meeting over to Treasurer Dillon.

Treasurer Dillon noted the problems in Europe and China and that it seems to be the same thing every quarter. He also noted he appreciates the idea of digging deeper into the different asset classes and investment topics and would like to review, in depth, the time-weighted rates of return and the rankings of the fund. Treasurer Dillon agreed this would be a great time for staff to pick the brains of the impressive Board as it relates to strategies for the different asset classes. There was a brief discussion about the goal of the fund and trying to adjust for risk and asset allocation, how success is measured, and the value of the relative rankings.

## **Executive Summary**

Mr. Jon Braeutigam discussed the Executive Summary noting how the fund did versus other public plans and the benchmark. He discussed the actual return versus the peer's return and the differences in their rankings and noted that in other asset classes in private markets there may be wide dispersions in the rankings. He stated it is best to look at the actual return versus, first the benchmark and then versus the peers. Some benchmarks are very easy to understand like the S&P 500, but others are more difficult like infrastructure as it is not standardized. The other side of the equation is how much risk is being taken to get these returns.

Mr. Braeutigam discussed the three-year number, which is challenged versus the peers. The five-year returns are right on median and the ten-year returns do not include small or mid-cap stocks for the first half of the decade. Mr. Braeutigam discussed the reasoning used for decisions made regarding the international equity portfolio. He briefly discussed the Investment Policy Statements which included the new infrastructure asset class noting there has been a lot of work in this area to develop and implement what is needed to be effective in this asset class. There was a brief discussion with several ideas being exchanged about the benefits of an experienced infrastructure manager. Mr. Braeutigam agreed that it is very important to select the right manager to achieve the right diversity, and understand both the project(s), and the financing of the project(s).

## **Performance**

Mr. Braeutigam began the discussion regarding the performance of the plan noting that the longer-term returns are more important indicators rather than the yearly return. He discussed the return percentages noting the rankings for each year's return and noted the difference in the comparison of the plan against the benchmark, and the plan against the median. As in previous IAC meetings, he discussed the three-year figure and noted that it was below the peers. There was a discussion regarding the liquidity of the plan, risk, and the diversification of the portfolio.

Mr. Braeutigam reviewed the asset classes noting that over the last five years there has been improvement in domestic equity. Previously the asset class was limited to 33% passive and has now gone to approximately a 50% passive / 50% active plan. There was a discussion regarding the reasoning for the change. Mr. Braeutigam reviewed the

international equity asset class noting the tracking error is narrowing and becoming more like the peers. Also, emerging markets have been added over the past few years which makes up approximately 24% of the international portfolio. There was a lengthy discussion regarding currency, hedged versus un-hedged. He discussed private equity noting that this asset class has done very well. Facebook, Inc. was also a topic of a lengthy discussion. Commercial real estate valuations are bouncing back. The NCREIF property index, not an investable index, shows how properties are doing by un-leveraging the property making it clear how property level fundamentals are performing. Mr. Braeutigam discussed bonds, looking at the one-year number which was 7.3% versus the median which was 7.5%. There was a discussion regarding the corporate world accounting system, FASB versus GASB. Mr. Braeutigam discussed absolute return, which is a relatively new asset class, which is doing well versus its benchmark.

### **Asset Allocation**

The SMRS portfolio for the time period ending March 31, 2012, had a market value of \$50.565 billion. In the spirit of time, the Asset Allocation was received and filed.

### **Capital Markets Overview**

In the spirit of time, the Capital Markets Overview was received and filed.

### **Infrastructure Presentation by R.V. Kuhns** – Mr. Dan Krivinskas, Chicago Office

Ms. Rebecca Gratsinger introduced Mr. Dan Krivinskas, Real Estate and Infrastructure expert from the R.V. Kuhns Chicago Office.

Mr. Krivinskas began his presentation by defining infrastructure and what characteristics this asset class demonstrates. He defined infrastructure as basic facilities needed for the functions of a community or society. Some of the characteristics are: it is essential to society or the economy, has a long useful life, has a monopolistic or quasi-monopolistic market position, has stable predictable cash flows often linked to inflation, and is difficult to replicate due to high construction costs. He noted a few examples which included toll roads, airports, schools, and hospitals. He discussed the different types of infrastructure, noting that the industry recognizes transportation which includes airports and toll roads; utilities and regulated industries such as electrical lines, oil and gas pipelines; communications infrastructure which includes cell phone towers, satellites and cable systems. He also discussed social infrastructure which includes both fixed income and real estate such as school buildings, hospitals, courthouses, and government leasing buildings; and he reviewed water-related infrastructure and natural resources, which includes water aquifers and coal mines.

Mr. Krivinskas reviewed in detail the four main infrastructure types giving information regarding the asset types, examples of the investment needed, the ownership, revenues, liquidity, and the life span of the different types of projects. Several questions

were discussed and many thoughts were exchanged in reference to toll roads and airports in order to better understand infrastructure. He noted, with regard to transportation, the revenues associated with these assets tend to be positively correlated with growth rates as well as with inflation. Mr. Krivinskas discussed the return characteristics noting how the capital appreciation and income returns differ depending on the infrastructure type. He gave examples of single asset concessions, social infrastructure projects, airports and unregulated utilities, and regulated utilities focusing on the revenues as well as the liquidity/illiquidity associated with each of these different infrastructure types. He reviewed the number of deals and geography of deals by private infrastructure funds.

Mr. Krivinskas concluded his presentation noting that infrastructure is an asset class worthy of investment consideration. The asset class provides significant portfolio benefits with low correlation, stable cash flows, but prudent evaluation is essential noting that a diversified approach works best to gain benefit. He stated caution is essential in reference to the fee profile and leverage used. Mr. Krivinskas answered many questions from staff and Board members and discussed in detail many aspects of the asset class providing many ideas to assist in building a solid infrastructure asset class in the SMRS portfolio.

**Infrastructure Presentation by Citi Capital Advisors** – Ms. Felicity Gates, Partner and Co-Head of Citi Infrastructure Investors

Ms. Gates began her presentation providing greater detail on a few items that had already been mentioned. She gave a brief history regarding fees, noting that in Australia in 1994 she set up the first infrastructure portfolio for New South Wales State Super Pension plan. At that time, there was a fairly standard model used across all of the funds where the base fees should cover the costs of the business plus a reasonable profit. It depended on the size of the investment, risk, but it was all about aligning interest between the investors and the team. She noted that currently there does not seem to be a standard model across infrastructure, maybe more in private equity, but less in infrastructure because there are so many different ways to structure deals. She noted it is important to access what works for the client's portfolio and for the manager.

Ms. Gates explained that every entity in infrastructure is some sort of public/private partnership. Some entities are completely run by local municipalities, cities, states, and do serve the public. There is some sort of partnership, the customers are the public and the public is typically paying. She discussed concession agreements, which is like a long-term lease. She noted the different partnerships with the amount of risk taken by the private sector and the degree of involvement of the private sector. She provided examples of water utilities, roads, ports, and fully privately-owned energy companies. Ms. Gates provided details of where infrastructure investments are available and the different types of infrastructure investments that were available in those areas. She discussed different opportunities noting things to think about before investing.



Ms. Gates noted that real estate is about location and infrastructure is about stakeholders and a long-term investor must look at all the interested parties involved taking them all into account for the long term. A long-term investor will go through dips in the economy, recessions and all interested parties must be taken into account, everyone is looked after and everyone gets something out of the deal. This is a very important part in infrastructure. Ms. Gates concluded answering several questions regarding the Detroit airport, Chicago parking, the Chicago Skyway, the Indiana Toll Road and several other topics, a lengthy discussion with many ideas being shared to benefit the SMRS portfolio.

**Economic and Market Review and Outlook, Asset Class Investment Reports, and Basket Clause**

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

**Next Meeting Date and Adjournment**

The next IAC Meeting is scheduled for Thursday, September 6, 2012. Chairman Khouri adjourned the meeting at 11:55 a.m.

Approved:

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Nick Khouri, Chairman



# EXECUTIVE SUMMARY

June 30, 2012

## Performance

*Some key performance highlights.*

<u>MPSERS Plan</u>	<u>1-Year</u>	<u>3-Years</u>	<u>5-Years</u>	<u>10-Years</u>
Annualized Returns	2.6%	11.5%	1.4%	6.2%
Rank Vs. Peers	28	49	64	74

## Asset Allocation

*A few minor changes over the past year with some de-risking due to the run-up in stock prices.*

- Over the past twelve months, the **domestic equity allocation has been reduced by 6.9%** to represent 27.9% of the total and **short-term cash was increased by 2.6%** to 4.6% of the total. These changes were due to a desire to sell into the very strong run-up in the domestic equity markets, to give the portfolio more flexibility for opportunistic investments, and to increase the overall liquidity of the plan to ensure the benefit payments and capital commitments continue without disruption to the investments.
- Within Domestic Equity, the percent allocated to **passive strategies has increased over the past twelve months** from 33% to now approximately 47%. The global macroeconomic environment has made it difficult for active managers to add value, and there appears to be little to change that fact in the immediate future. According to Standard and Poor's most recent SPIVA report, only 20% of large cap funds beat the S&P 500 last year, and only 30% beat the benchmark over the past three years.

## Capital Markets

*Risk assets give up some ground, Europe troubles, and some unusual equity valuations.*

- U.S. stocks stumbled slightly during the second quarter (-3%) but continue to show some longer-term strength while **foreign stocks remain pressured**. Domestic stocks have now out-performed their foreign counterparts by 18.6%, 9.3% and 4.6% annually over the past one, three, and five-year periods ending June 2012 respectively.
- Excluding non-earning issues, the **U.S. stock market trades at a higher trailing Price/Earnings multiple than International markets**. At the end of June, the U.S. traded at 14.3 times, Developed International traded at 11.6 times and Emerging International traded at 10.5 times.
- Regarded as a safe-haven, U.S. interest rates remain extremely low due to the European sovereign debt situation. Year-to-date, interest **rates in troubled European countries continued to rise and U.S. Treasuries rates fell**. On July 24, the Spanish ten-year rate closed at a post-crisis high of 7.62%, while the ten-year Treasury rate closed at a historic low of 1.39%.
- Inflation is moderating; the year-over-year change in the CPI was 1.7%, down from 2.7% at the last reading and the Dow Jones-UBS Commodity index is virtually unchanged year-to-date. **Due to a severe drought in the U.S., grain prices have increased by almost one-third year-to-date**.
- An interesting development to watch: **publicly traded equities with a high dividend pay-out are both very expensive and reasonably cheap at the same time**. When compared to the broad equity market, these stocks are at extreme valuations. These stocks are trading like Treasury substitutes. Prices are highly correlated to the long-bond, and by comparison the stocks are attractively priced. Real Estate Investment Trusts are one such example. The asset valuations on the broad NAREIT index have rarely been higher only about 10% of the time but when comparing the dividend yields to the ten-year Treasury rate, REITs are in the lower third of the valuation range.

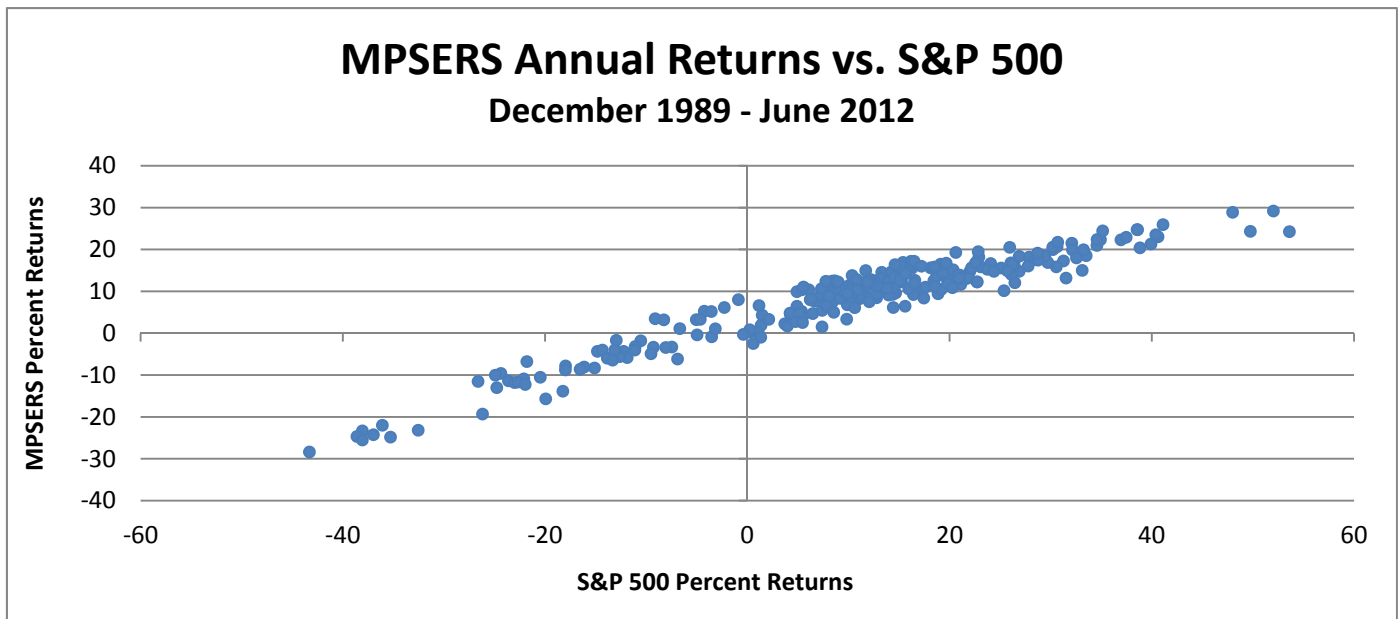
**Economic Backdrop**

*A pause in growth or recession? Corporate profits now only well-above average.*

- The U.S. economy continues to grow very slowly. At the end of July, the latest reading of GDP growth was 1.9%. The Institute of Supply Management’s Purchasing Manager Index (PMI) **measured below 50 in July and August**, indicating some contraction in growth.
- Annualized after-tax profits hit an all-time high at over \$1.5 trillion and profit margins hit an all-time high of 10.3% in the fourth quarter of 2011. However, first quarter 2012 margins were a full percentage lower at 9.3%, the largest drop since the fourth quarter of 2008.

**Highlighted Asset Class – SMRS Portfolio**

*Defining success and matching assets to liabilities.*



- Investment returns are principally dictated by the capital markets. **Over 90% of the portfolio’s returns are explained by the returns of the S&P 500.**

<b>State Street Peer Data</b>	<b>Top Quartile</b>	<b>Bottom Quartile</b>	<b>Spread</b>
Domestic Equity	6.2%	5.3%	0.9%
Long-Term Fixed Income	7.2%	5.9%	1.3%
International Equity	7.9%	5.1%	2.8%
Private Equity	10.6%	6.6%	4.0%
Real Estate	7.2%	2.0%	5.2%
Total Plan	6.9%	6.1%	0.8%
NOTE: 10-Year Annualized Data			

- There have been more opportunities to earn a differentiated rate of return in less liquid, less efficient asset classes. However, **the difference between a top quartile fund and a bottom quartile fund is approximately 80 basis points** per year over the last ten-year period.
- R.V. Kuhns will give a high-level overview of the MSERS asset/liability study and lead a discussion on how one might measure success. Included in the discussion will be long-term market risk/return assumptions, commentary on the current asset allocation and the plan’s funded status under different market scenarios.

**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**PERFORMANCE**

**FOR PERIODS ENDING  
JUNE 30, 2012**

**INVESTMENT ADVISORY COMMITTEE MEETING  
SEPTEMBER 6, 2012**



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



*Bureau of Investments*

*Mission Statement*



*The Bureau of Investments provides quality investment management services, professional expertise, and advice to the State Treasurer as fiduciary of the State of Michigan Retirement Systems and Michigan boards and agencies. The Bureau strives to provide consistent and cost-effective management of funds to achieve competitive investment returns that meet objectives within an acceptable level of risk for the benefit of employees, retirees, and citizens of the State of Michigan.*

# *State of Michigan Retirement Systems*

## *Goals*



*Maintain sufficient liquidity to pay benefits.*

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

*Achieve optimal rate of return possible  
with prudent levels of risk.*

## *Objectives*



*Diversify assets to reduce risk.*

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

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

*Operate in a cost-effective manner.*



# Market/Economic Environment

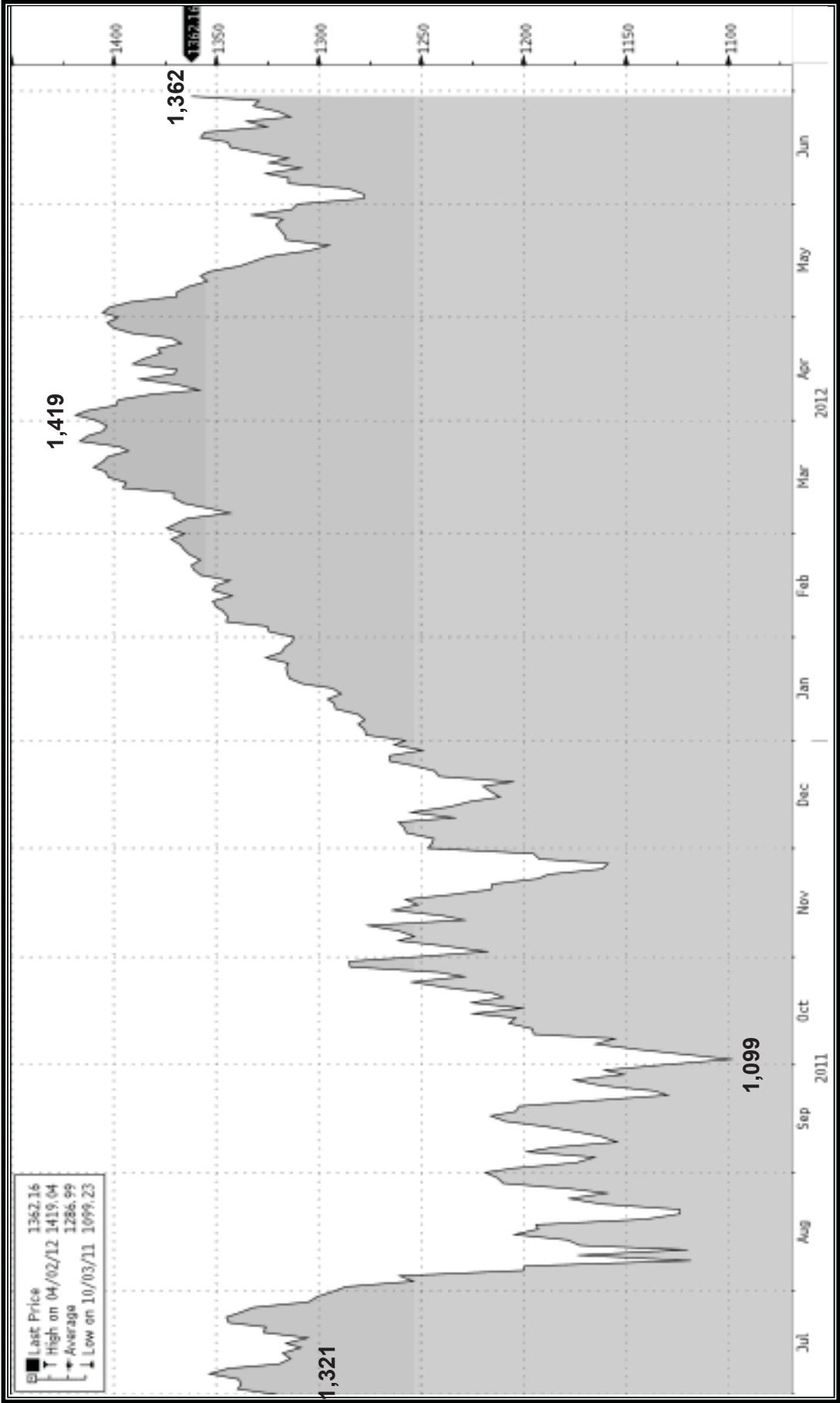
## Market Environment

	<u>12/31/11</u>	<u>2011 Price Change</u>	<u>6/30/12</u>	<u>YTD Price Change</u>
DJIA	12,218	+5.53%	12,880	+5.42%
S&P 500	1,258	0%	1,362	+8.31%
NASDAQ	2,605	-1.80%	2,935	+12.66%
BMI-EPAC (Local)	161.3	-14.91%	165.5	+2.61%
BMI-EPAC (USD)	206.2	-14.91%	209.2	+1.45%
	<u>12/31/11</u>	<u>2011 bp Change</u>	<u>6/30/12</u>	<u>YTD bp Change</u>
30-Year Treas.	2.90%	-144 bp	2.75%	-15 bp
10-Year Treas.	1.88%	-142 bp	1.65%	-23 bp
5-Year Treas.	0.83%	-118 bp	0.72%	-11 bp
2-Year Treas.	0.24%	-36 bp	0.30%	+6 bp
26-Week T. Bill	0.06%	-13 bp	0.16%	+10 bp
13-Week T. Bill	0.02%	-11 bp	0.08%	+6 bp
Fed Funds	0.25%	0 bp	0.25%	0 bp
Prime Rate	3.25%	0 bp	3.25%	0 bp

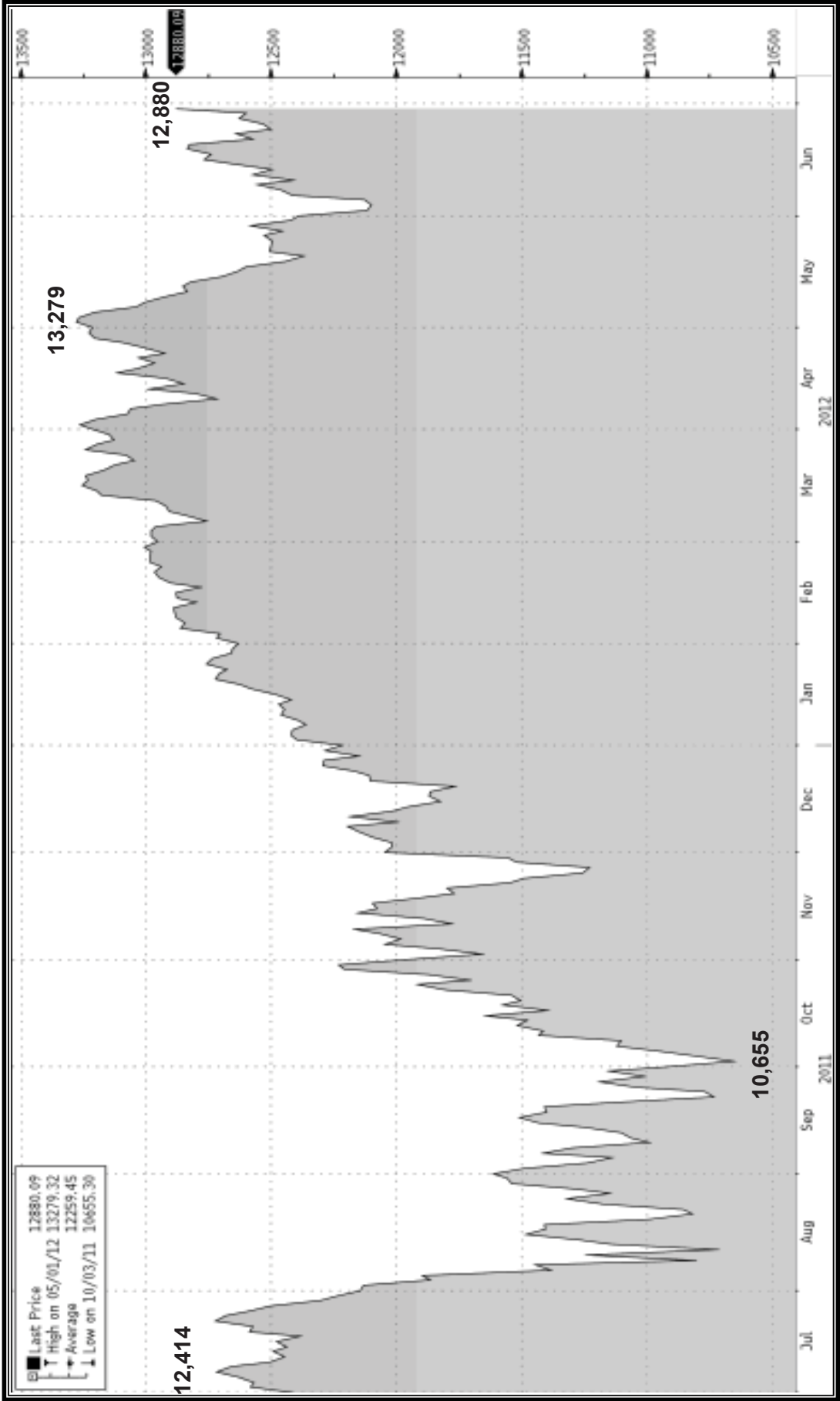
## Economic Environment

- Second quarter real GDP increased by 1.5%. The first quarter of 2012 came in at 2.0%.
- Core inflation was up 1.6%, and CPI was up 2.2%. Ten-year breakeven tips yield was at 2.10%.
- Housing starts averaged 740,000, up from an average of 687,000 in the first quarter. Retail sales were up 3.4% year-over-year.
- Unemployment was 8.3%, up from 8.2% in the first quarter. Initial claims for unemployment averaged 382,000 versus 371,000 in the first quarter.
- S&P 500 fell 2.6% from first quarter levels; while at \$83 per barrel, oil was down 19%.
- U.S. budget deficit as a percent of GDP fell to 7.9% from 8.1%.
- Effective Fed Funds rate fell 9 basis points.

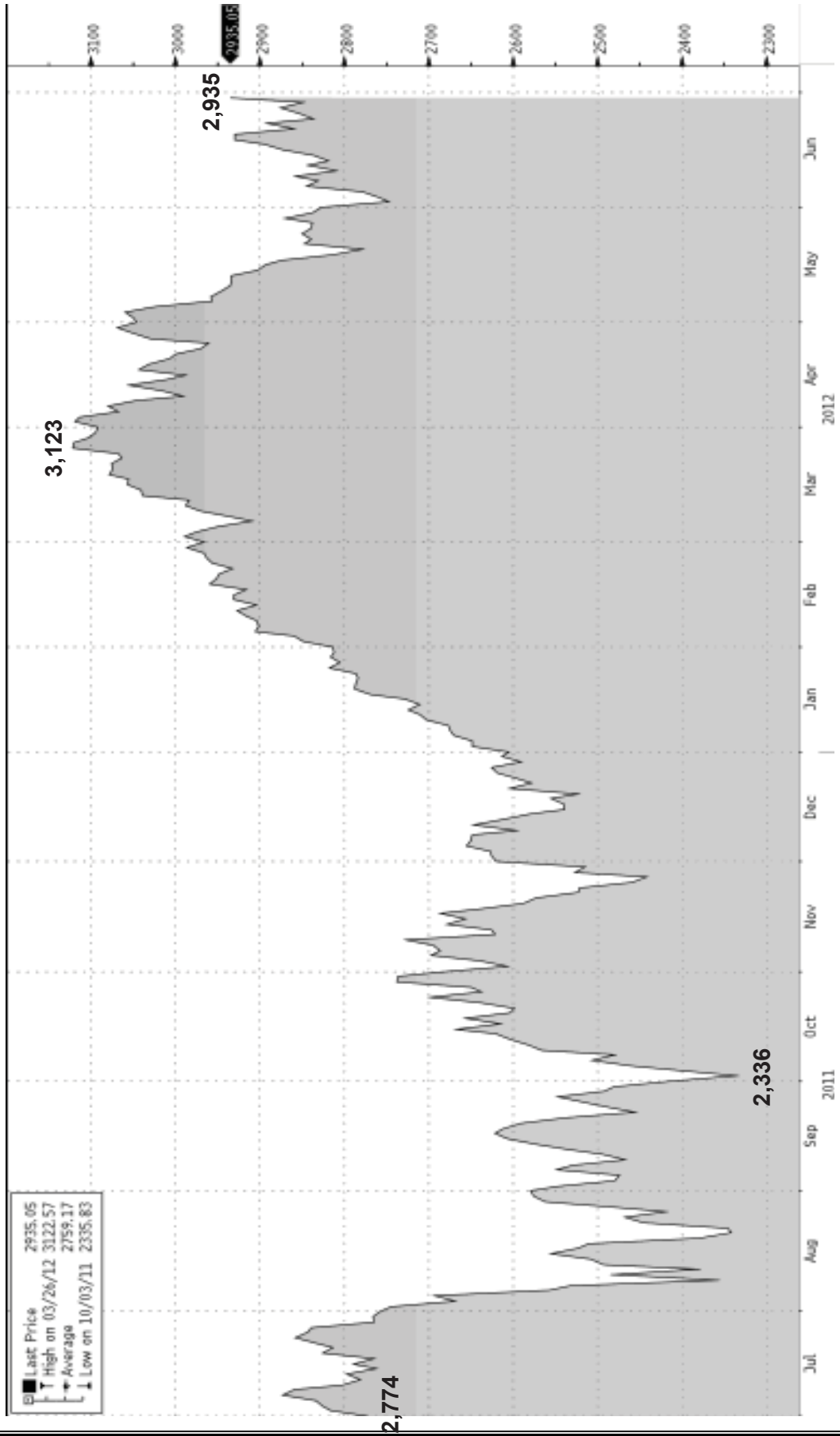
# S & P 500 INDEX ONE YEAR ENDING JUNE 30, 2012



# DOW JONES INDUSTRIAL AVERAGE ONE YEAR ENDING JUNE 30, 2012

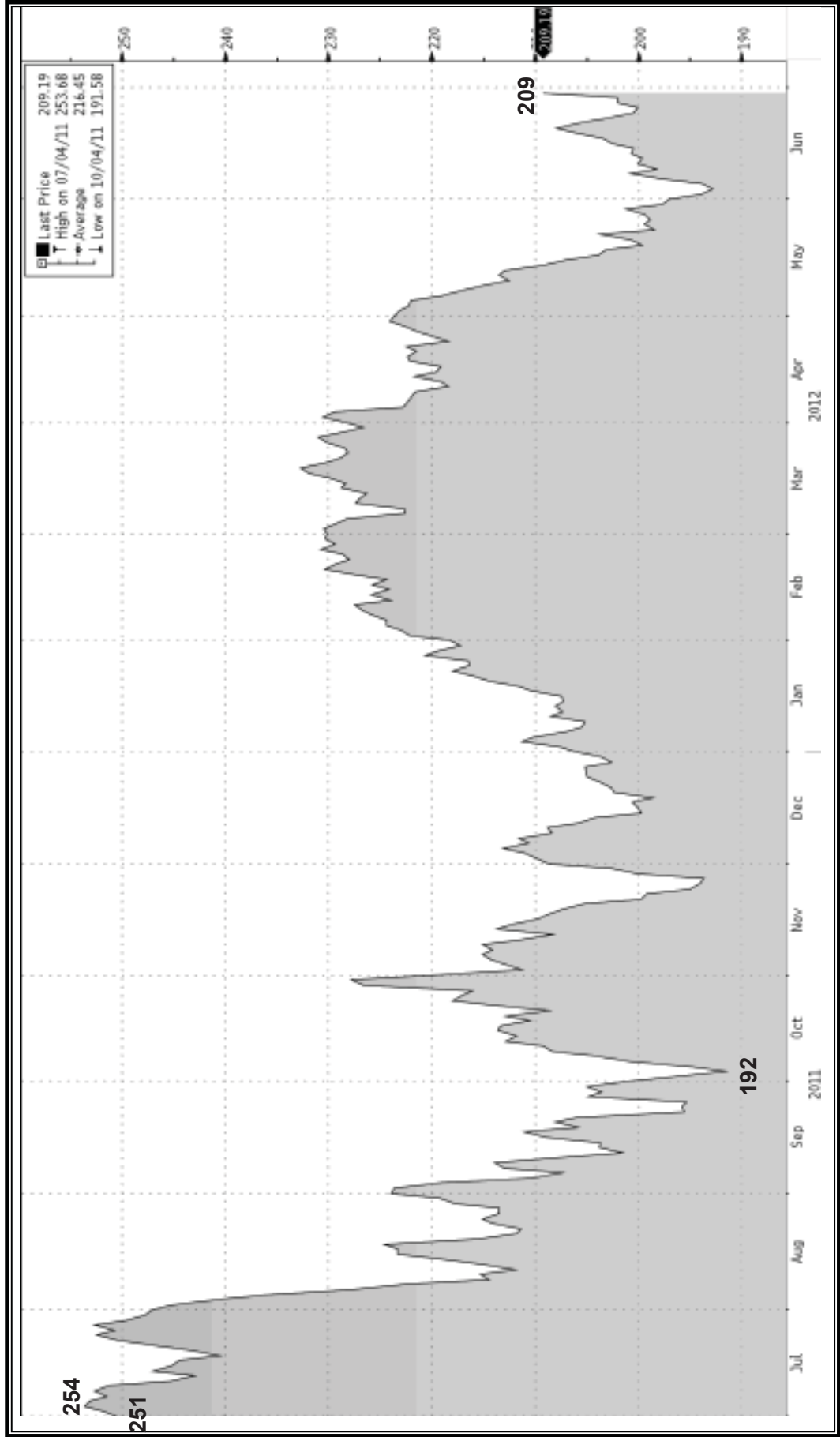


# NASDAQ ONE YEAR ENDING JUNE 30, 2012



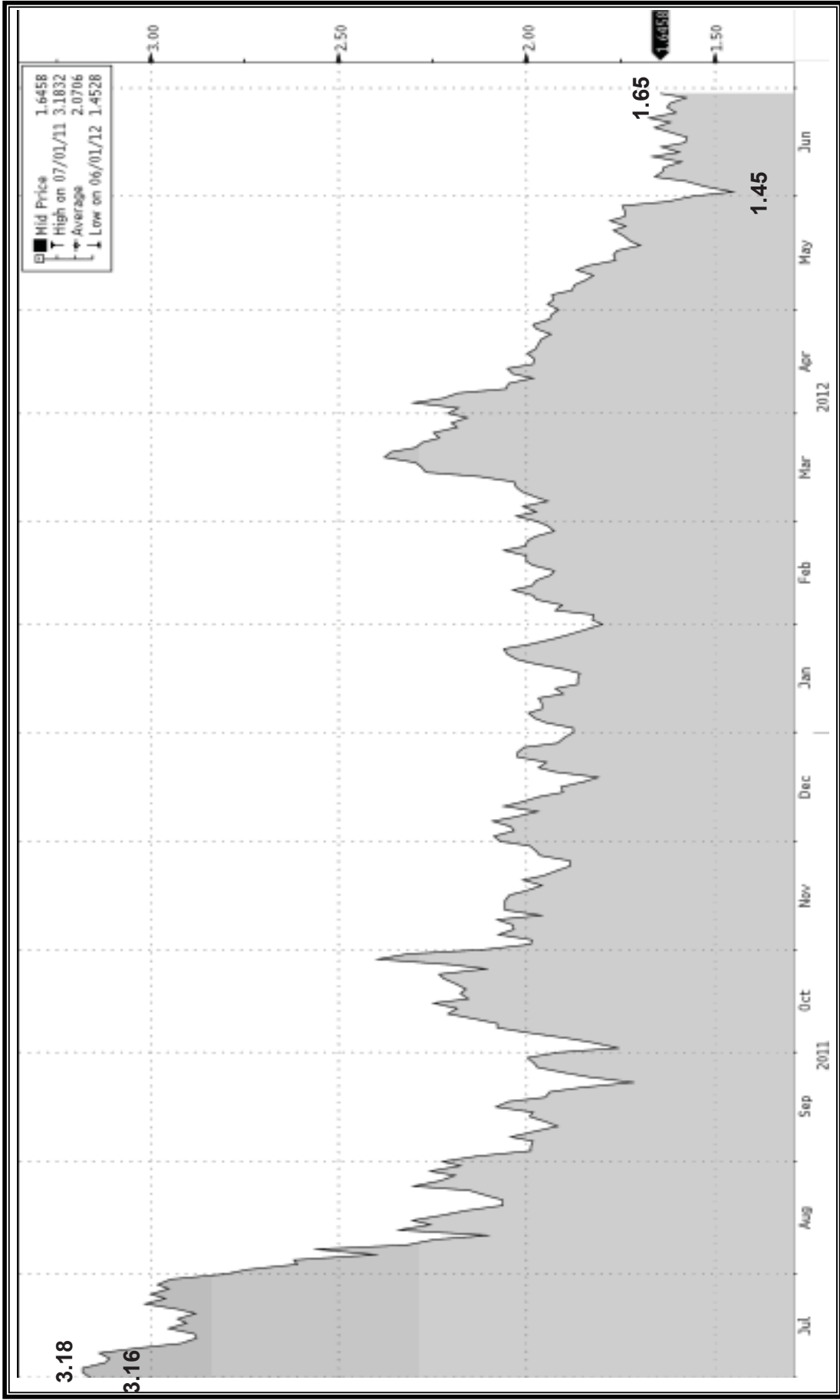
# INTERNATIONAL — S&P/CITIGROUP BMI EPAC (USD)

ONE YEAR ENDING JUNE 30, 2012

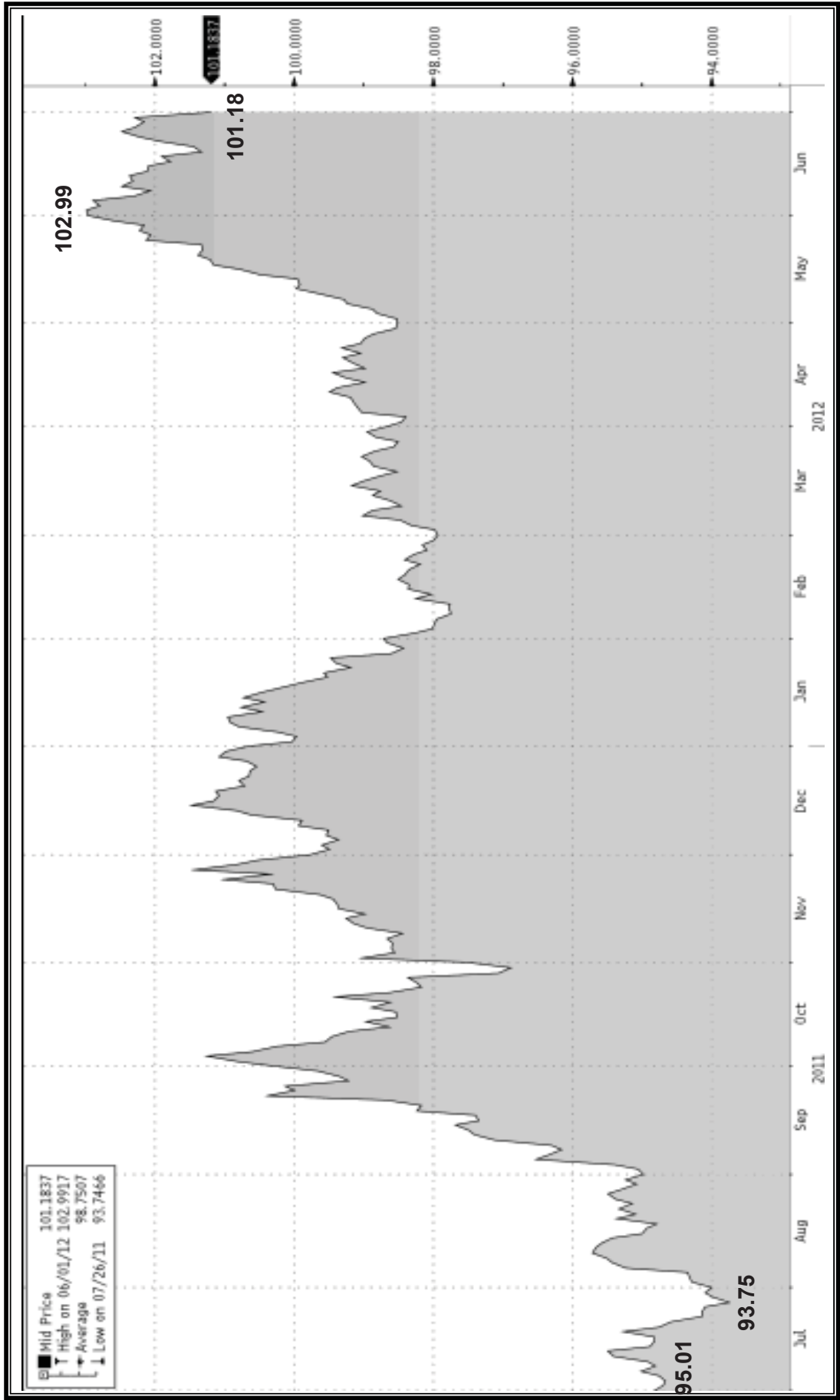


# TEN-YEAR U.S. TREASURY NOTE YIELDS

## ONE YEAR ENDING JUNE 30, 2012



# U.S. DOLLAR TRADE-WEIGHTED INDEX ONE YEAR ENDING JUNE 30, 2012



**State of Michigan Retirement Systems**  
**Performance By Trailing Four Quarters**  
**Total Rates of Return**

<u>FUND</u>	<u>THIRD</u> <u>QTR. 2011</u>	<u>FOURTH</u> <u>QTR. 2011</u>	<u>FIRST</u> <u>QTR. 2012</u>	<u>SECOND</u> <u>QTR. 2012</u>
<b>MPSERS</b>	<b>-6.15 %</b>	<b>2.94 %</b>	<b>6.60 %</b>	<b>-0.39 %</b>
<b>MSERS</b>	<b>-6.25 %</b>	<b>2.96 %</b>	<b>6.56 %</b>	<b>-0.42 %</b>
<b>MSPRS</b>	<b>-6.16 %</b>	<b>2.89 %</b>	<b>6.52 %</b>	<b>-0.38 %</b>
<b>MJRS</b>	<b>-6.55 %</b>	<b>3.41 %</b>	<b>6.66 %</b>	<b>-0.70 %</b>
Large Cap Core	-15.93 %	11.95 %	13.05 %	-3.87 %
Large Cap Growth:				
Large Cap Growth	-9.85 %	7.08 %	17.63 %	-5.91 %
Aletheia	-12.03 %	10.60 %	12.05 %	-2.05 %
Edgewood	-10.66 %	8.53 %	15.98 %	-5.42 %
Large Cap Value:				
Large Cap Value	-13.39 %	12.78 %	8.90 %	-4.90 %
LSV	-18.25 %	14.66 %	12.15 %	-4.83 %
Wasatch	-16.75 %	11.54 %	8.85 %	-3.93 %
Epoch	-16.09 %	11.59 %	12.51 %	-3.93 %
Diamond Hill	-14.56 %	14.03 %	9.56 %	-4.91 %
Mid Cap Value:				
Artisan	-14.38 %	13.49 %	9.81 %	-4.59 %
Cramer Rosenthal	-22.30 %	15.20 %	14.94 %	-4.60 %
Mid Cap Growth:				
Rainier Investment	-21.46 %	15.90 %	16.38 %	-8.37 %
Wellington	-26.08 %	16.64 %	15.20 %	-12.92 %
Mid Cap Core:				
L.A. Capital	-18.30 %	13.15 %	12.43 %	-3.35 %
Champlain	-16.68 %	11.95 %	11.60 %	-3.57 %
Munder	-17.69 %	10.02 %	13.49 %	-4.21 %
Small Cap Growth:				
Pier Capital	-25.85 %	12.46 %	12.78 %	-5.04 %
Small Cap Value:				
Fisher	-25.17 %	18.27 %	16.42 %	-7.67 %
GW Capital	-28.08 %	18.31 %	8.01 %	-2.06 %
Donald Smith	-17.66 %	11.45 %	9.03 %	-4.86 %
Opus Capital	-18.19 %	16.86 %	10.02 %	-6.25 %
Small Cap Core:				
Champlain	-15.69 %	13.89 %	9.55 %	-2.03 %
NorthPointe	-26.67 %	14.44 %	15.44 %	-5.82 %
Multicap:				
All Cap GARP	-20.50 %	11.18 %	16.59 %	-0.04 %
Attucks	-15.38 %	11.58 %	13.72 %	-5.24 %
Bivium	-16.60 %	11.43 %	14.38 %	-4.96 %
Leading Edge	-17.08 %	11.73 %	12.36 %	-3.77 %
Seizert	-19.18 %	11.83 %	14.58 %	-8.15 %



**State of Michigan Retirement Systems**  
**Performance By Trailing Four Quarters**  
**Total Rates of Return**

<u>FUND</u>	<i>THIRD</i> <u>QTR. 2011</u>	<i>FOURTH</i> <u>QTR. 2011</u>	<i>FIRST</i> <u>QTR. 2012</u>	<i>SECOND</i> <u>QTR. 2012</u>
Absolute Return Income Fund	-7.09 %	10.15 %	8.08 %	0.39 %
SAD Tactical Allocation	-46.50 %	6.02 %	88.81 %	-12.71 %
S&P 500 Index	-13.68 %	11.86 %	12.72 %	-2.57 %
S&P Mid-Cap Index	-19.28 %	13.19 %	13.71 %	-4.60 %
<b>International:</b>				
International Equity	-18.45 %	3.40 %	11.11 %	-6.68 %
Global Dividend Fund	-7.17 %	11.62 %	6.73 %	2.40 %
Wellington Intl	-19.50 %	3.45 %	12.74 %	-7.12 %
SSGA Intl Alpha	-22.72 %	5.07 %	11.07 %	-7.50 %
SSGA Intl Small Cap Alpha	-20.60 %	2.36 %	15.41 %	-7.85 %
PIMCO Intl Stock Plus	-21.71 %	6.50 %	12.77 %	-3.73 %
Marathon-London EAFE	- %	- %	- %	-5.84 %
Baillie Gifford ACWI	- %	- %	- %	-6.23 %
<b>Emerging Markets:</b>				
Vanguard Emerging Markets	-23.94 %	6.01 %	13.96 %	-8.38 %
LA Capital Emerging Markets	-19.16 %	5.70 %	13.03 %	-7.70 %
PIMCO EM Fund Index Plus	-25.76 %	7.84 %	16.13 %	-7.37 %
Wellington Emerging Markets	- %	- %	14.93 %	-5.64 %
<b>Alternative Investments</b>				
Alternatives Equity	6.14 %	-5.22 %	2.85 %	5.93 %
Alternatives Fixed Income	6.33 %	-5.36 %	2.92 %	5.90 %
Alternatives Fixed Income	1.55 %	-1.80 %	1.06 %	6.59 %
<b>Real Estate</b>				
Real Estate	3.62 %	0.73 %	2.34 %	2.24 %
<b>Infrastructure Investments</b>				
Infrastructure Investments	- %	- %	4.18 %	-1.38 %
<b>Government Bonds</b>				
Government Bonds	2.81 %	1.18 %	-0.18 %	1.34 %
<b>Corporate Bonds</b>				
Corporate Bonds	2.57 %	1.18 %	1.16 %	1.46 %
<b>Fixed Income Core:</b>				
Dodge & Cox	0.94 %	1.05 %	2.59 %	1.39 %
Pyramis Global	3.21 %	1.51 %	0.90 %	2.43 %
Metropolitan West	2.11 %	1.27 %	2.23 %	2.23 %
Ambassador Capital	4.33 %	1.62 %	0.50 %	2.63 %
<b>Fixed Income Managers:</b>				
Alliance Bernstein	2.36 %	1.50 %	1.67 %	2.90 %
Prudential Investment	2.54 %	2.14 %	2.52 %	2.52 %
<b>CMBS Investment</b>				
CMBS Investment	-10.59 %	0.88 %	8.68 %	1.91 %
<b>Absolute Return Strategies</b>				
Absolute Return Strategies	-3.33 %	-1.06 %	3.47 %	0.19 %
<b>Commodity Investments</b>				
Commodity Investments	-10.70 %	0.19 %	1.12 %	-7.27 %
<b>Opportunistic Investments</b>				
Opportunistic Investments	0.06 %	2.44 %	1.26 %	1.48 %
<b>Cash Equivalents</b>				
Cash Equivalents	0.00 %	0.01 %	0.01 %	0.01 %
<b>Short Term Fixed Income</b>				
Short Term Fixed Income	0.05 %	0.04 %	0.07 %	0.05 %

# MPSERS

## Time-Weighted Rates of Return Periods Ending June 30, 2012

Assets % of Portfolio 06/30/12	Ten Years <sup>1</sup>		Seven Years <sup>1</sup>		Five Years <sup>1</sup>		Three Years <sup>1</sup>		One Year <sup>1</sup>		Current Quarter		
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	
<b>TOTAL PLAN</b>	<b>100.0</b>	<b>6.2</b>	<b>74</b>	<b>5.4</b>	<b>39</b>	<b>1.4</b>	<b>64</b>	<b>11.5</b>	<b>49</b>	<b>2.6</b>	<b>28</b>	<b>-0.4</b>	<b>27</b>
Median - Greater than \$10 Billion <sup>2</sup>		6.5		5.1		1.8		11.4		1.7		-0.9	
MPSERS Total Plan Policy		6.5		5.3		2.0		12.9		3.8		0.6	
<b>DOMESTIC EQUITIES</b>	<b>27.7</b>	<b>5.3</b>	<b>77</b>	<b>4.1</b>	<b>47</b>	<b>0.2</b>	<b>37</b>	<b>15.2</b>	<b>65</b>	<b>2.7</b>	<b>39</b>	<b>-3.9</b>	<b>66</b>
Median <sup>2</sup>		5.7		4.1		-0.1		16.0		2.1		-3.7	
S&P 1500 Index		5.7		4.3		0.5		16.8		4.6		-3.0	
<b>Stock-Active</b>	<b>14.4</b>	<b>5.0</b>		<b>3.9</b>		<b>-0.1</b>		<b>14.3</b>		<b>1.9</b>		<b>-4.9</b>	
S&P 500 Index/ S&P 1500 Blended Index <sup>3</sup>		5.5		4.3		0.5		16.8		4.6		-3.0	
<b>Stock- Large Cap Active</b>	<b>10.5</b>	<b>4.8</b>		<b>3.5</b>		<b>-0.5</b>		<b>13.5</b>		<b>3.1</b>		<b>-4.7</b>	
S&P 500 Index		5.3		4.1		0.2		16.4		5.5		-2.8	
<b>Stock - Mid Cap Active</b>	<b>1.3</b>			<b>5.7</b>		<b>1.2</b>		<b>17.9</b>		<b>-2.4</b>		<b>-6.0</b>	
S&P 400 Mid Cap Index				6.2		2.6		19.4		-2.3		-4.9	
<b>Stock- Small Cap Active</b>	<b>1.2</b>	<b>7.9</b>		<b>6.7</b>		<b>3.0</b>		<b>17.2</b>		<b>-6.3</b>		<b>-5.6</b>	
S&P 600 Small Cap Index		7.9		5.4		1.8		19.8		1.4		-3.6	
<b>Stock - Multicap Active</b>	<b>1.2</b>							<b>16.9</b>		<b>1.2</b>		<b>-4.6</b>	
S&P 1500 Index								16.8		4.6		-3.0	
<b>Stock-Passive US Equities</b>	<b>12.9</b>	<b>6.0</b>		<b>4.7</b>		<b>0.9</b>		<b>17.3</b>		<b>5.3</b>		<b>-2.8</b>	
S&P 900 Blend <sup>4</sup>		5.6		4.3		0.4		16.7		4.8		-2.9	
<b>Passive S&amp;P 500</b>	<b>11.7</b>	<b>5.6</b>		<b>4.4</b>		<b>0.6</b>		<b>16.9</b>		<b>6.0</b>		<b>-2.6</b>	
S&P 500 Index		5.3		4.1		0.2		16.4		5.5		-2.8	
<b>Passive S&amp;P Mid-Cap</b>	<b>1.2</b>	<b>8.9</b>		<b>7.0</b>		<b>3.7</b>		<b>20.5</b>		<b>-0.9</b>		<b>-4.6</b>	
S&P 400 Mid Cap Index		8.2		6.2		2.6		19.4		-2.3		-4.9	
<b>INTERNATIONAL EQUITIES</b>	<b>13.9</b>	<b>5.1</b>	<b>79</b>	<b>2.7</b>	<b>79</b>	<b>-5.3</b>	<b>63</b>	<b>8.4</b>	<b>38</b>	<b>-12.2</b>	<b>22</b>	<b>-6.4</b>	<b>17</b>
Median <sup>2</sup>		5.8		3.5		-5.0		7.8		-13.7		-7.3	
International Blended Benchmark <sup>7</sup>		4.6		2.0		-6.3		5.7		-14.2		-7.4	
<b>Passive International Equities</b>	<b>6.2</b>	<b>5.2</b>		<b>2.8</b>		<b>-5.0</b>		<b>8.8</b>		<b>-11.1</b>		<b>-6.0</b>	
S&P Developed BMI-EPAC net 75/25 blend <sup>8</sup>		4.7		2.2		-6.1		6.2		-12.8		-6.8	
<b>Active International Equities</b>	<b>4.3</b>			<b>2.9</b>		<b>-5.8</b>		<b>8.5</b>		<b>-12.7</b>		<b>-5.9</b>	
S&P Developed BMI Ex U.S. net				3.2		-5.3		7.1		-14.5		-7.4	
<b>Emerging Markets Equities</b>	<b>3.4</b>							<b>10.4</b>		<b>-15.0</b>		<b>-7.9</b>	
MSCI Emerging Markets Net								9.8		-16.0		-8.9	

# MPSERS

## Time-Weighted Rates of Return Periods Ending June 30, 2012

Assets % of Portfolio 06/30/12	Ten Years <sup>1</sup>		Seven Years <sup>1</sup>		Five Years <sup>1</sup>		Three Years <sup>1</sup>		One Year <sup>1</sup>		Current Quarter	
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank
<b>ALTERNATIVE INVESTMENTS</b>	21.8											
Median <sup>2</sup>	12.3	13	13.2	6	7.2	19	18.8	5	9.6	12	5.9	14
Alternative Blended Benchmark <sup>5</sup>	8.5		9.6		5.3		13.2		4.5		2.6	
	10.0		9.3		6.3		24.5		11.6		12.9	
<b>REAL ESTATE</b>	10.0		4.9	45	-2.9	57	-0.8	81	9.2	49	2.2	48
Median <sup>2</sup>	5.3		2.4		-2.3		4.7		9.2		2.1	
NCREIF - Property Blended Index <sup>6</sup>	7.1		5.4		1.2		7.4		10.6		2.4	
NCREIF Open Fund Index Net	5.6		3.3		-1.8		7.4		11.3		2.3	
<b>INFRASTRUCTURE INVESTMENTS</b>	0.3											
<b>BONDS</b>	13.1		5.9	72	6.3	53	8.1	78	6.5	77	1.6	84
Median <sup>2</sup>	6.7		6.3		7.6	47	9.8		7.9		2.2	
Barclays Govt/Credit	5.8		5.5		6.9		7.3		8.8		2.6	
<b>Government</b>	2.7		5.6		6.5		5.8		5.2		1.3	
Barclays Government	5.4		5.3		6.6		5.7		8.3		2.6	
<b>Corporate</b>	7.4		6.4		7.9		8.2		6.5		1.5	
Barclays Credit	6.5		6.0		7.6		10.1		9.5		2.5	
<b>Fixed Income External</b>	3.0		7.2		7.2		9.5		8.5		2.3	
Barclays Aggregate			6.8		6.8		6.9		7.5		2.1	
<b>ABSOLUTE RETURN</b>	3.7		7.1		7.1		7.1		-0.9		0.2	
HFRIFOF Cons 1 mth lagged			2.8						-3.3		-0.6	
<b>COMMODITY INVESTMENTS</b>	0.7								-16.1		-7.3	
DJ-UBS Commodity Index TR									-14.3		-4.6	
<b>REAL RETURN AND OPPORTUNISTIC</b>	3.2								4.3		1.5	
50% (CPI +500bp) + 50% (8% actuarial rate)									7.4		1.6	
<b>CASH EQUIVALENTS</b>	5.6		1.8		0.6		0.7		0.2		0.1	
1 Month T-Bill	1.7		1.8		0.7		0.1		0.0		0.0	

<sup>1</sup> Annualized Returns

<sup>2</sup> 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.

<sup>3</sup> Active Equity - Index is S&P 500 prior to March 2006, S&P 1500 current.

<sup>4</sup> History prior to 5/1/07 is the S&P 1500

<sup>5</sup> SP 500 + 300 BP through 12/31/06. Ending market value weighted blend of 10 yr yield + 300 BP and SP 500 + 300 12/31/06 to 9/30/09.

<sup>6</sup> NCREIF - Property Blended Index is NPI minus 75 basis points prior to October 2005, NPI minus 130 basis points current.

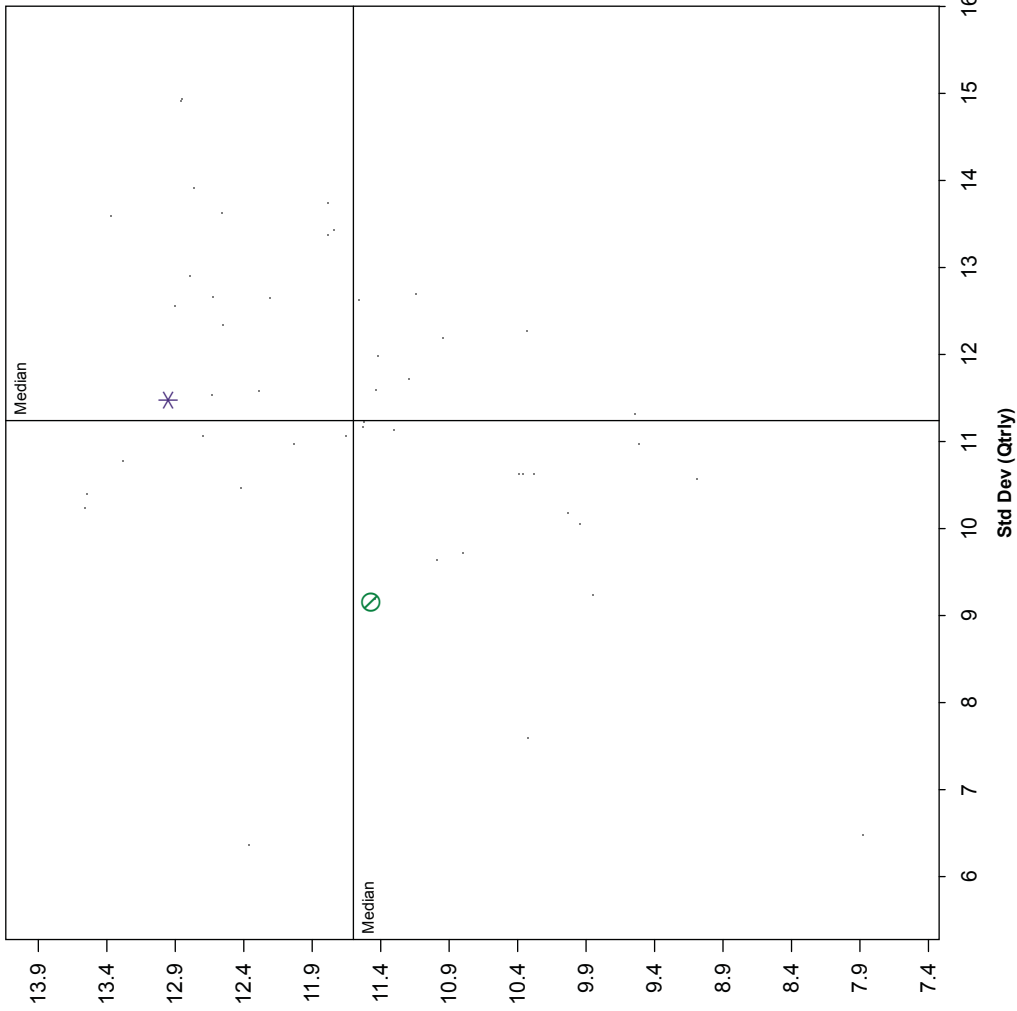
<sup>7</sup> International blended benchmark is S&P Developed BMI-EPAC 50/50 prior to 1/1/2010. S&P Developed BMI-EPAC 75 USD / 25 Local, 1/1/2010 to 9/30/10. MSCI ACWI Ex Us Gross 10/1/2010 to present.

<sup>8</sup> Passive International 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 present.

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

# MPRSERS TOTAL PLAN UNIVERSE REPORT

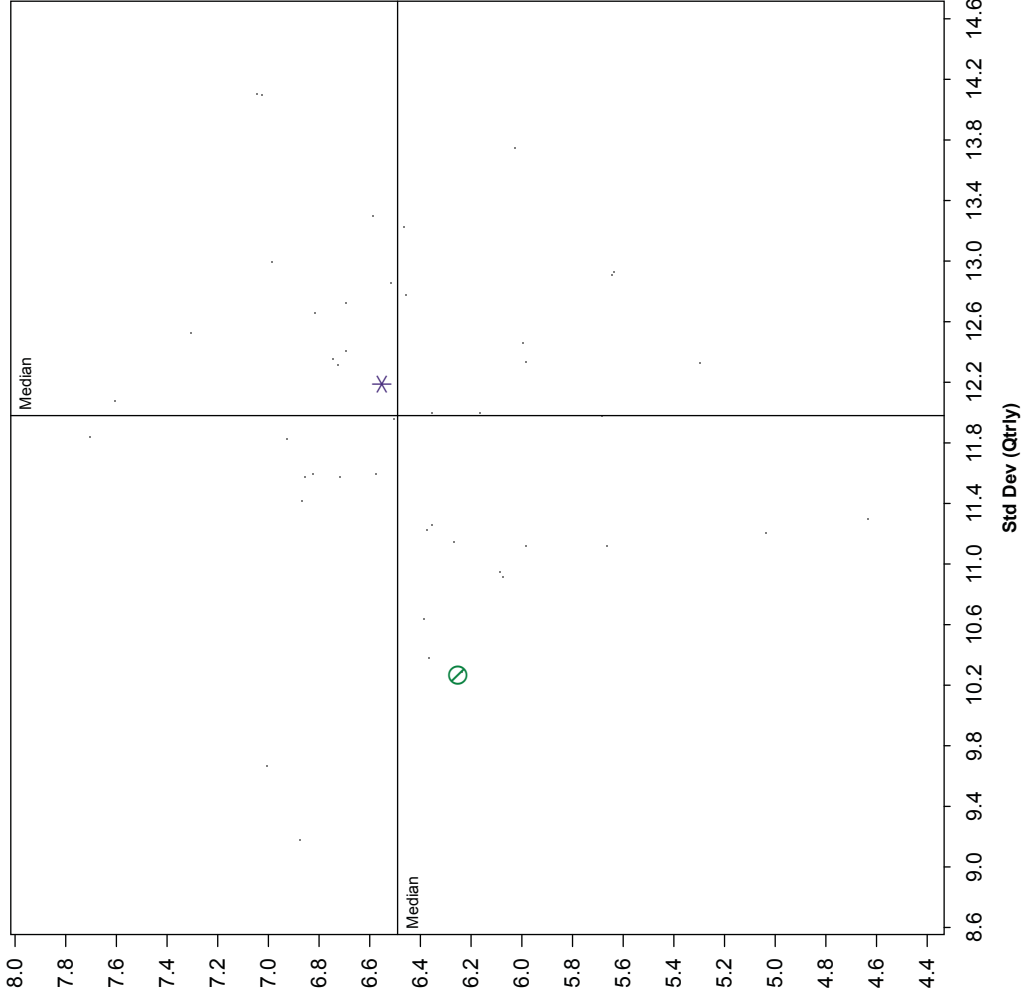
Public Funds (DB) > \$1 Billion (SSE) - Risk vs. Return 3 Years  
 Period Ending June 30, 2012



NAME	Std Dev (Qtrly) 3 Yrs	ROR 3 Yrs
5th Percentile	6.47	13.55
25th Percentile	10.45	12.63
50th Percentile	11.24	11.60
75th Percentile	12.64	10.54
95th Percentile	14.40	9.31
No. of Obs	47	47
TOTAL PUBLIC SCHOOL	9.18	11.45
MPRSERS TOTAL PLAN POLICY	11.50	12.93

# MPERSERS TOTAL PLAN UNIVERSE REPORT

Public Funds (DB) > \$1 Billion (SSE) - Risk vs. Return 10 Years  
 Period Ending June 30, 2012



NAME	Std Dev (Qtrly) 10 Yrs	10 Yrs
5th Percentile	9.66	7.61
25th Percentile	11.20	6.87
50th Percentile	11.98	6.49
75th Percentile	12.67	6.08
95th Percentile	13.92	5.17
No. of Obs	45	46
TOTAL PUBLIC SCHOOL	10.28	6
MPERSERS TOTAL PLAN POLICY	12.20	58

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# MPSERS

## Time-Weighted Rates of Return Public Plan Universe Comparison\* Periods Ending June 30, 2012

	<u>Quarter</u>	<u>One Year</u>	<u>Three Year</u>	<u>Five Year</u>	<u>Ten Year</u>
<b>MPSERS</b>	<b>-0.39</b>	<b>2.58</b>	<b>11.45</b>	<b>1.41</b>	<b>6.24 %</b>
Rank	11	10	58	55	70
bp Difference - Median	+137	+171	-15	+47	-25
5th Percentile	0.18	2.90	13.55	2.75	7.61 %
25th Percentile	-1.14	1.60	12.63	1.95	6.87 %
<b>Median</b>	<b>-1.76</b>	<b>0.87</b>	<b>11.60</b>	<b>1.58</b>	<b>6.49 %</b>
75th Percentile	-2.16	0.51	10.54	0.94	6.08 %
95th Percentile	-3.08	-0.48	9.31	-0.49	5.17 %

### Five-Year Smoothing

	<u>2003-2008</u>	<u>2004-2009</u>	<u>2005-2010</u>	<u>2006-2011</u>	<u>2007-2012</u>
<b>MPSERS</b>	<b>10.21 %</b>	<b>2.41 %</b>	<b>2.89 %</b>	<b>4.52 %</b>	<b>1.41 %</b>
Median	9.90 %	2.15 %	2.63 %	4.75 %	1.58 %

### Return vs. Risk

	<i><b>ANNUALIZED RETURNS</b></i>		<i><b>STD. DEVIATIONS</b></i>	
	<u>Value</u>	<u>Rank</u>	<u>Value</u>	<u>Rank</u>
	<u>Five Years</u>		<u>Five Years</u>	
<b>MPSERS</b>	<b>1.41 %</b>	<b>55</b>	<b>12.09 %</b>	<b>11</b>
Median	1.58 %		14.16 %	
	<u>Ten Years</u>		<u>Ten Years</u>	
<b>MPSERS</b>	<b>6.24 %</b>	<b>70</b>	<b>10.28 %</b>	<b>6</b>
Median	6.49 %		11.98 %	

\*State Street Public Funds Universe > \$1 Billion.

**MPSERS**  
**Cumulative and Consecutive**  
**Total Fund Returns**

***Cumulative For Years Ending 6/30/2012***

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
<b>MPSERS</b>	2.58	11.75	11.45	2.81	1.41	4.20	5.35	5.71	6.86	6.24
<b>Public Plan - Median (&gt; \$1 billion)*</b>	0.87	11.21	11.60	2.85	1.58	4.15	5.07	5.66	6.70	6.49
<b>Rank</b>	10	28	58	54	55	43	26	45	41	70
<b>bp Difference - Median</b>	+171	+54	-15	-4	-17	+5	+28	+5	+16	-25

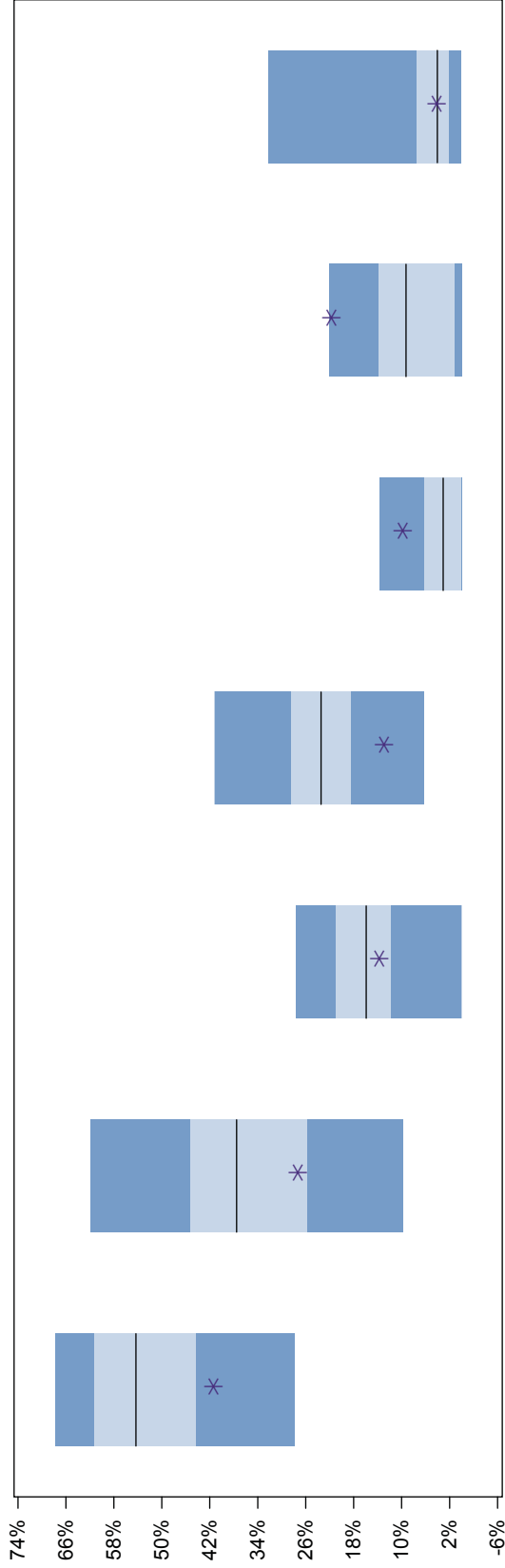
***Consecutive For Years Ending***

	06/12	06/11	06/10	06/09	06/08	06/07	06/06	06/05	06/04	06/03
<b>MPSERS</b>	2.58	21.74	10.85	-19.30	-3.97	19.31	12.52	8.25	16.51	0.84
<b>Public Plan - Median (&gt; \$1 billion)*</b>	0.87	22.28	12.90	-19.65	-4.03	17.80	10.94	9.64	16.16	3.82
<b>Rank</b>	10	57	76	41	49	14	14	92	45	97
<b>bp Difference - Median</b>	+171	-54	-205	+35	+6	+151	+158	-139	+35	-298

\*State Street Public Funds Universe > \$1 Billion.

# MPERS TOTAL PLAN UNIVERSE REPORT

Public Funds (DB) > \$1 Billion (SSE) - Allocation  
 Period Ending June 30, 2012



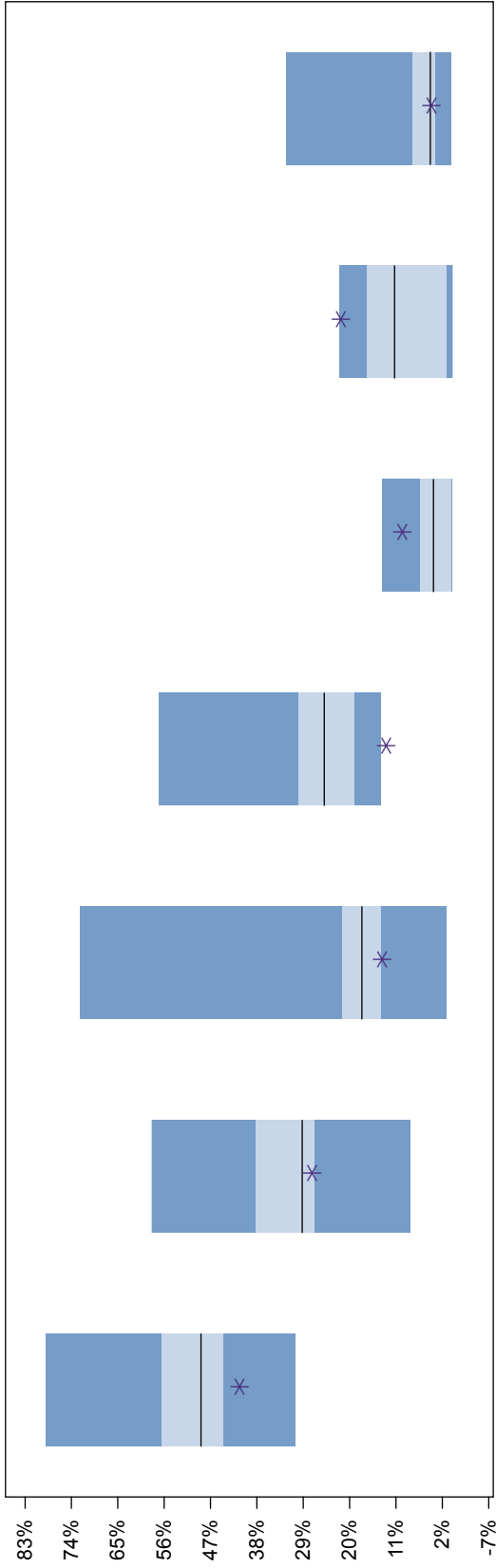
	Equities %	Equities Domestic %	Equities Foreign %	Fixed Income %	Real Estate %	Private Equity %	Cash Equiv %
5th Percentile	67.86	61.83	27.72	41.16	13.63	22.03	32.22
25th Percentile	61.36	45.29	21.06	28.52	6.27	13.87	7.54
50th Percentile	54.32	37.53	15.90	23.43	3.07	9.27	4.04
75th Percentile	44.26	25.66	11.74	18.42	0.04	1.19	2.02
95th Percentile	27.90	9.78	0.00	6.25	0.00	0.00	0.06
No. of Obs	49	49	49	49	49	49	49
*1 TOTAL PUBLIC SCHOOL	41.71	27.65	14.06	13.27	10.16	22.03	4.46
	82	71	57	89	12	6	44

\*1



# MPERS TOTAL PLAN UNIVERSE REPORT

Public Funds (GT) > \$10 Billion (SSE) - Allocation  
 Period Ending June 30, 2012



\*1 TOTAL PUBLIC SCHOOL

# MSERS

## Time-Weighted Rates of Return Public Plan Universe Comparison\* Periods Ending June 30, 2012

	<u>Quarter</u>	<u>One Year</u>	<u>Three Year</u>	<u>Five Year</u>	<u>Ten Year</u>
<b>MSERS</b>	<b>-0.42</b>	<b>2.42</b>	<b>11.25</b>	<b>1.24</b>	<b>6.14 %</b>
Rank	12	12	65	61	72
bp Difference - Median	+134	+155	-35	+30	-35
5th Percentile	0.18	2.90	13.55	2.75	7.61 %
25th Percentile	-1.14	1.60	12.63	1.95	6.87 %
<b>Median</b>	<b>-1.76</b>	<b>0.87</b>	<b>11.60</b>	<b>1.58</b>	<b>6.49 %</b>
75th Percentile	-2.16	0.51	10.54	0.94	6.08 %
95th Percentile	-3.08	-0.48	9.31	-0.49	5.17 %

### Five-Year Smoothing

	<u>2003-2008</u>	<u>2004-2009</u>	<u>2005-2010</u>	<u>2006-2011</u>	<u>2007-2012</u>
<b>MSERS</b>	<b>10.14 %</b>	<b>2.34 %</b>	<b>2.75 %</b>	<b>4.38 %</b>	<b>1.24 %</b>
Median	9.90 %	2.15 %	2.63 %	4.75 %	1.58 %

### Return vs. Risk

	<i><b>ANNUALIZED RETURNS</b></i>		<i><b>STD. DEVIATIONS</b></i>	
	<u>Value</u>	<u>Rank</u>	<u>Value</u>	<u>Rank</u>
	<u>Five Years</u>		<u>Five Years</u>	
<b>MSERS</b>	<b>1.24 %</b>	<b>61</b>	<b>12.13 %</b>	<b>11</b>
Median	1.58 %		14.16 %	
	<u>Ten Years</u>		<u>Ten Years</u>	
<b>MSERS</b>	<b>6.14 %</b>	<b>72</b>	<b>10.28 %</b>	<b>7</b>
Median	6.49 %		11.98 %	

\*State Street Public Funds Universe > \$1 Billion.

**MSERS**  
**Cumulative and Consecutive**  
**Total Fund Returns**

***Cumulative For Years Ending 6/30/2012***

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
<b>MSERS</b>	2.42	11.65	11.25	2.62	1.24	4.05	5.22	5.60	6.73	6.14
<b>Public Plan - Median (&gt; \$1 billion)*</b>	0.87	11.21	11.60	2.85	1.58	4.15	5.07	5.66	6.70	6.49
<b>Rank</b>	12	34	65	66	61	58	40	59	48	72
<b>bp Difference - Median</b>	+155	+44	-35	-23	-34	-10	+15	-6	+3	-35

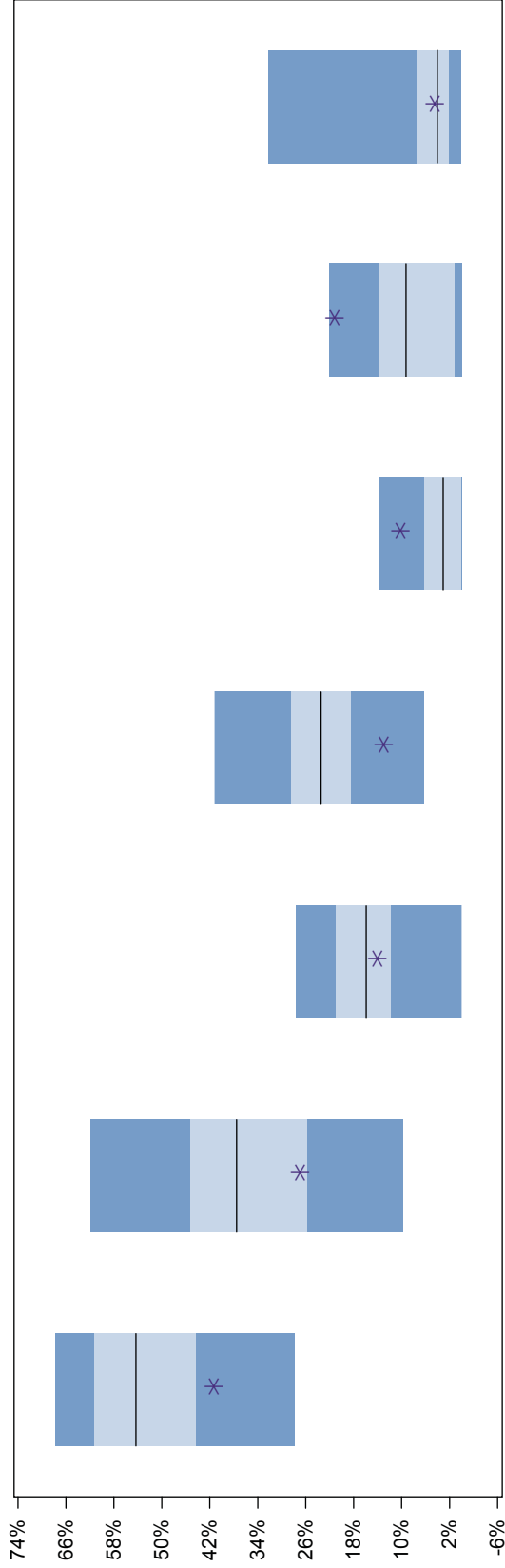
***Consecutive For Years Ending***

	06/12	06/11	06/10	06/09	06/08	06/07	06/06	06/05	06/04	06/03
<b>MSERS</b>	2.42	21.71	10.46	-19.45	-4.08	19.28	12.51	8.30	16.25	0.98
<b>Public Plan - Median (&gt; \$1 billion)*</b>	0.87	22.28	12.90	-19.65	-4.03	17.80	10.94	9.64	16.16	3.82
<b>Rank</b>	12	58	82	45	51	15	15	91	48	95
<b>bp Difference - Median</b>	+155	-57	-244	+20	-5	+148	+157	-134	+9	-284

\*State Street Public Funds Universe > \$1 Billion.

# MSEERS TOTAL PLAN UNIVERSE REPORT

Public Funds (DB) > \$1 Billion (SSE) - Allocation  
 Period Ending June 30, 2012



	Equities %	Equities Domestic %	Equities Foreign %	Fixed Income %	Real Estate %	Private Equity %	Cash Equiv %
5th Percentile	67.86	61.83	27.72	41.16	13.63	22.03	32.22
25th Percentile	61.36	45.29	21.06	28.52	6.27	13.87	7.54
50th Percentile	54.32	37.53	15.90	23.43	3.07	9.27	4.04
75th Percentile	44.26	25.66	11.74	18.42	0.04	1.19	2.02
95th Percentile	27.90	9.78	0.00	6.25	0.00	0.00	0.06
No. of Obs	49	49	49	49	49	49	49
*1 TOTAL EMPLOYEES	41.67	27.29	14.37	13.33	10.51	21.54	4.81
	82	72	57	89	7	6	40

\*1 TOTAL EMPLOYEES

# MSPRS

## Time-Weighted Rates of Return Public Plan Universe Comparison\* Periods Ending June 30, 2012

	<u>Quarter</u>	<u>One Year</u>	<u>Three Year</u>	<u>Five Year</u>	<u>Ten Year</u>
<b>MSPRS</b>	<b>-0.38</b>	<b>2.46</b>	<b>11.28</b>	<b>1.30</b>	<b>6.18 %</b>
Rank	10	11	64	60	71
bp Difference - Median	+138	+159	-32	-28	-31
5th Percentile	0.18	2.90	13.55	2.75	7.61 %
25th Percentile	-1.14	1.60	12.63	1.95	6.87 %
<b>Median</b>	<b>-1.76</b>	<b>0.87</b>	<b>11.60</b>	<b>1.58</b>	<b>6.49 %</b>
75th Percentile	-2.16	0.51	10.54	0.94	6.08 %
95th Percentile	-3.08	-0.48	9.31	-0.49	5.17 %

### Five-Year Smoothing

	<u>2003-2008</u>	<u>2004-2009</u>	<u>2005-2010</u>	<u>2006-2011</u>	<u>2007-2012</u>
<b>MSPRS</b>	<b>10.22 %</b>	<b>2.43 %</b>	<b>2.83 %</b>	<b>4.45 %</b>	<b>1.30 %</b>
Median	9.90 %	2.15 %	2.63 %	4.75 %	1.58 %

### Return vs. Risk

	<i><b>ANNUALIZED RETURNS</b></i>		<i><b>STD. DEVIATIONS</b></i>	
	<u>Value</u>	<u>Rank</u>	<u>Value</u>	<u>Rank</u>
	<u>Five Years</u>		<u>Five Years</u>	
<b>MSPRS</b>	<b>1.30 %</b>	<b>60</b>	<b>12.02 %</b>	<b>7</b>
Median	1.58 %		14.16 %	
	<u>Ten Years</u>		<u>Ten Years</u>	
<b>MSPRS</b>	<b>6.18 %</b>	<b>71</b>	<b>10.24 %</b>	<b>6</b>
Median	6.49 %		11.98 %	

\*State Street Public Funds Universe > \$1 Billion.

**MSPRS**  
**Cumulative and Consecutive**  
**Total Fund Returns**

***Cumulative For Years Ending 6/30/2012***

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MSPRS	2.46	11.71	11.28	2.64	1.30	4.12	5.29	5.66	6.78	6.18
Public Plan - Median (> \$1 billion)*	0.87	11.21	11.60	2.85	1.58	4.15	5.07	5.66	6.70	6.49
Rank	11	33	64	65	60	57	34	50	46	71
bp Difference - Median	+159	+50	-32	-21	-28	-3	+22	0	+8	-31

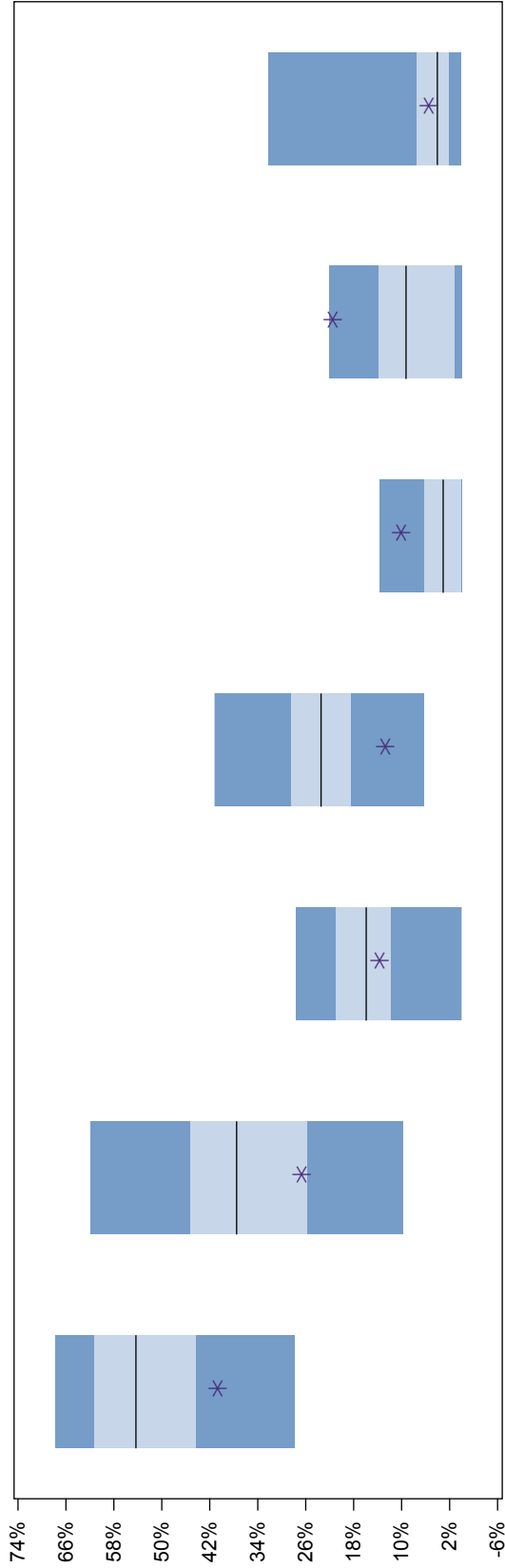
***Consecutive For Years Ending***

	06/12	06/11	06/10	06/09	06/08	06/07	06/06	06/05	06/04	06/03
MSPRS	2.46	21.78	10.43	-19.47	-3.89	19.45	12.60	8.32	16.18	0.90
Public Plan - Median (> \$1 billion)*	0.87	22.28	12.90	-19.65	-4.03	17.80	10.94	9.64	16.16	3.82
Rank	11	57	82	45	49	13	12	91	48	96
bp Difference - Median	+159	-50	-247	+18	+14	+165	+166	-132	+2	-292

\*State Street Public Funds Universe > \$1 Billion.

# MSPRS TOTAL PLAN UNIVERSE REPORT

Public Funds (DB) > \$1 Billion (SSE) - Allocation  
 Period Ending June 30, 2012



\*1

**MJRS**  
**Time-Weighted Rates of Return**  
**Public Plan Universe Comparison\***  
**Periods Ending June 30, 2012**

	<u>Quarter</u>	<u>One Year</u>	<u>Three Year</u>	<u>Five Year</u>	<u>Ten Year</u>
<b>MJRS</b>	<b>-0.70</b>	<b>2.35</b>	<b>10.53</b>	<b>1.09</b>	<b>5.90 %</b>
Rank	13	12	76	69	84
bp Difference - Median	+106	+148	-107	-49	-59
5th Percentile	0.18	2.90	13.55	2.75	7.61 %
25th Percentile	-1.14	1.60	12.63	1.95	6.87 %
<b>Median</b>	<b>-1.76</b>	<b>0.87</b>	<b>11.60</b>	<b>1.58</b>	<b>6.49 %</b>
75th Percentile	-2.16	0.51	10.54	0.94	6.08 %
95th Percentile	-3.08	-0.48	9.31	-0.49	5.17 %

**Five-Year Smoothing**

	<u>2003-2008</u>	<u>2004-2009</u>	<u>2005-2010</u>	<u>2006-2011</u>	<u>2007-2012</u>
<b>MJRS</b>	<b>9.80 %</b>	<b>2.40 %</b>	<b>2.39 %</b>	<b>4.17 %</b>	<b>1.09 %</b>
Median	9.90 %	2.15 %	2.63 %	4.75 %	1.58 %

**Return vs. Risk**

	<b>ANNUALIZED RETURNS</b>		<b>STD. DEVIATIONS</b>	
	<u>Value</u>	<u>Rank</u>	<u>Value</u>	<u>Rank</u>
	<u>Five Years</u>		<u>Five Years</u>	
<b>MJRS</b>	<b>1.09 %</b>	<b>69</b>	<b>11.95 %</b>	<b>6</b>
Median	1.58 %		14.16 %	
	<u>Ten Years</u>		<u>Ten Years</u>	
<b>MJRS</b>	<b>5.90 %</b>	<b>84</b>	<b>10.10 %</b>	<b>6</b>
Median	6.49 %		11.98 %	

\*State Street Public Funds Universe > \$1 Billion.



**MJRS**  
**Cumulative and Consecutive**  
**Total Fund Returns**

***Cumulative For Years Ending 6/30/2012***

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
MJRS	2.35	11.81	10.53	2.29	1.09	3.87	5.00	5.38	6.40	5.90
Public Plan - Median (> \$1 billion)*	0.87	11.21	11.60	2.85	1.58	4.15	5.07	5.66	6.70	6.49
Rank	12	27	76	75	69	61	55	66	68	84
bp Difference - Median	+148	+60	-107	-56	-49	-28	-7	-28	-30	-59

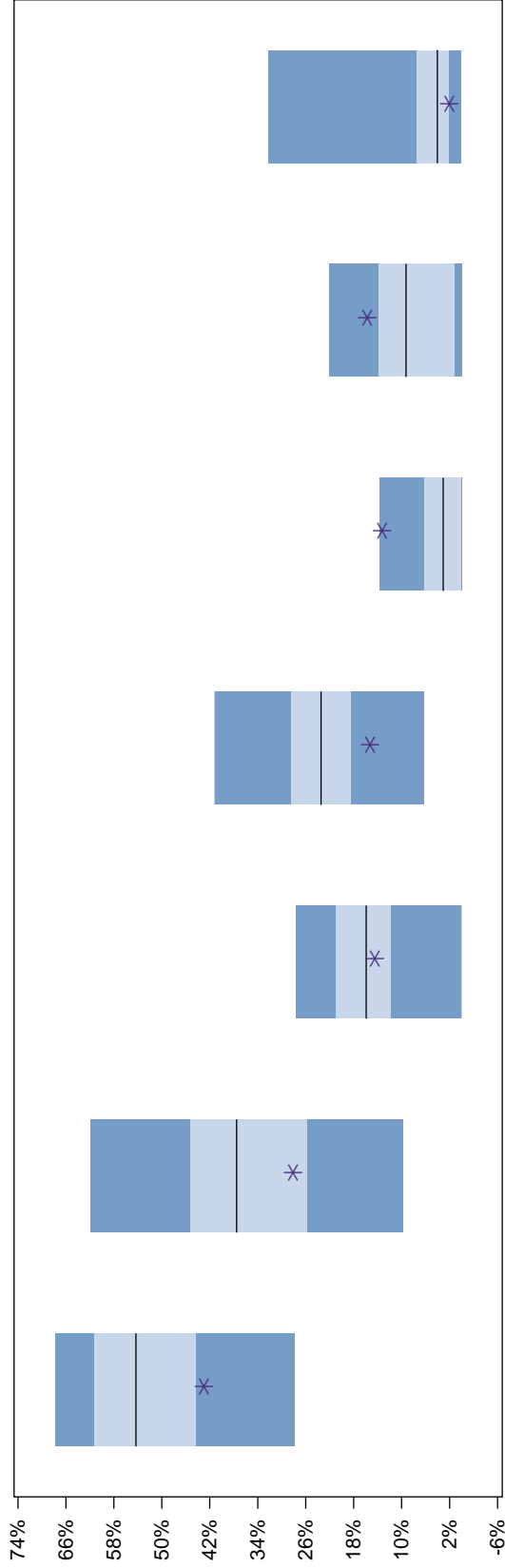
***Consecutive For Years Ending***

	06/12	06/11	06/10	06/09	06/08	06/07	06/06	06/05	06/04	06/03
MJRS	2.35	22.13	8.01	-18.91	-3.59	18.95	12.03	8.07	14.96	1.50
Public Plan - Median (> \$1 billion)*	0.87	22.28	12.90	-19.65	-4.03	17.80	10.94	9.64	16.16	3.82
Rank	12	53	97	32	46	23	24	95	77	93
bp Difference - Median	+148	-15	-489	+74	+44	+115	+109	-157	-120	-232

\*State Street Public Funds Universe > \$1 Billion.

# MJRS TOTAL PLAN UNIVERSE REPORT

Public Funds (DB) > \$1 Billion (SSE) - Allocation  
 Period Ending June 30, 2012



	Equities %	Equities Domestic %	Equities Foreign %	Fixed Income %	Real Estate %	Private Equity %	Cash Equiv %
5th Percentile	67.86	61.83	27.72	41.16	13.63	22.03	32.22
25th Percentile	61.36	45.29	21.06	28.52	6.27	13.87	7.54
50th Percentile	54.32	37.53	15.90	23.43	3.07	9.27	4.04
75th Percentile	44.26	25.66	11.74	18.42	0.04	1.19	2.02
95th Percentile	27.90	9.78	0.00	6.25	0.00	0.00	0.06
No. of Obs	49	49	49	49	49	49	49
<b>*1 TOTAL JUDGES</b>	<b>79</b>	<b>66</b>	<b>55</b>	<b>86</b>	<b>6</b>	<b>17</b>	<b>69</b>

\*1 TOTAL JUDGES

**MPSERS**  
 Quarterly Comparisons\*  
 Time-Weighted Rates of Return

<u>Time Period</u>	<u>Rate</u>	<u>Rank</u>	<u>Median</u>	<u>bp Difference</u>
2012 2 Qtr.	<b>-0.39 %</b>	<b>11</b>	<b>-1.76 %</b>	<b>+137 bp</b>
1 Qtr.	<b>6.60 %</b>	<b>78</b>	<b>7.51 %</b>	<b>-91 bp</b>
2011 Year	<b>3.34 %</b>	<b>10</b>	<b>0.90 %</b>	<b>+244 bp</b>
4 Qtr.	<b>2.94 %</b>	<b>90</b>	<b>4.89 %</b>	<b>-195 bp</b>
3 Qtr.	<b>-6.15 %</b>	<b>7</b>	<b>-8.65 %</b>	<b>+250 bp</b>
2 Qtr.	<b>1.98 %</b>	<b>16</b>	<b>1.28 %</b>	<b>+70 bp</b>
1 Qtr.	<b>4.89 %</b>	<b>14</b>	<b>4.15 %</b>	<b>+74 bp</b>
2010 Year	<b>12.68 %</b>	<b>65</b>	<b>12.96 %</b>	<b>-28 bp</b>
4 Qtr.	<b>6.21 %</b>	<b>41</b>	<b>5.96 %</b>	<b>+25 bp</b>
3 Qtr.	<b>7.15 %</b>	<b>90</b>	<b>8.46 %</b>	<b>-131 bp</b>
2 Qtr.	<b>-4.32 %</b>	<b>42</b>	<b>-4.74 %</b>	<b>+42 bp</b>
1 Qtr.	<b>3.48 %</b>	<b>46</b>	<b>3.45 %</b>	<b>+3 bp</b>
2009 Year	<b>12.09 %</b>	<b>82</b>	<b>18.19 %</b>	<b>-610 bp</b>
4 Qtr.	<b>2.58 %</b>	<b>93</b>	<b>3.44 %</b>	<b>-86 bp</b>
3 Qtr.	<b>9.14 %</b>	<b>85</b>	<b>10.91 %</b>	<b>-177 bp</b>
2 Qtr.	<b>7.33 %</b>	<b>89</b>	<b>10.24 %</b>	<b>-291 bp</b>
1 Qtr.	<b>-6.72 %</b>	<b>61</b>	<b>-6.28 %</b>	<b>-44 bp</b>
2008 Year	<b>-24.27 %</b>	<b>27</b>	<b>-25.89 %</b>	<b>+162 bp</b>
4 Qtr.	<b>-14.12 %</b>	<b>58</b>	<b>-13.71 %</b>	<b>-41 bp</b>
3 Qtr.	<b>-6.16 %</b>	<b>4</b>	<b>-9.15 %</b>	<b>+299 bp</b>
2 Qtr.	<b>-0.93 %</b>	<b>79</b>	<b>-0.60 %</b>	<b>-33 bp</b>
1 Qtr.	<b>-5.16 %</b>	<b>47</b>	<b>-5.24 %</b>	<b>+8 bp</b>
2007 Year	<b>11.06 %</b>	<b>8</b>	<b>8.56 %</b>	<b>+250 bp</b>
4 Qtr.	<b>-0.53 %</b>	<b>42</b>	<b>-0.65 %</b>	<b>+12 bp</b>
3 Qtr.	<b>2.70 %</b>	<b>29</b>	<b>2.31 %</b>	<b>+39 bp</b>
2 Qtr.	<b>6.57 %</b>	<b>3</b>	<b>4.47 %</b>	<b>+210 bp</b>
1 Qtr.	<b>2.01 %</b>	<b>68</b>	<b>2.15 %</b>	<b>-14 bp</b>
2006 Year	<b>15.04 %</b>	<b>34</b>	<b>14.34 %</b>	<b>+70 bp</b>
4 Qtr.	<b>4.98 %</b>	<b>93</b>	<b>5.86 %</b>	<b>-88 bp</b>
3 Qtr.	<b>4.54 %</b>	<b>6</b>	<b>3.90 %</b>	<b>+64 bp</b>
2 Qtr.	<b>0.14 %</b>	<b>4</b>	<b>-0.60 %</b>	<b>+74 bp</b>
1 Qtr.	<b>4.67 %</b>	<b>53</b>	<b>4.74 %</b>	<b>-7 bp</b>
2005 Year	<b>9.92 %</b>	<b>19</b>	<b>7.74 %</b>	<b>+218 bp</b>
4 Qtr.	<b>2.96 %</b>	<b>18</b>	<b>2.56 %</b>	<b>+40 bp</b>
3 Qtr.	<b>4.25 %</b>	<b>36</b>	<b>4.15 %</b>	<b>+10 bp</b>
2 Qtr.	<b>2.33 %</b>	<b>39</b>	<b>2.29 %</b>	<b>+4 bp</b>
1 Qtr.	<b>0.07 %</b>	<b>8</b>	<b>-0.82 %</b>	<b>+89 bp</b>
2004 Year	<b>10.24 %</b>	<b>83</b>	<b>11.45 %</b>	<b>-121 bp</b>
4 Qtr.	<b>5.68 %</b>	<b>95</b>	<b>8.05 %</b>	<b>-237 bp</b>
3 Qtr.	<b>0.03 %</b>	<b>76</b>	<b>0.27 %</b>	<b>-24 bp</b>
2 Qtr.	<b>1.76 %</b>	<b>2</b>	<b>0.09 %</b>	<b>+167 bp</b>
1 Qtr.	<b>2.47 %</b>	<b>89</b>	<b>2.93 %</b>	<b>-46 bp</b>
2003 Year	<b>19.15 %</b>	<b>83</b>	<b>22.61 %</b>	<b>-346 bp</b>
4 Qtr.	<b>7.90 %</b>	<b>77</b>	<b>8.89 %</b>	<b>-99 bp</b>
3 Qtr.	<b>3.55 %</b>	<b>37</b>	<b>3.34 %</b>	<b>+21 bp</b>
2 Qtr.	<b>8.69 %</b>	<b>91</b>	<b>11.14 %</b>	<b>-245 bp</b>
1 Qtr.	<b>-1.89 %</b>	<b>50</b>	<b>-1.89 %</b>	<b>0 bp</b>

\*State Street Public Funds Universe > \$1 Billion.

# MSERS

## Quarterly Comparisons\*

### Time-Weighted Rates of Return

Time Period	Rate	Rank	Median	bp Difference
2012 2 Qtr.	-0.42 %	12	-1.76 %	+134 bp
1 Qtr.	6.56 %	84	7.51 %	-95 bp
2011 Year	3.18 %	11	0.90 %	+288 bp
4 Qtr.	2.96 %	90	4.89 %	-193 bp
3 Qtr.	-6.25 %	8	-8.65 %	+240 bp
2 Qtr.	1.95 %	17	1.28 %	+67 bp
1 Qtr.	4.86 %	14	4.15 %	+71 bp
2010 Year	12.55 %	74	12.96 %	-41 bp
4 Qtr.	6.21 %	40	5.96 %	+25 bp
3 Qtr.	9.09 %	86	10.91 %	-182 bp
2 Qtr.	-4.40 %	43	-4.74 %	+34 bp
1 Qtr.	3.40 %	54	3.45 %	-5 bp
2009 Year	11.88 %	83	18.19 %	-631 bp
4 Qtr.	2.42 %	96	3.44 %	-102 bp
3 Qtr.	9.09 %	86	10.91 %	-182 bp
2 Qtr.	7.38 %	89	10.24 %	-286 bp
1 Qtr.	-6.73 %	61	-6.28 %	-45 bp
2008 Year	-24.47 %	31	-25.89 %	+142 bp
4 Qtr.	-14.20 %	61	-13.71 %	-49 bp
3 Qtr.	-6.26 %	5	-9.15 %	+289 bp
2 Qtr.	-0.92 %	79	-0.60 %	-32 bp
1 Qtr.	-5.22 %	48	-5.24 %	+2 bp
2007 Year	11.01 %	9	8.56 %	+245 bp
4 Qtr.	-0.56 %	44	-0.65 %	+9 bp
3 Qtr.	2.66 %	31	2.31 %	+35 bp
2 Qtr.	6.55 %	5	4.47 %	+208 bp
1 Qtr.	2.05 %	62	2.15 %	-10 bp
2006 Year	15.02 %	34	14.34 %	+68 bp
4 Qtr.	4.98 %	92	5.86 %	-88 bp
3 Qtr.	4.49 %	8	3.90 %	+59 bp
2 Qtr.	0.15 %	4	-0.60 %	+75 bp
1 Qtr.	4.70 %	51	4.74 %	-4 bp
2005 Year	9.91 %	20	7.74 %	+217 bp
4 Qtr.	2.96 %	18	2.56 %	+40 bp
3 Qtr.	4.21 %	39	4.15 %	+6 bp
2 Qtr.	2.35 %	39	2.29 %	+6 bp
1 Qtr.	0.09 %	8	-0.82 %	+91 bp
2004 Year	10.17 %	84	11.45 %	-128 bp
4 Qtr.	5.69 %	95	8.05 %	-236 bp
3 Qtr.	0.03 %	77	0.27 %	-24 bp
2 Qtr.	1.72 %	3	0.09 %	+163 bp
1 Qtr.	2.45 %	92	2.93 %	-48 bp
2003 Year	19.04 %	84	22.61 %	-357 bp
4 Qtr.	7.79 %	79	8.89 %	-110 bp
3 Qtr.	3.49 %	39	3.34 %	+15 bp
2 Qtr.	8.70 %	91	11.14 %	-244 bp
1 Qtr.	-1.83 %	47	-1.89 %	+6 bp

\*State Street Public Funds Universe > \$1 Billion.

**MSPRS**  
 Quarterly Comparisons\*  
 Time-Weighted Rates of Return

<u>Time Period</u>	<u>Rate</u>	<u>Rank</u>	<u>Median</u>	<u>bp Difference</u>
2012 2 Qtr.	<b>-0.38 %</b>	<b>10</b>	<b>-1.76 %</b>	<b>+138 bp</b>
1 Qtr.	<b>6.52 %</b>	<b>84</b>	<b>7.51 %</b>	<b>-99 bp</b>
2011 Year	<b>3.33 %</b>	<b>11</b>	<b>0.90 %</b>	<b>+243 bp</b>
4 Qtr.	<b>2.89 %</b>	<b>92</b>	<b>4.89 %</b>	<b>-200 bp</b>
3 Qtr.	<b>-6.16 %</b>	<b>8</b>	<b>-8.65 %</b>	<b>+249 bp</b>
2 Qtr.	<b>2.00 %</b>	<b>15</b>	<b>1.28 %</b>	<b>+72 bp</b>
1 Qtr.	<b>4.92 %</b>	<b>10</b>	<b>4.15 %</b>	<b>+77 bp</b>
2010 Year	<b>12.61 %</b>	<b>70</b>	<b>12.96 %</b>	<b>-35 bp</b>
4 Qtr.	<b>6.26 %</b>	<b>40</b>	<b>5.96 %</b>	<b>+30 bp</b>
3 Qtr.	<b>8.98 %</b>	<b>87</b>	<b>10.91 %</b>	<b>-193 bp</b>
2 Qtr.	<b>-4.30 %</b>	<b>40</b>	<b>-4.74 %</b>	<b>+44 bp</b>
1 Qtr.	<b>3.40 %</b>	<b>54</b>	<b>3.45 %</b>	<b>-5 bp</b>
2009 Year	<b>11.50 %</b>	<b>85</b>	<b>18.19 %</b>	<b>-669 bp</b>
4 Qtr.	<b>2.40 %</b>	<b>96</b>	<b>3.44 %</b>	<b>-104 bp</b>
3 Qtr.	<b>8.98 %</b>	<b>87</b>	<b>10.91 %</b>	<b>-193 bp</b>
2 Qtr.	<b>7.15 %</b>	<b>91</b>	<b>10.24 %</b>	<b>-309 bp</b>
1 Qtr.	<b>-6.75 %</b>	<b>62</b>	<b>-6.28 %</b>	<b>-47 bp</b>
2008 Year	<b>-24.24 %</b>	<b>27</b>	<b>-25.89 %</b>	<b>+165 bp</b>
4 Qtr.	<b>-14.14 %</b>	<b>59</b>	<b>-13.71 %</b>	<b>-43 bp</b>
3 Qtr.	<b>-6.14 %</b>	<b>4</b>	<b>-9.15 %</b>	<b>+301 bp</b>
2 Qtr.	<b>-0.91 %</b>	<b>78</b>	<b>-0.60 %</b>	<b>-31 bp</b>
1 Qtr.	<b>-5.13 %</b>	<b>44</b>	<b>-5.24 %</b>	<b>+11 bp</b>
2007 Year	<b>11.22 %</b>	<b>6</b>	<b>8.56 %</b>	<b>+266 bp</b>
4 Qtr.	<b>-0.49 %</b>	<b>38</b>	<b>-0.65 %</b>	<b>+16 bp</b>
3 Qtr.	<b>2.70 %</b>	<b>30</b>	<b>2.31 %</b>	<b>+39 bp</b>
2 Qtr.	<b>6.65 %</b>	<b>2</b>	<b>4.47 %</b>	<b>+218 bp</b>
1 Qtr.	<b>2.05 %</b>	<b>62</b>	<b>2.15 %</b>	<b>-10 bp</b>
2006 Year	<b>15.1 %</b>	<b>25</b>	<b>14.34 %</b>	<b>+76 bp</b>
4 Qtr.	<b>4.99 %</b>	<b>92</b>	<b>5.86 %</b>	<b>-87 bp</b>
3 Qtr.	<b>4.53 %</b>	<b>7</b>	<b>3.90 %</b>	<b>+63 bp</b>
2 Qtr.	<b>0.17 %</b>	<b>4</b>	<b>-0.60 %</b>	<b>+77 bp</b>
1 Qtr.	<b>4.70 %</b>	<b>51</b>	<b>4.74 %</b>	<b>-4 bp</b>
2005 Year	<b>9.98 %</b>	<b>17</b>	<b>7.74 %</b>	<b>+224 bp</b>
4 Qtr.	<b>2.97 %</b>	<b>18</b>	<b>2.56 %</b>	<b>+41 bp</b>
3 Qtr.	<b>4.26 %</b>	<b>36</b>	<b>4.15 %</b>	<b>+11 bp</b>
2 Qtr.	<b>2.34 %</b>	<b>39</b>	<b>2.29 %</b>	<b>+5 bp</b>
1 Qtr.	<b>0.10 %</b>	<b>8</b>	<b>-0.82 %</b>	<b>+92 bp</b>
2004 Year	<b>10.18 %</b>	<b>84</b>	<b>11.45 %</b>	<b>-127 bp</b>
4 Qtr.	<b>5.69 %</b>	<b>95</b>	<b>8.05 %</b>	<b>-236 bp</b>
3 Qtr.	<b>0.05 %</b>	<b>75</b>	<b>0.27 %</b>	<b>-22 bp</b>
2 Qtr.	<b>1.70 %</b>	<b>3</b>	<b>0.09 %</b>	<b>+161 bp</b>
1 Qtr.	<b>2.45 %</b>	<b>92</b>	<b>2.93 %</b>	<b>-48 bp</b>
2003 Year	<b>18.97 %</b>	<b>85</b>	<b>22.61 %</b>	<b>-364 bp</b>
4 Qtr.	<b>7.76 %</b>	<b>79</b>	<b>8.89 %</b>	<b>-113 bp</b>
3 Qtr.	<b>3.48 %</b>	<b>39</b>	<b>3.34 %</b>	<b>+14 bp</b>
2 Qtr.	<b>8.73 %</b>	<b>91</b>	<b>11.14 %</b>	<b>-241 bp</b>
1 Qtr.	<b>-1.88 %</b>	<b>50</b>	<b>-1.89 %</b>	<b>+1 bp</b>

\*State Street Public Funds Universe > \$1 Billion.

**MJRS**  
 Quarterly Comparisons\*  
 Time-Weighted Rates of Return

<u>Time Period</u>	<u>Rate</u>	<u>Rank</u>	<u>Median</u>	<u>bp Difference</u>
2012 2 Qtr.	<b>-0.70 %</b>	<b>13</b>	<b>-1.76 %</b>	<b>+106 bp</b>
1 Qtr.	<b>6.66 %</b>	<b>77</b>	<b>7.51 %</b>	<b>-85 bp</b>
2011 Year	<b>3.06 %</b>	<b>11</b>	<b>0.90 %</b>	<b>+216 bp</b>
4 Qtr.	<b>3.41 %</b>	<b>87</b>	<b>4.89 %</b>	<b>-148 bp</b>
3 Qtr.	<b>-6.55 %</b>	<b>10</b>	<b>-8.65 %</b>	<b>+210 bp</b>
2 Qtr.	<b>1.75 %</b>	<b>27</b>	<b>1.28 %</b>	<b>+47 bp</b>
1 Qtr.	<b>4.81 %</b>	<b>16</b>	<b>4.15 %</b>	<b>+66 bp</b>
2010 Year	<b>12.24 %</b>	<b>82</b>	<b>12.96 %</b>	<b>-72 bp</b>
4 Qtr.	<b>6.43 %</b>	<b>36</b>	<b>5.96 %</b>	<b>+47 bp</b>
3 Qtr.	<b>8.58 %</b>	<b>90</b>	<b>10.91 %</b>	<b>-233 bp</b>
2 Qtr.	<b>-4.86 %</b>	<b>59</b>	<b>-4.74 %</b>	<b>-12 bp</b>
1 Qtr.	<b>3.00 %</b>	<b>72</b>	<b>3.45 %</b>	<b>-45 bp</b>
2009 Year	<b>9.89 %</b>	<b>89</b>	<b>18.19 %</b>	<b>-830 bp</b>
4 Qtr.	<b>1.51 %</b>	<b>97</b>	<b>3.44 %</b>	<b>-193 bp</b>
3 Qtr.	<b>8.58 %</b>	<b>90</b>	<b>10.91 %</b>	<b>-233 bp</b>
2 Qtr.	<b>7.17 %</b>	<b>91</b>	<b>10.24 %</b>	<b>-307 bp</b>
1 Qtr.	<b>-6.94 %</b>	<b>64</b>	<b>-6.28 %</b>	<b>-66 bp</b>
2008 Year	<b>-23.28 %</b>	<b>18</b>	<b>-25.89 %</b>	<b>+261 bp</b>
4 Qtr.	<b>-13.51 %</b>	<b>46</b>	<b>-13.71 %</b>	<b>+20 bp</b>
3 Qtr.	<b>-5.96 %</b>	<b>2</b>	<b>-9.15 %</b>	<b>+319 bp</b>
2 Qtr.	<b>-0.85 %</b>	<b>71</b>	<b>-0.60 %</b>	<b>-25 bp</b>
1 Qtr.	<b>-4.86 %</b>	<b>36</b>	<b>-5.24 %</b>	<b>+38 bp</b>
2007 Year	<b>11.02 %</b>	<b>9</b>	<b>8.56 %</b>	<b>+246 bp</b>
4 Qtr.	<b>-0.44 %</b>	<b>37</b>	<b>-0.65 %</b>	<b>+21 bp</b>
3 Qtr.	<b>2.62 %</b>	<b>34</b>	<b>2.31 %</b>	<b>+31 bp</b>
2 Qtr.	<b>6.36 %</b>	<b>5</b>	<b>4.47 %</b>	<b>+189 bp</b>
1 Qtr.	<b>2.17 %</b>	<b>49</b>	<b>2.15 %</b>	<b>+2 bp</b>
2006 Year	<b>14.8 %</b>	<b>38</b>	<b>14.34 %</b>	<b>+46 bp</b>
4 Qtr.	<b>4.89 %</b>	<b>94</b>	<b>5.86 %</b>	<b>-97 bp</b>
3 Qtr.	<b>4.37 %</b>	<b>13</b>	<b>3.90 %</b>	<b>+47 bp</b>
2 Qtr.	<b>0.16 %</b>	<b>4</b>	<b>-0.60 %</b>	<b>+76 bp</b>
1 Qtr.	<b>4.71 %</b>	<b>51</b>	<b>4.74 %</b>	<b>-3 bp</b>
2005 Year	<b>9.31 %</b>	<b>21</b>	<b>7.74 %</b>	<b>+157 bp</b>
4 Qtr.	<b>2.82 %</b>	<b>22</b>	<b>2.56 %</b>	<b>+26 bp</b>
3 Qtr.	<b>3.89 %</b>	<b>66</b>	<b>4.15 %</b>	<b>-26 bp</b>
2 Qtr.	<b>2.31 %</b>	<b>45</b>	<b>2.29 %</b>	<b>+2 bp</b>
1 Qtr.	<b>0.01 %</b>	<b>10</b>	<b>-0.82 %</b>	<b>+83 bp</b>
2004 Year	<b>9.57 %</b>	<b>88</b>	<b>11.45 %</b>	<b>-188 bp</b>
4 Qtr.	<b>5.58 %</b>	<b>96</b>	<b>8.05 %</b>	<b>-247 bp</b>
3 Qtr.	<b>0.03 %</b>	<b>77</b>	<b>0.27 %</b>	<b>-24 bp</b>
2 Qtr.	<b>1.46 %</b>	<b>4</b>	<b>0.09 %</b>	<b>+137 bp</b>
1 Qtr.	<b>2.25 %</b>	<b>93</b>	<b>2.93 %</b>	<b>-68 bp</b>
2003 Year	<b>18.39 %</b>	<b>90</b>	<b>22.61 %</b>	<b>-422 bp</b>
4 Qtr.	<b>7.37 %</b>	<b>85</b>	<b>8.89 %</b>	<b>-152 bp</b>
3 Qtr.	<b>3.21 %</b>	<b>54</b>	<b>3.34 %</b>	<b>-13 bp</b>
2 Qtr.	<b>8.62 %</b>	<b>94</b>	<b>11.14 %</b>	<b>-252 bp</b>
1 Qtr.	<b>-1.64 %</b>	<b>43</b>	<b>-1.89 %</b>	<b>+25 bp</b>

\*State Street Public Funds Universe > \$1 Billion.

# Annual Total Returns of Key Asset Classes 1992 - 2011

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
<b>Best</b> ←																					<b>Worst</b> →
Small Value Stocks	29.15%	32.57%	7.78%	38.13%	23.97%	36.52%	42.16%	43.09%	22.83%	14.02%	10.26%	48.54%	22.25%	13.54%	26.34%	11.17%	5.24%	34.47%	29.09%	7.84%	U.S. Bonds
Small Stocks	18.42%	23.86%	3.90%	37.58%	22.96%	33.36%	28.25%	28.25%	11.63%	8.44%	1.65%	47.25%	20.25%	6.33%	23.48%	9.13%	2.11%	31.78%	26.05%	4.65%	Large Growth Stocks
Large Value Stocks	10.52%	18.89%	3.14%	36.99%	22.00%	31.78%	20.00%	26.96%	6.08%	3.83%	-11.42%	46.03%	18.33%	4.91%	20.80%	7.05%	-28.92%	31.57%	24.50%	2.11%	Large Value Stocks
Small Growth Stocks	7.77%	18.61%	1.32%	31.04%	21.37%	29.98%	14.69%	21.26%	5.89%	2.49%	-15.66%	38.59%	15.71%	4.71%	18.37%	6.97%	-33.79%	27.17%	15.10%	0.03%	Large Value Stocks
Large Stocks	7.62%	13.37%	0.64%	28.44%	16.53%	22.36%	8.70%	21.04%	-3.02%	9.23%	-19.99%	31.78%	14.31%	4.55%	15.80%	5.49%	-34.92%	26.47%	15.06%	-0.48%	Large Value Stocks
U.S. Bonds	7.40%	10.08%	-1.55%	25.75%	11.32%	12.93%	4.86%	12.72%	-9.11%	-11.69%	-20.48%	28.68%	10.88%	4.15%	13.35%	4.74%	-37.00%	21.17%	15.05%	-2.91%	Small Growth Stocks
Large Growth Stocks	5.06%	9.75%	-1.81%	18.46%	6.05%	9.64%	1.23%	4.68%	-13.96%	-11.87%	-21.26%	25.66%	6.13%	3.46%	11.01%	1.99%	-38.54%	20.58%	8.22%	-4.18%	Small Value Stocks
Cash	3.51%	2.90%	-2.44%	11.21%	5.21%	5.26%	-2.55%	-0.82%	-22.08%	-12.75%	-22.77%	4.10%	4.34%	2.98%	4.75%	-1.57%	-39.22%	5.93%	6.54%	-5.50%	U.S. Bonds
Foreign Stocks	-12.18%	1.68%	-2.92%	5.60%	3.64%	1.78%	-6.46%	-1.48%	-22.43%	-21.45%	-30.26%	1.02%	1.20%	2.43%	4.33%	-9.78%	-43.42%	0.09%	0.02%	-12.14%	Foreign Stocks

- Large Stocks are represented by the S&P 500  
 - Large Growth Stocks are represented by the S&P 500 Growth Index  
 - Large Value Stocks are represented by the S&P 500 Value Index  
 - Foreign Stocks are represented by the MSCI EAFE Index  
 - Cash is represented by 30-day T-Bills

- Small Stocks are represented by the Russell 2000 Index  
 - Small Growth Stocks are represented by the Russell 2000 Growth Index  
 - Small Value Stocks are represented by the Russell 2000 Value Index  
 - U.S. Bonds are represented by the Barclays Capital Aggregate Bond Index





**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**ASSET ALLOCATION REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**SEPTEMBER 6, 2012**



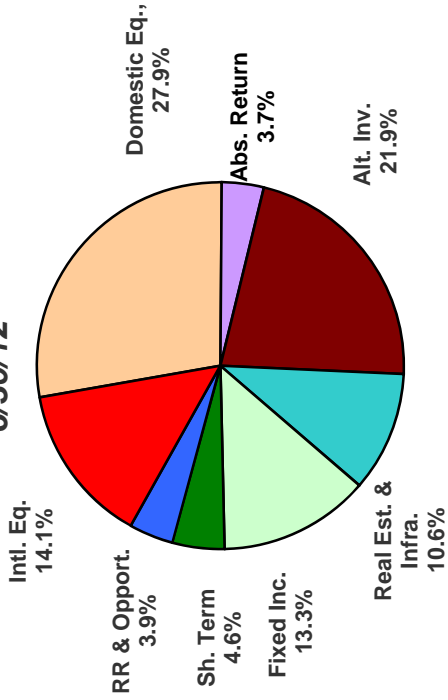
**Jon M. Braeutigam  
Chief Investment Officer  
Bureau of Investments**



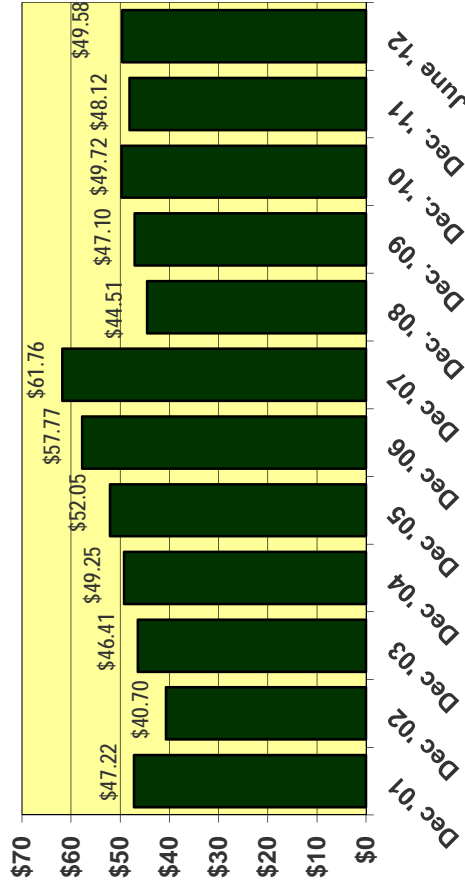


# STATE OF MICHIGAN RETIREMENT SYSTEMS PROFILE - JUNE 2012

## Asset Allocation 6/30/12



## Market Value\* 12/01 - 6/12 (Billions of Dollars)



## Asset Allocation By Market Value (In Millions)

Investment Strategies	6/30/2012	3/31/2012
Domestic Equity	\$13,848	\$14,435
Alternative Investments	10,860	10,587
International Equity	7,003	7,314
Fixed Income	6,590	6,536
Real Estate & Infra.	5,251	5,035
Short Term**	2,252	3,024
Real Return & Opport.	1,923	1,885
Absolute Return	1,854	1,749
<b>TOTAL</b>	<b>\$49,581</b>	<b>\$50,565</b>

## Short Term Equivalents

Short Term Strategy**	\$2.3
Short Term in Other Inv. Strategies	0.9
<b>TOTAL SHORT TERM</b>	<b>\$3.2</b>
	<b>6.5% of Total Funds</b>

## Market Value By Plan 6/30/2012

	Market Value (In Millions)	%
Public School Employees	\$38,866	78.4%
State Employees	9,410	19.0%
State Police	1,066	2.1%
Judges	239	0.5%
<b>TOTAL</b>	<b>\$49,581</b>	<b>100.0%</b>



17th Largest DB Public Pension Fund in the U.S.  
20th Largest DB Pension Fund in the U.S.



Pensions & Investments Survey - February 6, 2012 Issue

\*The retirement systems annually pay out approximately \$2.9 billion to beneficiaries in excess of contributions (FY2011).

# Asset Deployment

## April – May – June ~ 2012

*Beginning Cash:  
\$3.82 Billion*

Domestic Equity  
-\$74 mil

**Net purchases of \$74 million of Domestic Equity.**

International  
-\$169 mil

**Net sales of \$200 million in international equity swaps and outflow of \$369 million to external managers.**

Alternative Invest.  
+\$383 mil

**Distributions exceeded draw-downs by \$383 million.**

Real Estate  
-\$77 mil

**Draw-downs exceeded the distributions by \$77 million.**

Infrastructure  
-\$5 mil

**Purchase of \$5 million in the Infrastructure strategy.**

Fixed Income  
-\$21 mil

**Purchases exceeded sales, calls and maturities by \$21 million.**

STARR  
-\$183 mil

**Net purchases of \$183 million in opportunistic, commodity, and absolute return investments.**

Invest. Income  
+\$225 mil  
Net Benefit  
Payments  
-\$742 mil  
-\$517 mil

*Ending Cash:  
\$3.15 Billion*

## Asset Allocation Targets

Asset Class	MPSERS			MSERS			MSPRS			MJRS		
	Actual 06/30/12	Target 9/30/12	Target* 9/30/13	Actual 06/30/12	Target 9/30/12	Target* 9/30/13	Actual 06/30/12	Target 9/30/12	Target* 9/30/13	Actual 06/30/12	Target 9/30/12	Target* 9/30/13
Broad US Equity	28.0%	30.0%	31.0%	27.6%	30.0%	31.0%	27.6%	30.0%	31.0%	28.9%	30.0%	29.0%
Alternative Invest.	22.0%	18.0%	16.0%	21.5%	18.0%	16.0%	21.9%	18.0%	16.0%	16.0%	15.5%	14.0%
Broad Int'l Equity	14.1%	14.5%	16.0%	14.4%	14.5%	16.0%	14.0%	14.5%	16.0%	14.8%	14.0%	15.0%
US Fixed Income Core	13.3%	16.0%	15.0%	13.3%	16.0%	15.0%	13.1%	16.0%	15.0%	15.6%	17.5%	19.0%
Real Estate Core	10.2%	9.0%	6.0%	10.5%	9.0%	6.0%	10.4%	9.0%	6.0%	13.6%	10.0%	7.0%
Real Return / Opportunistic	3.9%	4.0%	5.0%	3.6%	4.0%	5.0%	3.1%	4.0%	5.0%	4.3%	4.0%	5.0%
Absolute Return	3.7%	3.0%	4.0%	3.9%	3.0%	4.0%	3.8%	3.0%	4.0%	3.9%	3.0%	4.0%
Cash	4.5%	4.5%	4.0%	4.8%	4.5%	4.0%	5.8%	4.5%	4.0%	2.4%	5.0%	4.0%
Infrastructure	0.3%	1.0%	3.0%	0.4%	1.0%	3.0%	0.3%	1.0%	3.0%	0.5%	1.0%	3.0%
<b>TOTAL</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Expected Return			8.1%			8.1%			8.1%			7.9%
Expected Risk (1 yr.)			12.7%			12.7%			12.7%			11.8%
*Complies with basket clause and international restrictions.												

## Asset Allocation Targets and Ranges

Asset Class	MPSERS		MSERS		MSPRS		MJRS	
	Targets	Ranges*	Targets	Ranges*	Targets	Ranges*	Targets	Ranges*
Broad US Equity	31%	20% - 50%	31%	20% - 50%	31%	20% - 50%	29%	20% - 50%
Alternative Invest.	16%	10% - 25%	16%	10% - 25%	16%	10% - 25%	14%	10% - 25%
Broad Int'l Equity	16%	10% - 20%	16%	10% - 20%	16%	10% - 20%	15%	10% - 20%
US Fixed Income Core	15%	10% - 25%	15%	10% - 25%	15%	10% - 25%	19%	10% - 25%
Real Estate Core	6%	5% - 15%	6%	5% - 15%	6%	5% - 15%	7%	5% - 15%
Real Return / Opportunistic	5%	0% - 10%	5%	0% - 10%	5%	0% - 10%	5%	0% - 10%
Absolute Return	4%	0% - 12%	4%	0% - 12%	4%	0% - 12%	4%	4% - 12%
Cash	4%	1% - 9%	4%	1% - 9%	4%	1% - 9%	4%	1% - 9%
Infrastructure	3%	0% - 5%	3%	0% - 5%	3%	0% - 5%	3%	0% - 5%
<b>TOTAL</b>	100.0%		100.0%		100.0%		100.0%	
*Complies with basket clause and international restrictions.								

**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**CAPITAL MARKETS OVERVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**SEPTEMBER 6, 2012**



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

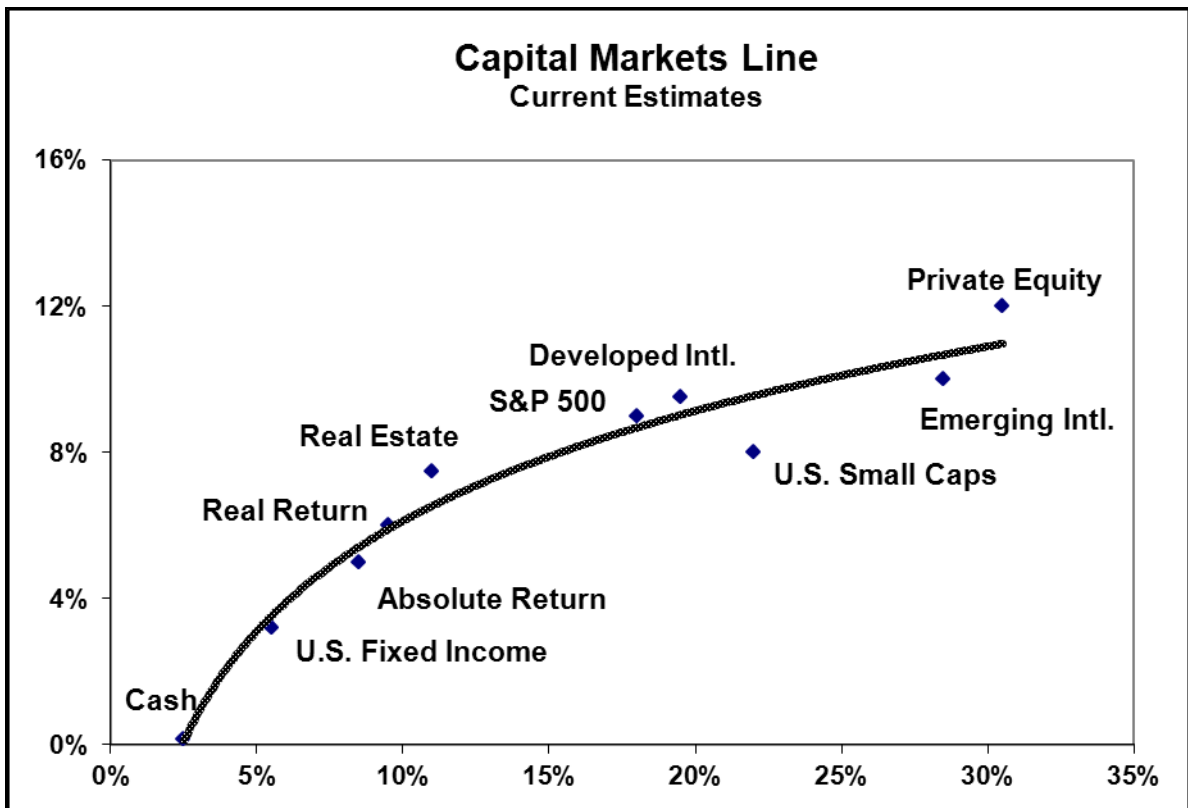
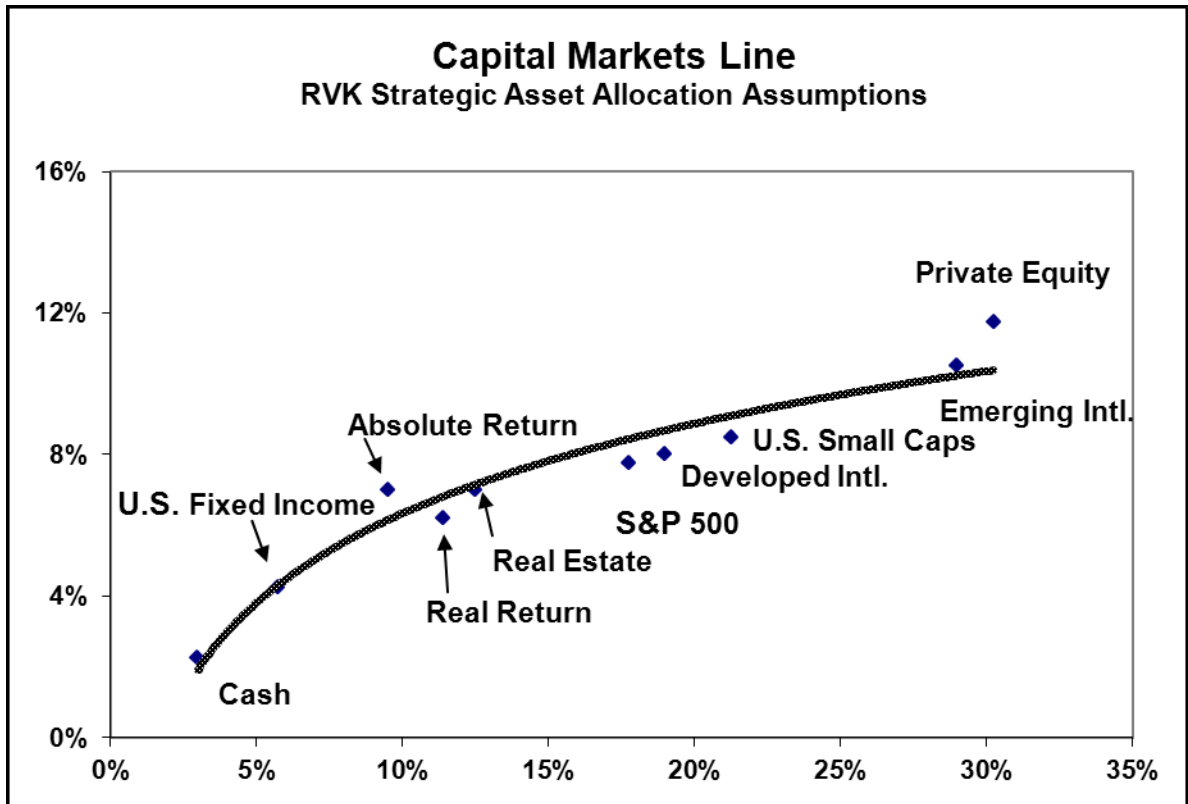




## **CAPITAL MARKETS OVERVIEW**

- Most asset classes are priced to return “Normal” long-term rates of returns.
  - Higher yielding issues are becoming relatively expensive.
  - Small-cap U.S. stocks expensive relative to Large-cap
- Responses to the European Sovereign Debt Crisis appearing less credible.
  - European sovereign rates hit highs in July.
  - U.S. Treasury seen as a safe-haven hit historic lows in July.
- Economic Indicators are mixed.
  - U.S. unemployment rate at 8.3%.
  - PMI measured below 50 in both July and August.
  - Consumer confidence is showing signs of improvement.
- Equity Market Concerns:
  - U.S. has outperformed international markets over the past one, three and five years.
  - International markets price/earnings ratio at a discount to U.S. market.
  - U.S. margins are weakening.
  - Revenue growth is poor, earnings coming through on additional cost cuts.
- Fixed Income Market Concerns:
  - Negative real rates of return on short term.
  - Negative real rates of return on 10-year Treasury.
  - Credit spreads “only” normal.
  - European sovereign rates beginning to rise.
- Housing probably has not bottomed, however recent data was mildly bullish.
- U.S. GDP growth very weak at 1.5%.
- Other Concerns:
  - Iran/Israel tension.
  - U.S. fiscal cliff.
  - Severe drought in the U.S. pushing up grain prices.
  - Euro-zone potential break-up.

# Capital Markets Line



# Domestic Equities

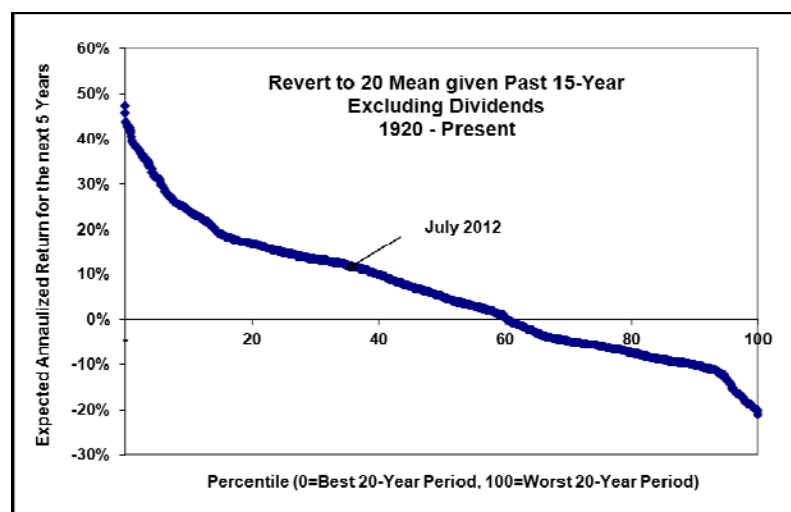
## S&P 500 – 12/31/08 – 7/31/12

SPX



- At the beginning of 2012, the S&P 500 price broke out above the 200-day moving average to hit highs.
- The market has since pulled back some.
- The technical backdrop is noticeably weaker and the index is range-bound.

## Returns Based Outlook



- Since 1920, the median 20-year price return for the S&P 500 is 179.8% or 5.3% annualized.
- The S&P 500 has increased by 49.1% over the past 15 years.
- Using the 20-year median price return as a projection, there is a 50% chance that the annualized price return for the S&P 500 will be 13.4% over the next 5 years.

## Earnings Based Outlook

<u>Scenerio</u>	<u>Price Return Estimate</u>	<u>Total Return Estimate</u>
Super Bull	20.3%	23.9%
Bull	9.3%	13.6%
Base	2.1%	5.8%
Bear	-8.5%	-5.7%
Super Bear	-14.6%	-13.7%

## Assumptions

	<u>2016 Earnings</u>	<u>2016 P/E Ratio</u>	<u>Dividend Payout</u>
High	\$141	25.0	62%
Mid	\$100	15.5	54%
Low	\$58	10.0	42%

Based on Robert Shiller data

# International Equities

## Developed Markets

### MSCI EAFE – 12/31/01 – 7/31/12



- The developed international equity markets represented by the MSCI EAFE Index are above their 2009 lows.
- MSCI EAFE is now at its 200-day moving average, and at the low end of the 2009-2011 price channel.
- The technical backdrop for developed international markets continues to be very poor.

## Emerging Markets

### MSCI Emerging Markets – 12/31/01 – 7/31/12



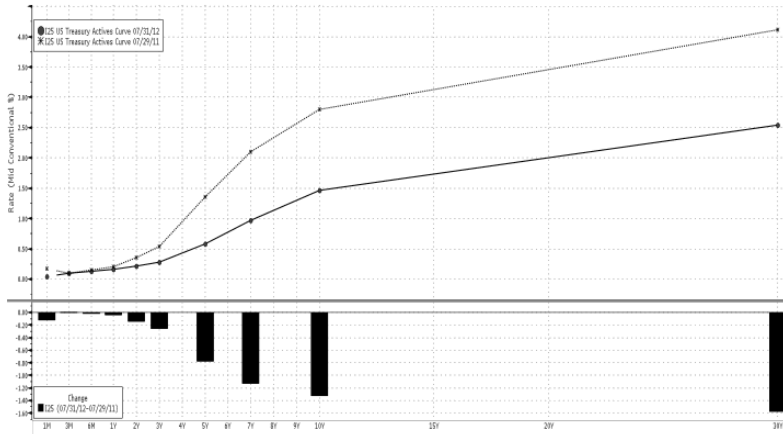
- The “V-shaped” recovery in emerging markets began in 2008. However, the rate of appreciation has slowed since late 2009.
- Emerging markets are now at the 200-day moving average.
- Since 2010, it has appeared that further weakness is likely until a new trend can be established.

### Count of Markets Priced Below a 200-Day Moving Average

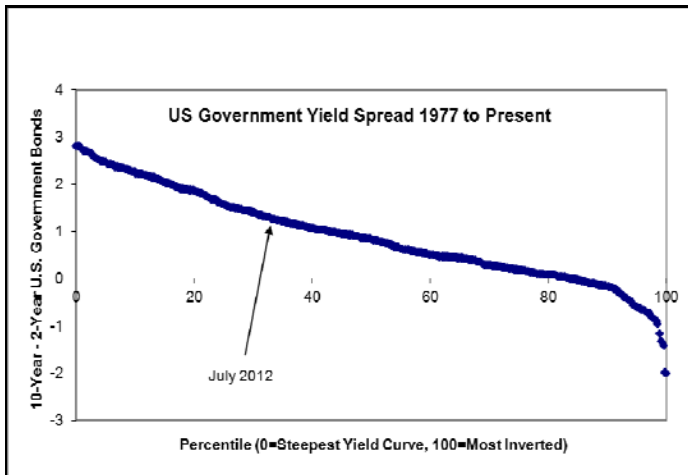
	<u>Developed</u>	<u>Emerging</u>
July 31, 2012	8	9
December 31, 2011	5	2
December 31, 2010	5	2

Prices above/below a 200-day moving average is a proxy for the near-term direction of the stock market.

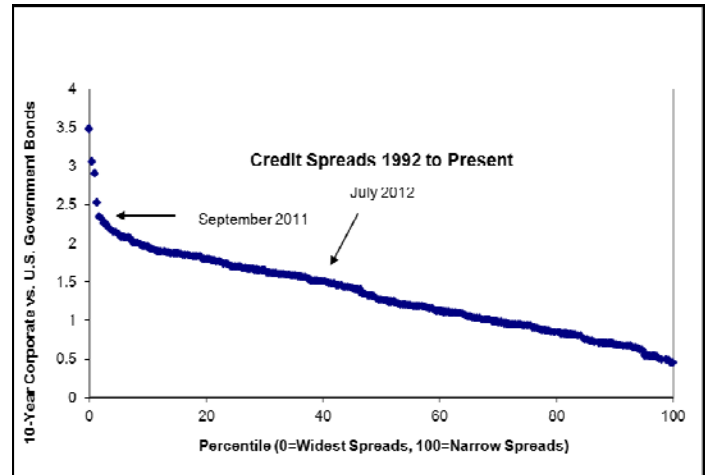
# U.S. Cash and Fixed Income



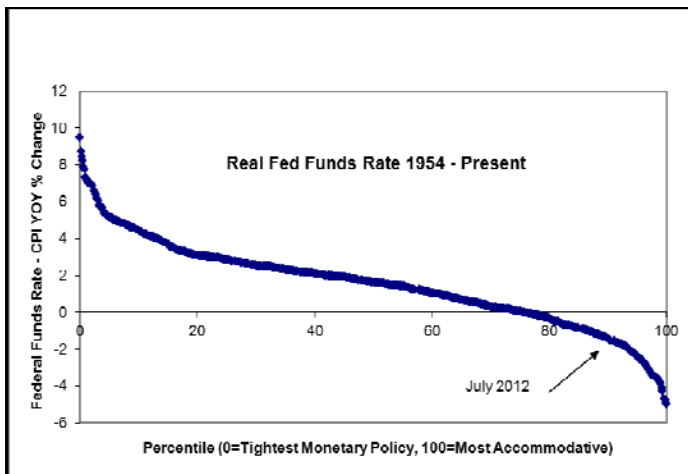
- Over the past year, rates have decreased, especially at the long end of the curve.
- Rates at the short end are still very low.



- The yield curve has flattened over the past year.
- 38 bp of flattening to get to average.



- Credit spreads continue to trade slightly higher than average.



- The Fed maintains an extremely accommodative stance.
- The Fed has announced its intention to keep rates low through late 2014.

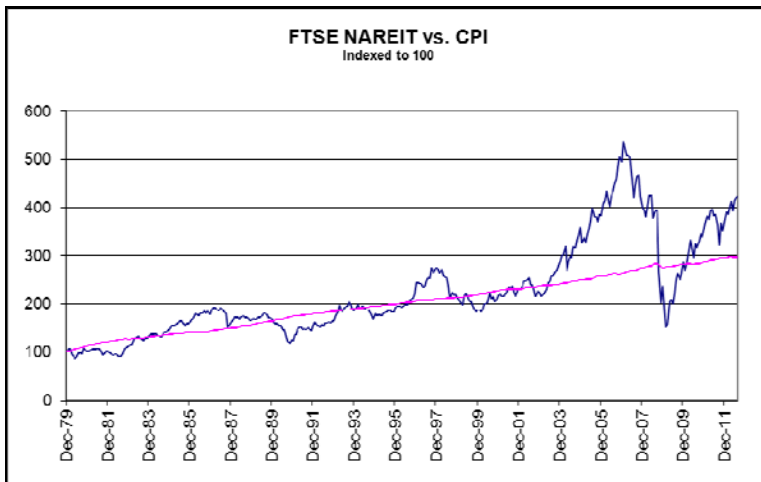
# U. S. Real Estate

## FTSE NAREIT Index – 12/31/05 – 7/31/12

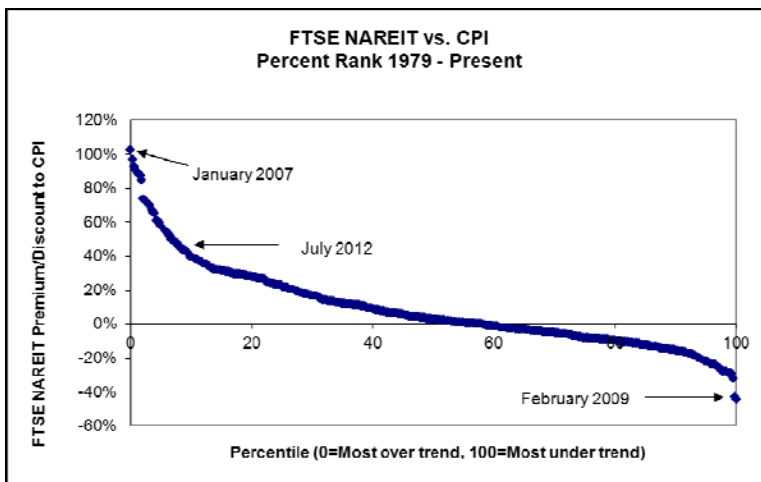


- Commercial real estate represented by the FTSE NAREIT Index has rebounded strongly since the first quarter of 2009 and has been trending up.
- The trend rate of acceleration appears to have topped.
- The index price is above its 200-day moving average.

## Return Outlook

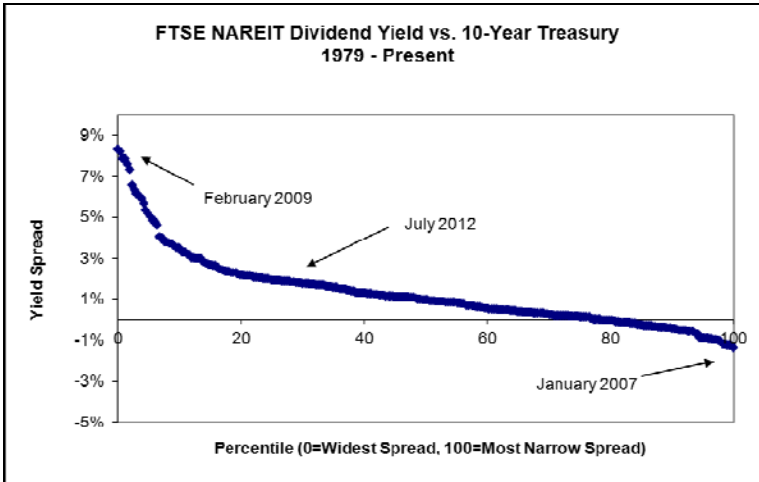


- REITs prices have trended around CPI.

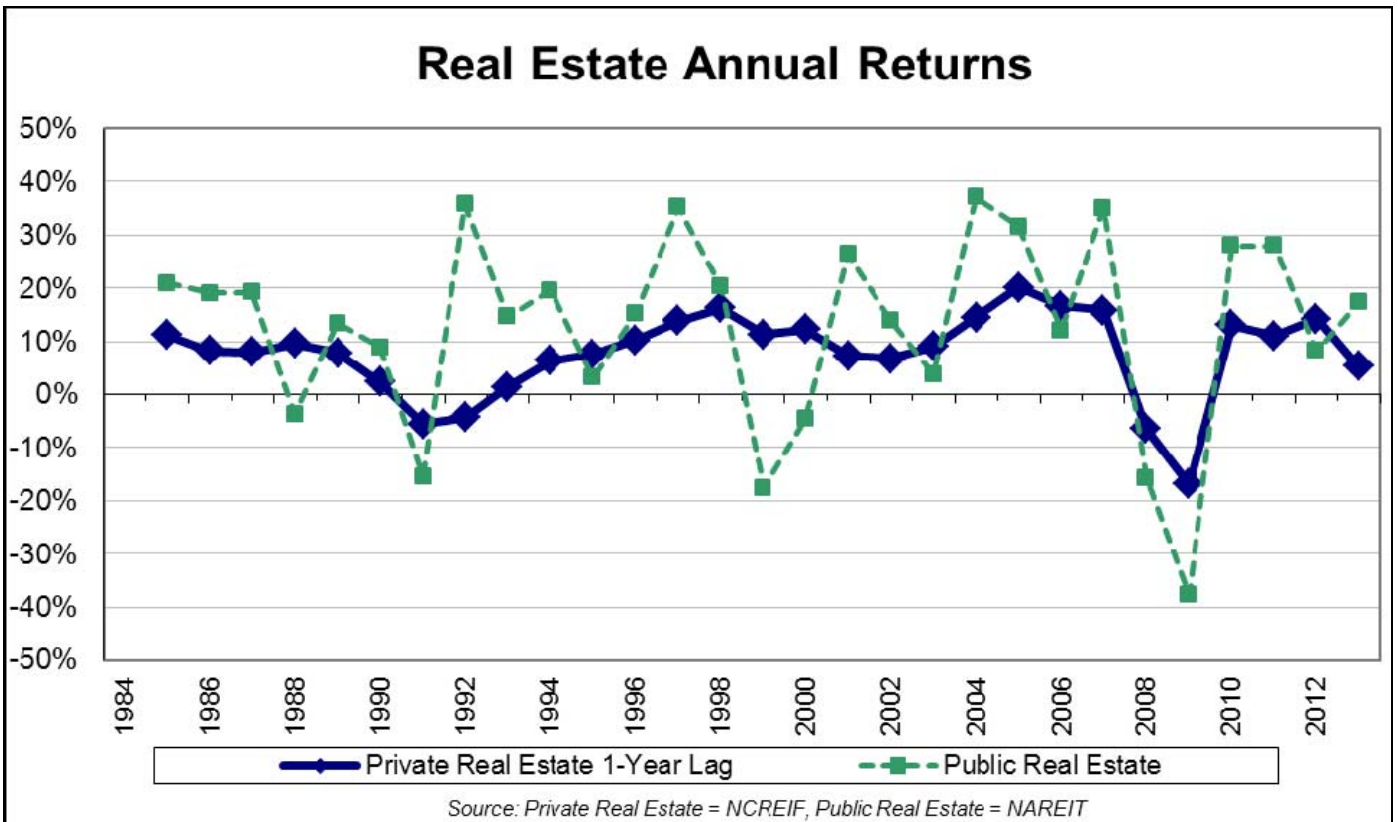


- REITs have priced lower ~ 90% of the time.
- REITs are very expensive when compared to the CPI.

## U.S. Real Estate - Continued



- The Index normally yields 0.90% more than 10-Year Treasuries.
- Current dividend yield is at 3.3%.
- When compared against the 10-Year Treasury, REITs are reasonably priced.



- Private real estate returns historically have followed public real estate (REIT) returns.
- Using the public REIT market as a guide, private real estate returns could return high-single, low-double digit positive returns over the next few years.

# Commodities

## CRB Index – 12/31/01 – 7/31/12



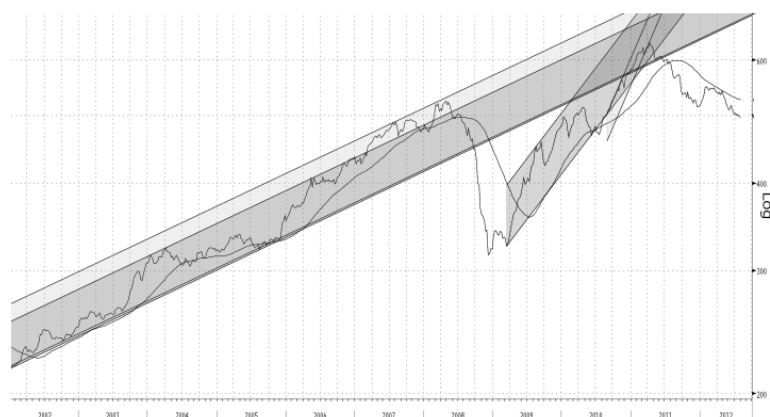
- Commodity prices, as measured by the ThompsonReuters / Jeffries CRB Index, appear to have rolled over.
- Recent trend is to the downside.
- Inflation does not appear to be a 2012 concern.

## CRB Food Index – 12/31/01 – 7/31/12



- CRB Food index rising over the past decade, near the top of its trending ranges.
- Index price break-out in late 2010.
- Price increase trend has moderated since 2010.
- With the summer 2012 U.S. drought, food price increases are a concern.

## CRB Raw Industrials Index – 12/31/01 – 7/31/12

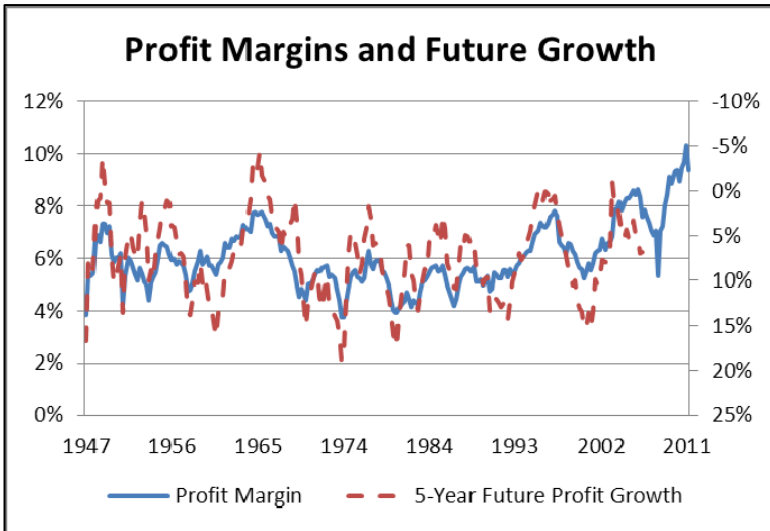


- CRB Raw Industrials index trend has rolled over.
- Price trend is falling.
- Any impact on prices by actions of the Federal Reserve appear to have been lost.

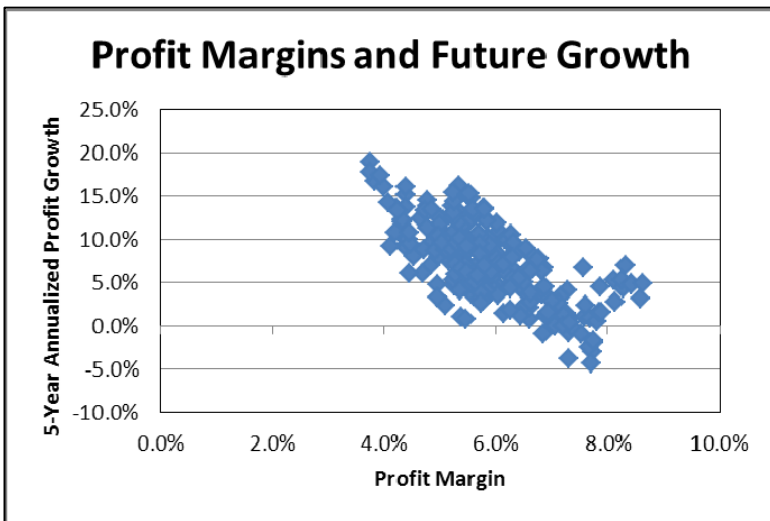


# Looking Ahead to 2012

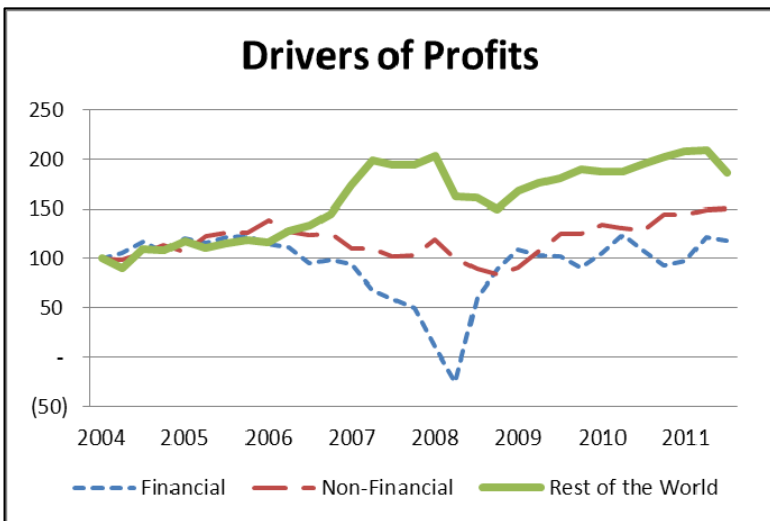
## Topic of Interest: Corporate Profits



- Profit margins and future growth have been inversely related.
- Current profit margins are near all-time highs.
- Current profit margins suggest low, or negative, 5-year growth in corporate profits.



- The relationship has neatly fit a pattern.
- The clusters at the lower right are outliers, occurring over the most recent years.
- Recent profit growth appears to be 5% to 10% higher than historical. Question is why?
- Margins fell a full percent in the most recent quarter. Question is this a trend?



- Scaled to 100, domestic corporate profits were greatly affected by the recession.
- Corporate profits from the rest of the world were much more resistant, and have out-grown domestic profits.
- Profits from non-financial and the rest of the world are noticeably weaker.



**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**ECONOMIC AND MARKET REVIEW  
AND OUTLOOK**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**SEPTEMBER 6, 2012**



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

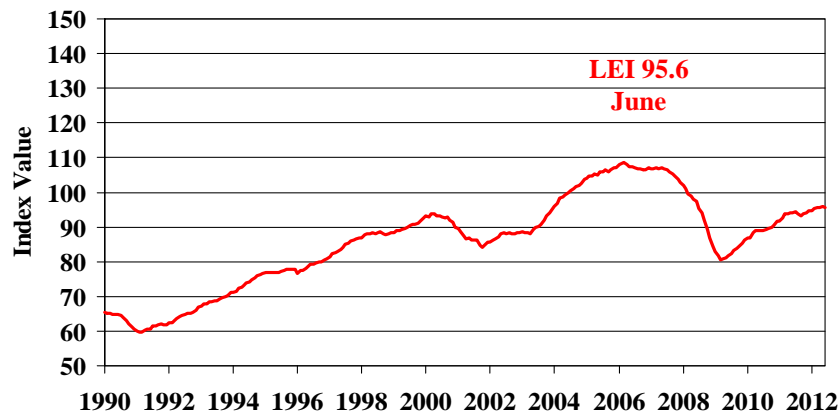


# Economic Outlook Summary

- With only modest economic growth, the jobs market is stagnant.
- Corporations are very healthy earning record profits, record margins, and low borrowing costs.
- Foreclosures remain a concern for housing.
- Households continue to deleverage with no real gain in personal incomes.
- Interest rates are very low and are expected to slowly rise.

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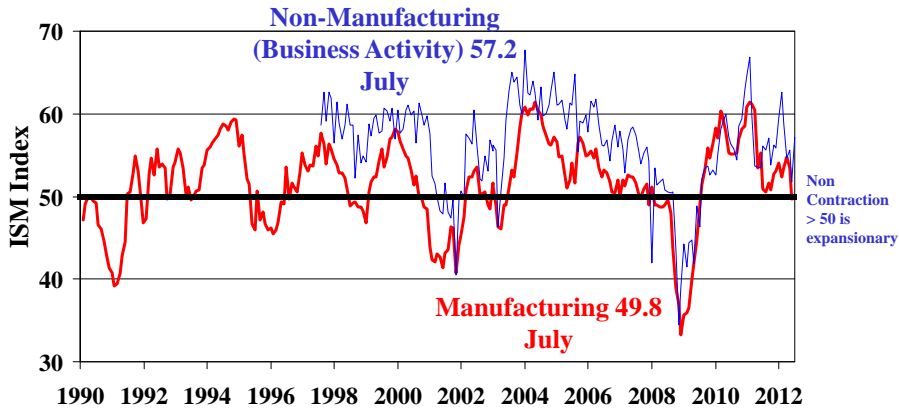
## U.S. Leading Economic Indicators Continued Growth At A Slow Rate



Source: Bloomberg

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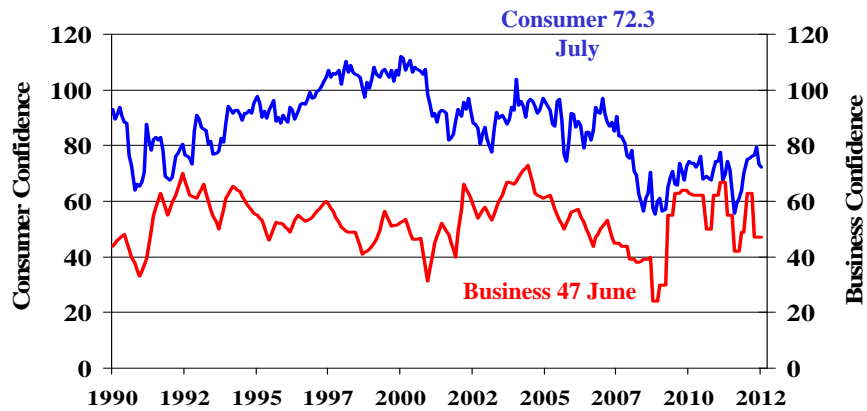
## Manufacturing/Non-Manufacturing Still In Expansion Mode



Source: Institute for Supply Management

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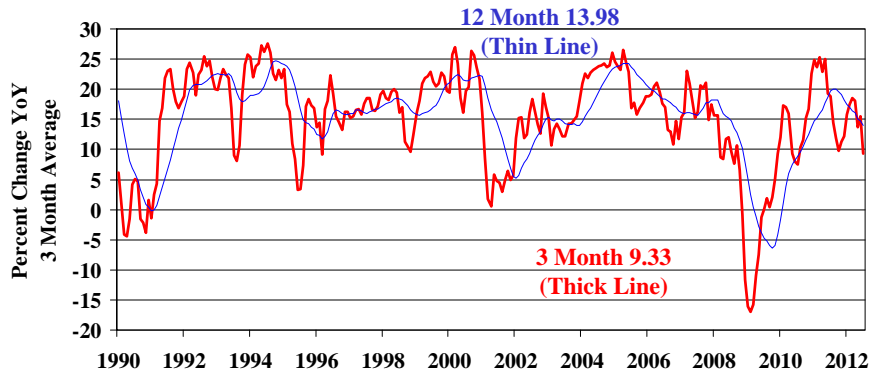
## CEO & Consumer Confidence Cautiously Optimistic



Sources: University of Michigan, Survey Research Center and The Conference Board

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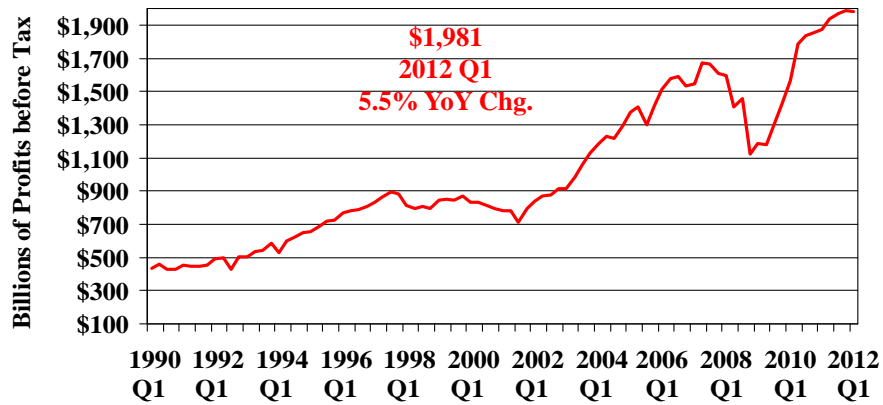
# Capital Spending Expectations Down



Source: Philadelphia Federal Reserve Bank

IAC 9-6-12

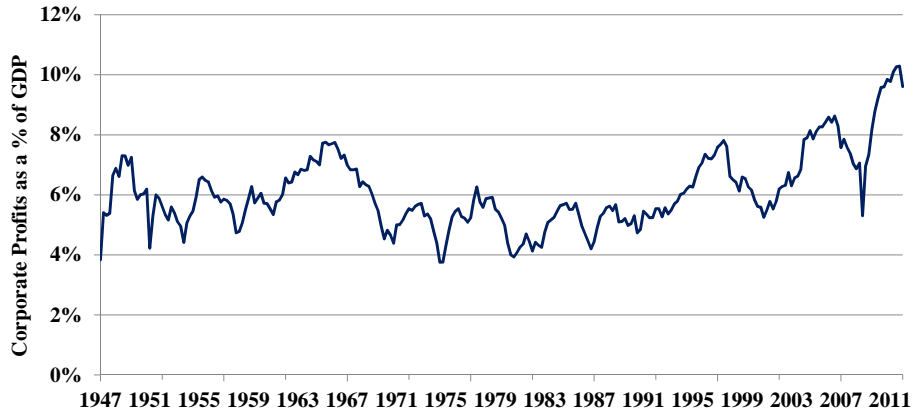
# Corporate Profits Plateau



Source: U.S. Department of Commerce, Bureau of Economic Analysis

IAC 9-6-12

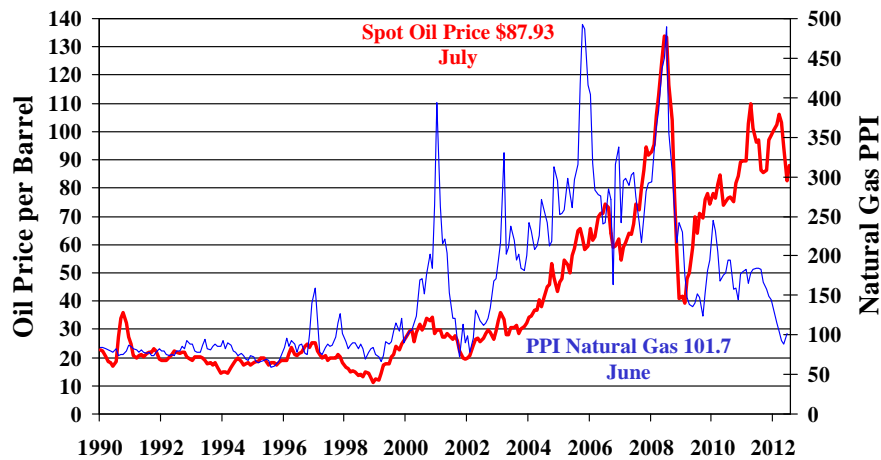
# U.S. Corporate Profits as a Percent of GDP



Source: U.S. Department of Commerce, Bureau of Economic Analysis

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# Natural Gas & Oil Prices Increasing

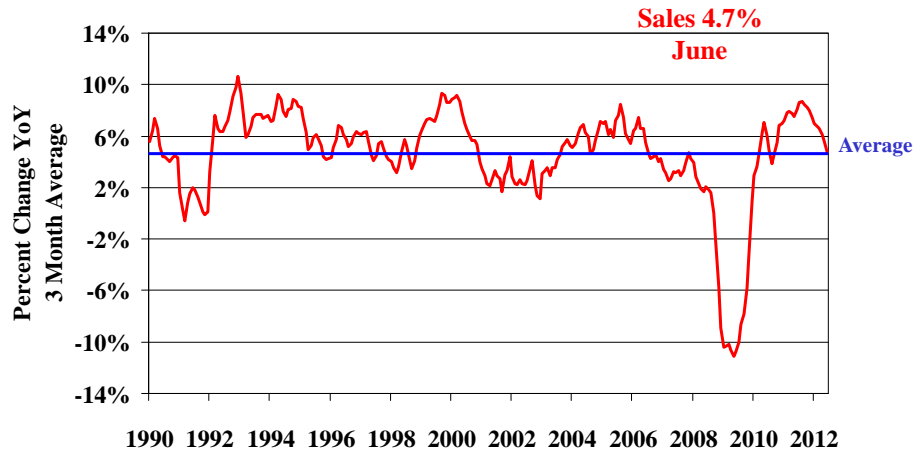


Sources: U.S. Department of Labor, Bureau of Labor Statistics, Federal Reserve Bank of St. Louis

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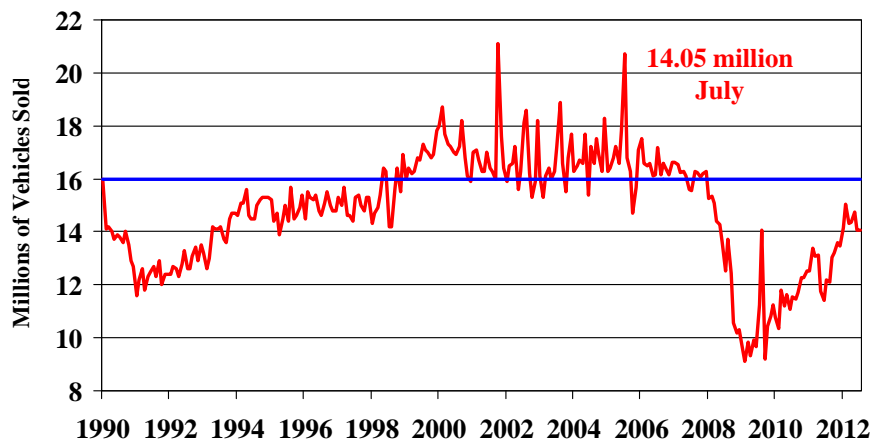
## Retail Sales Remain Weak



Source: U.S. Department of Commerce, Bureau of Economic Analysis

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## U.S. Light Vehicle Sales Contracting

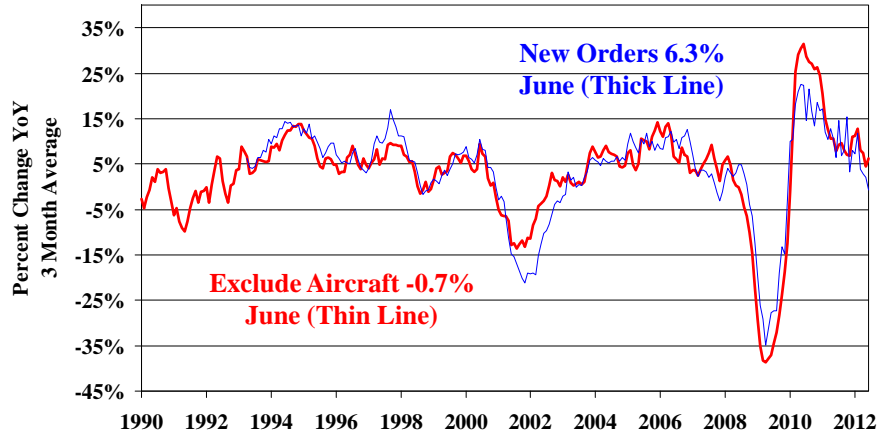


Source: U.S. Department of Commerce, Bureau of Economic Analysis, and Bloomberg

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# Capital Spending Decreasing

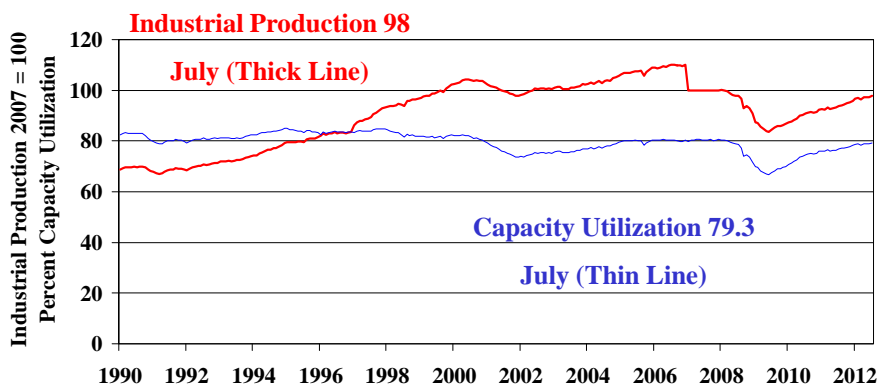
New Orders for Durable Goods (Excluding Aircraft and Defense)



Source: U.S. Department of Commerce, Bureau of Economic Analysis

IAC 9-6-12

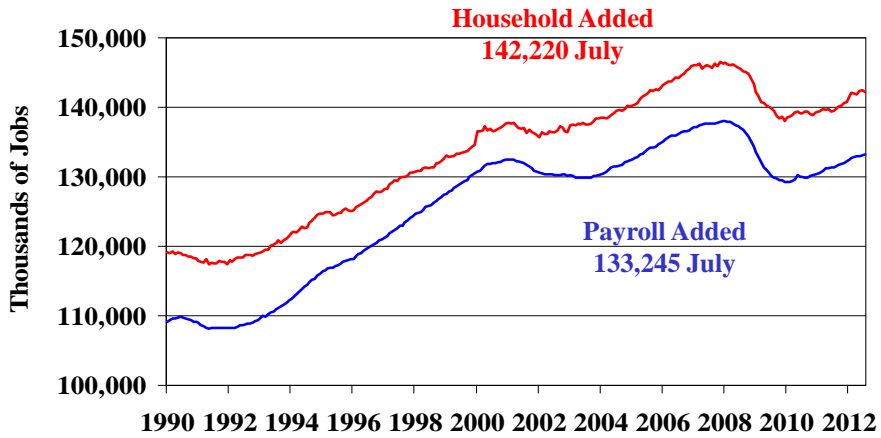
# Industrial Production and Capacity Utilization Increasing Slightly



Source: U.S. Federal Reserve Bank

IAC 9-6-12

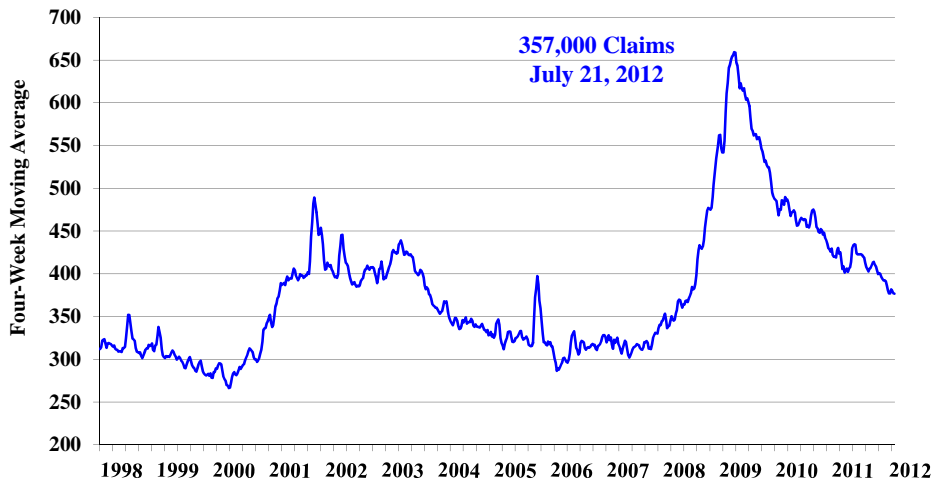
## Modest Job Market Growth



Source: U.S. Department of Labor, Bureau of Labor Statistics

IAC 9-6-12

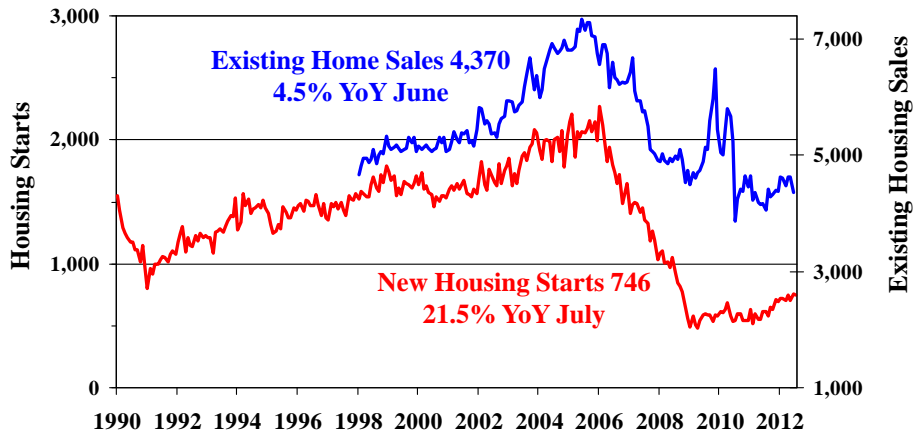
## Initial Unemployment Claims Still Trending Down



Source: U.S. Department of Labor, Employment and Training Administration

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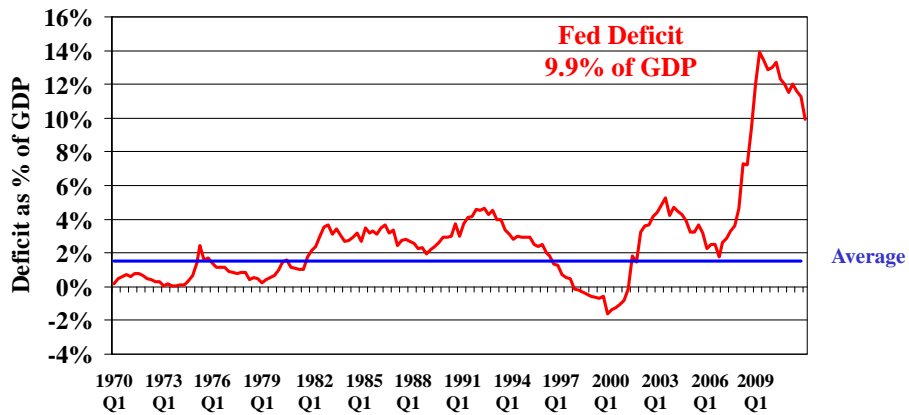
## Existing Home Sales and Housing Starts Remain Weak



Source: U.S. Department of Commerce, Bureau of Economic Analysis  
National Association of Realtors

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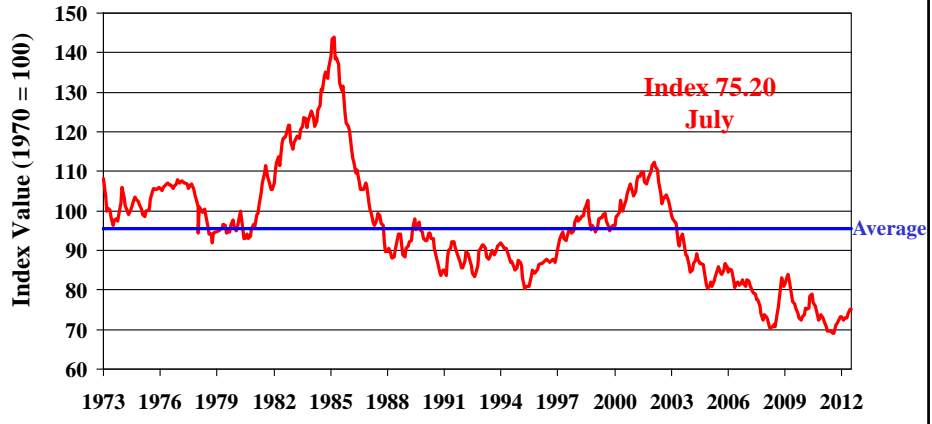
## Improvement in the Deficit



Source: U.S. Department of Commerce, Bureau of Economic Analysis

IAC 9-6-12

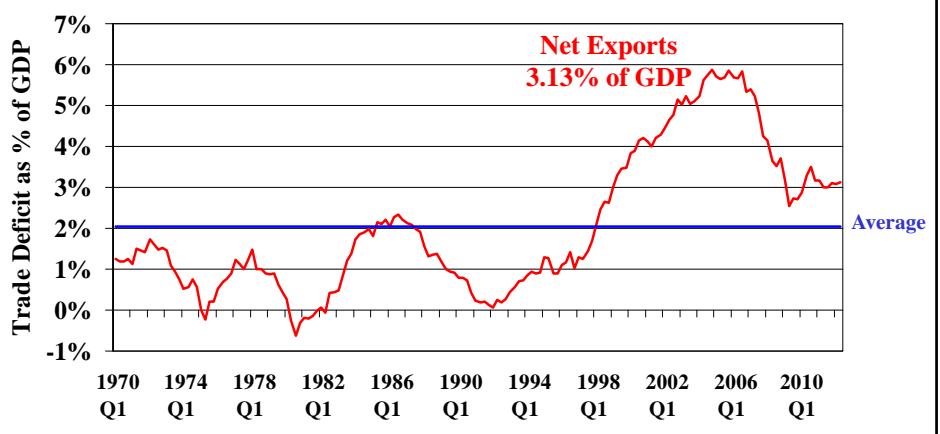
## Trade Weighted U.S. Dollar Strengthening



Source: Federal Reserve Board

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## U.S. Foreign Trade Deficit Decreasing



Source: U.S. Department of Commerce, Bureau of Economic Analysis

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# Consumers Remain Focused On Paying Off Debt

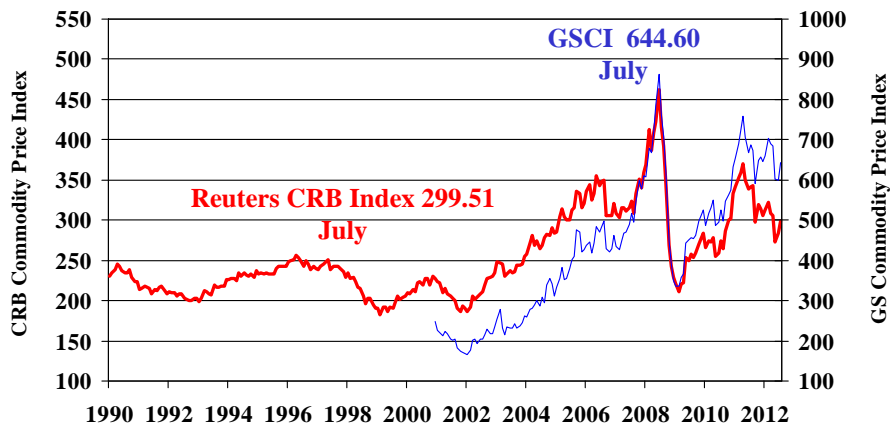
Financial Obligations as Percent of Disposable Income



Source: U.S. Department of Commerce, Bureau of Economic Analysis

IAC 9-6-12

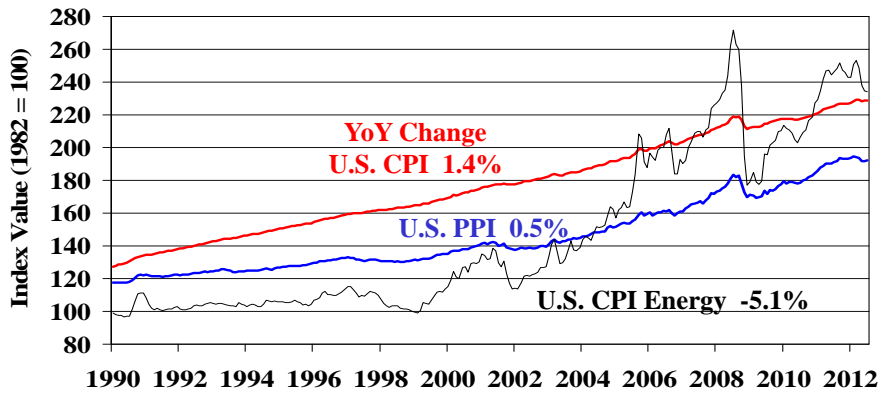
# Commodity & Energy Index Prices Increasing



Sources: Reuters, Goldman Sachs, Bloomberg

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## Consumer and Producer Prices Weakening

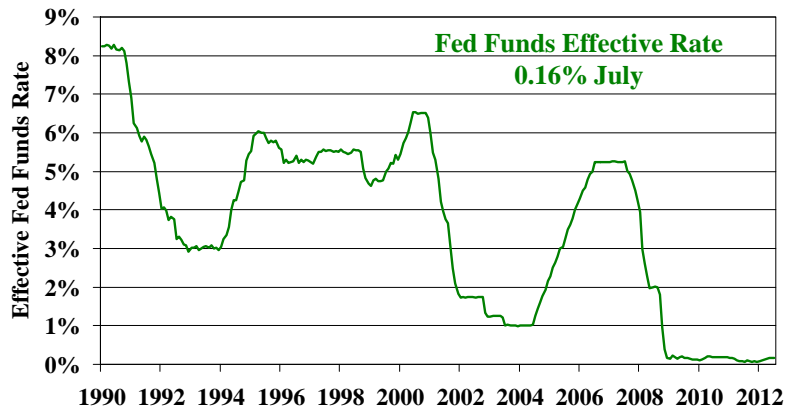


Note: Rates are year over year for latest month, seasonally adjusted.

Source: U.S. Department of Labor, Bureau of Labor Statistics

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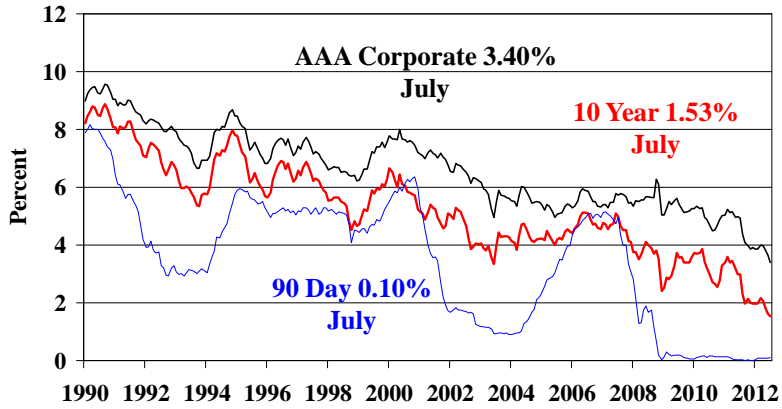
## Federal Open Market Committee Fed Funds Rate Slowly Increases



Source: Federal Reserve Board

IAC 9-6-12

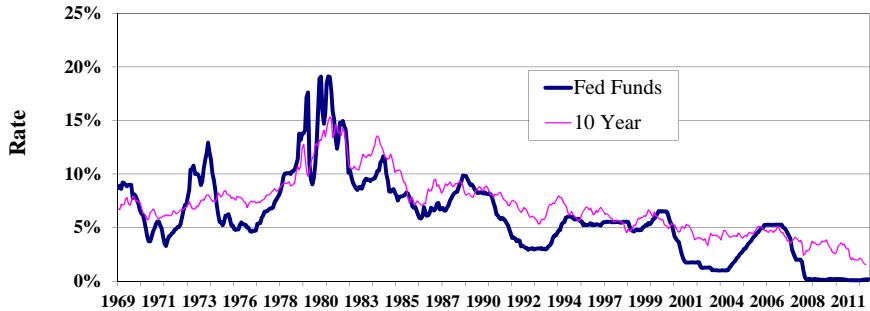
## Interest Rates Remain Low



Source: Federal Reserve Board

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## Interest Rates Remain Historically Low



Source: Federal Reserve Board, National Bureau of Economic Research

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## U.S. Economic Forecast Comparisons

<b><u>Real GDP Growth</u></b>	<b><u>2012</u></b>	<b><u>2013</u></b>
Univ. of Michigan	2.3%	2.4%
Blue Chip	2.2%	2.1%
Global Insight	2.0%	2.0%

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## Likelihood of 2012 Economic Outlook

### **2012-2013 Forecasts**

<b><u>Scenario</u></b>	<b><u>Aug</u></b>	<b><u>Nov</u></b>	<b><u>Feb</u></b>	<b><u>May</u></b>	<b><u>Aug</u></b>
Stronger Growth	10%	10%	10%	15%	15%
Moderate Growth	75%	75%	75%	75%	75%
Slowdown	15%	15%	15%	10%	10%

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## Upside Risks To the Forecast

- Continued job growth.
- Strengthening U.S. dollar.
  - Record low interest rates.
- Stronger export growth.
- Clarity in economic policies.

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## Downside Risks To the Forecast

- A credit market event.
- Global GDP contraction.
- Shock to economy from geopolitical events.
  - Conflict between Iran and United States.
- Eurozone recession.
  - Greece exit from Eurozone.

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# Economic and Market Outlook

August 2012

<b><u>Economic</u></b>	<b><u>2011</u></b>	<b>Forecast</b>	
		<b><u>2012</u></b>	<b><u>2013</u></b>
Real GDP	1.7%	2.0%	2.0%
Retail Sales	6.5%	3.5%	4.0%
Auto Sales (millions)	12.7	14.2	14.8
Housing Starts (millions)	612 4.6%	765 25.0%	943 23.3%
Corporate Profits	5.1%	9.4%	11.3%
Durable Goods	8.2%	7.7%	4.8%
Unemployment Rate	9.0%	8.1%	8.0%
<b><u>Prices</u></b>			
CPI	3.1%	1.7%	1.3%
PPI	6.0%	0.6%	0.3%
Oil (Refiner Acq. Cost, Composite, \$/bbl)	\$101.80 32.7%	\$96.01 -5.7%	\$88.56 -7.8%
Employment Cost Index	2.2%	1.9%	2.1%
Value of U.S. Dollar (FRB)	-4.6%	2.9%	-1.1%
<b><u>Interest Rates</u></b>			
Federal Funds Rate	0.10%	0.14%	0.16%
3-Month T-Bills	0.05%	0.08%	0.09%
10 Year T-Bonds	2.79%	1.83%	2.22%
<b><u>Equity Markets</u></b>			
S&P 500 (Year End)	1,325	1,450	1,550
Change	5.4%	9.4%	6.9%
Operating EPS (Year End)	\$96.44	\$101.50	\$115.00
Change	26.2%	5.2%	13.3%
Multiple on Fair Value	13.7 X	14.3 X	13.5 X
Dividend (Year End)	\$26.43	\$28.10	\$30.00
Change	8.7%	6.3%	6.8%
As a % of Earnings	27.4%	27.7%	26.1%
Yield	1.99%	1.94%	1.94%

Source: Economic Data and Interest Rates - Global Insight

Value of U.S. Dollar (FRB) - RSQE/University of Michigan

S&P 500: Historical One-Year Standard Deviation equals 22%.

# Economic and Market Balance Sheet

Based on Current Economic Conditions

August 2012

<b>Assets</b>	<b>Liabilities</b>
<ul style="list-style-type: none"><li>• Easy Monetary Policy</li><li>• Rising Productivity</li><li>• Strong Corporate Balance Sheets</li><li>• GDP Growth</li><li>• U.S. Energy Production</li></ul>	<ul style="list-style-type: none"><li>• High Unemployment</li><li>• Weak Housing Market</li><li>• Geopolitical Turmoil</li><li>• Sovereign Credit Default Concerns <b>Euro Crisis</b></li><li>• Federal Budget Deficit <b>Government Debt Worries</b></li><li>• Stress on State and Local Governments' Budgets</li></ul>

**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**ACTIVE DOMESTIC EQUITY  
REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**SEPTEMBER 6, 2012**



**Jack A. Behar, CFA, Administrator  
Stock Analysis Division**



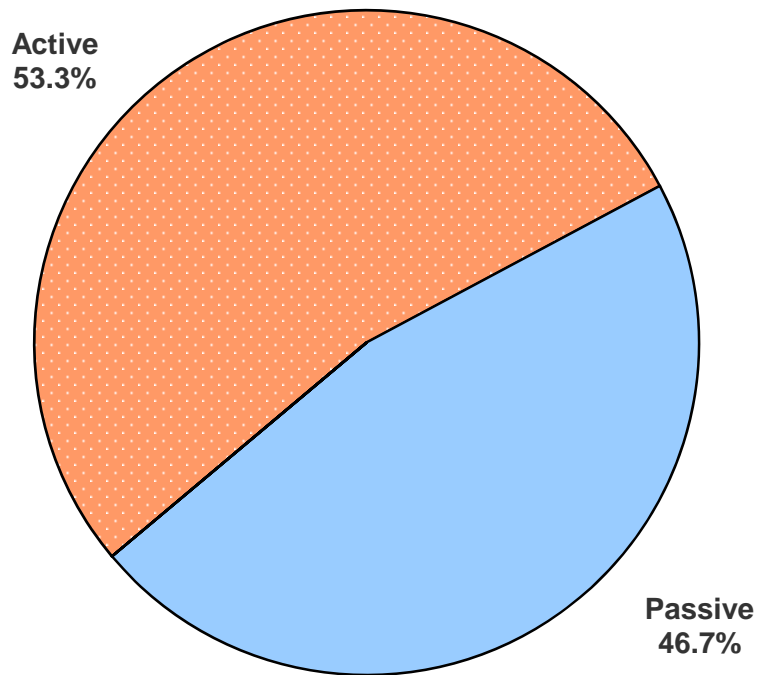
## EXECUTIVE SUMMARY

- Despite significant risks to the economic environment, equity markets continue to look reasonably priced, with the S&P 500 poised to return an estimated 9.2% over the long-term versus 30-year Treasuries at 2.8%.
  - S&P 500 expected return composed of a 4.2% normalized dividend yield (including stock buybacks) and 5.0% long-term earnings growth.
- Within equities, large-cap stocks look attractive relative to small and mid-caps, particularly on a risk-adjusted basis.
  - Trailing twelve month PE for S&P 500 of 14.5X versus S&P 600 at 20X.
    - Trailing twelve month dividend yield for S&P 500 (including buybacks) of 4.2% versus S&P 600 at 2.3%.
  - S&P 500 companies less exposed to second-order effects from a systemic shock than are S&P 600 companies.
- Defensive equities useful in today's volatile, low bond yield environment.
  - Healthy dividend yields, growth potential.
    - Less volatility than long-term treasuries.
    - Similar risk profile as high yield bonds.
    - Similar long-term expected return as the S&P 500, less downside risk.
- Composite internal portfolios have a lower aggregate PE than the S&P 500, greater earnings growth projections and similar exposure to systemic risk.



# SMRS

## Domestic Equity Holdings By Category 6/30/12



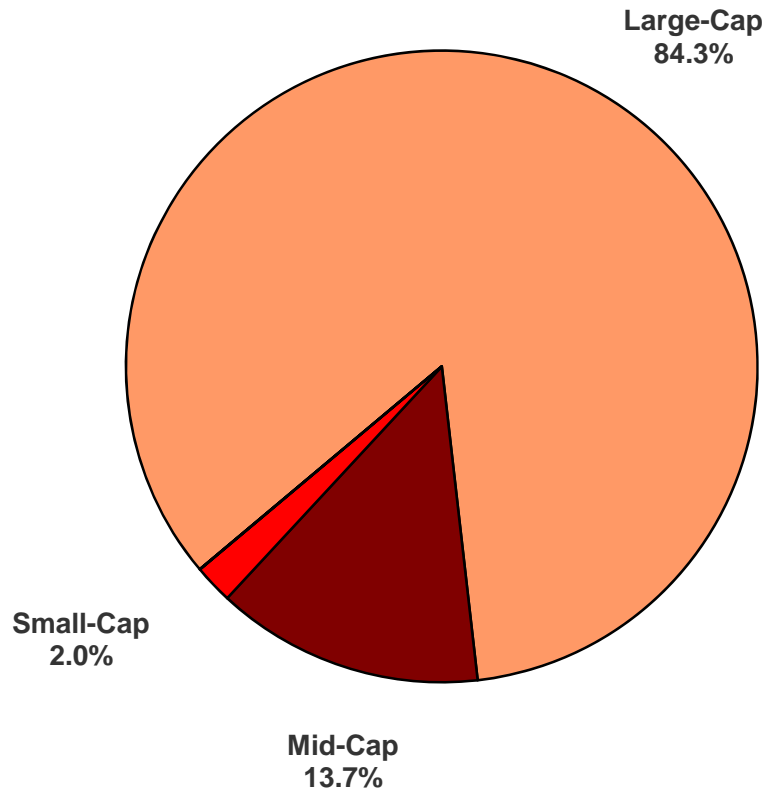
Market Value in Millions				
	<u>6/30/2012</u>		<u>3/31/2012</u>	
Active	\$7,384	53.3%	\$7,769	53.8%
Passive	<u>6,464</u>	<u>46.7%</u>	<u>6,666</u>	<u>46.2%</u>
<b>Total Domestic Equity</b>	<b>\$13,848</b>	<b>100.0%</b>	<b>\$14,435</b>	<b>100.0%</b>





# SMRS

## Domestic Equity Holdings By Market Cap 6/30/12



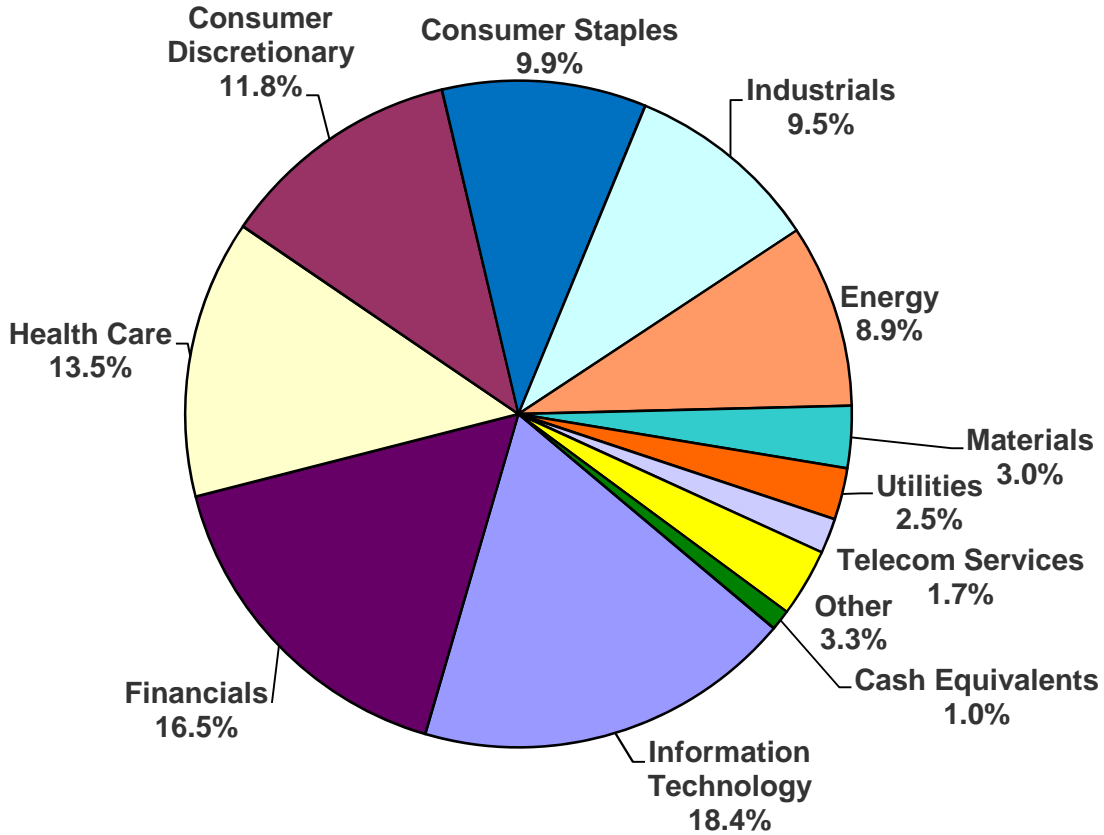
Market Value in Millions			
	<u>6/30/2012</u>		<u>S&amp;P 1500</u>
Large-Cap (>\$7B)	\$11,674	84.3%	84.8%
Mid-Cap (>\$2 <\$7B)	1,897	13.7%	10.8%
Small-Cap (<\$2B)	277	2.0%	4.4%
<b>Total Domestic Equity</b>	<b>\$13,848</b>	<b>100.0%</b>	<b>100.0%</b>



# SMRS

## All Domestic Equity Holdings By Category

6/30/2012



	Market Value in Millions			
	6/30/2012		3/31/2012	
Information Technology	\$2,552	18.4%	\$2,764	19.2%
Financials	2,280	16.5%	2,437	16.9%
Health Care	1,867	13.5%	1,938	13.4%
Consumer Discretionary	1,634	11.8%	1,620	11.2%
Consumer Staples	1,371	9.9%	1,369	9.5%
Industrials	1,317	9.5%	1,414	9.8%
Energy	1,235	8.9%	1,318	9.1%
Materials	416	3.0%	424	3.0%
Utilities	346	2.5%	333	2.3%
Telecom Services	236	1.7%	215	1.5%
Other	455	3.3%	468	3.2%
Total Investments	\$13,709	99.0%	\$14,300	99.1%
Cash Equivalents	140	1.0%	135	0.9%
<b>Total</b>	<b>\$13,849</b>	<b>100.0%</b>	<b>\$14,435</b>	<b>100.0%</b>

## ALL DOMESTIC EQUITIES COMPOSITE

<b>Date:</b>	<u>6/30/2012</u>	<u>3/31/2012</u>	<u>12/31/2011</u>	<u>9/30/2011</u>
Assets (\$million):	\$13,848	\$14,435	\$14,583	\$13,446
Number of Securities:	1,617	1,388	1,399	1,402
Benchmark:	S&P 1500			
Description:	The Domestic Equities Composite combines both the SMRS' All Actively Managed Composite and its index funds.			

<b>Characteristics:</b>	<u>SMRS</u>	<u>S&amp;P 1500</u>
Weighted Average Capitalization (\$billion):	\$88.4	\$97.7
Trailing 12-month P/E:	14.0x	14.7x
Forecast P/E:	12.7x	13.3x
Price/Book:	1.9x	2.0x
Beta:	0.99	0.99
Dividend Yield:	2.0%	2.1%
3-5 Year EPS Growth Estimate:	11.3%	11.2%
Return on Equity:	19.5%	19.8%

### TOP TEN HOLDINGS - All Domestic Equities 6/30/2012

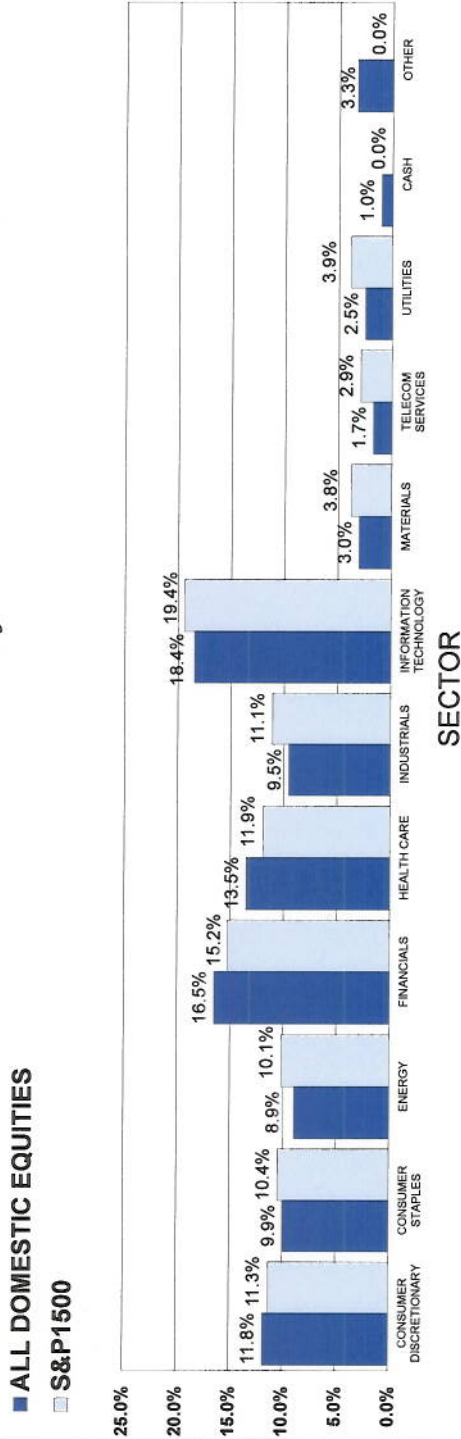
	<u>Portfolio Weight</u>	<u>Total Shares</u>	<u>Price</u>	<u>YTD12 Total Return</u>	<u>Market Value</u>
Apple Inc.	3.89%	921,455	\$584.00	44.20%	538,129,720
Johnson & Johnson	1.77%	3,632,017	\$67.56	4.93%	245,379,069
Exxon Mobil Corp.	1.64%	2,648,991	\$85.57	2.21%	226,674,160
Google Inc. Cl A	1.55%	370,151	\$580.07	-10.19%	214,713,491
SPDR S&P 500 ETF	1.53%	1,552,745	\$136.11	9.48%	211,336,358
Microsoft Corp.	1.42%	6,444,959	\$30.59	19.40%	197,151,296
Abbott Laboratories	1.29%	2,766,808	\$64.47	16.64%	178,376,112
Merck & Co. Inc.	1.25%	4,141,359	\$41.75	13.18%	172,901,738
PepsiCo Inc.	1.23%	2,404,414	\$70.66	8.21%	169,895,893
Chevron Corp.	<u>1.22%</u>	1,596,567	\$105.50	0.82%	<u>168,437,819</u>
<b>TOTAL</b>	<u>16.77%</u>				<u>\$2,322,995,655</u>

06/30/12  
 \$13,848.52  
 (\$ MILLION)

06/30/11  
 \$17,970.69  
 (\$ MILLION)

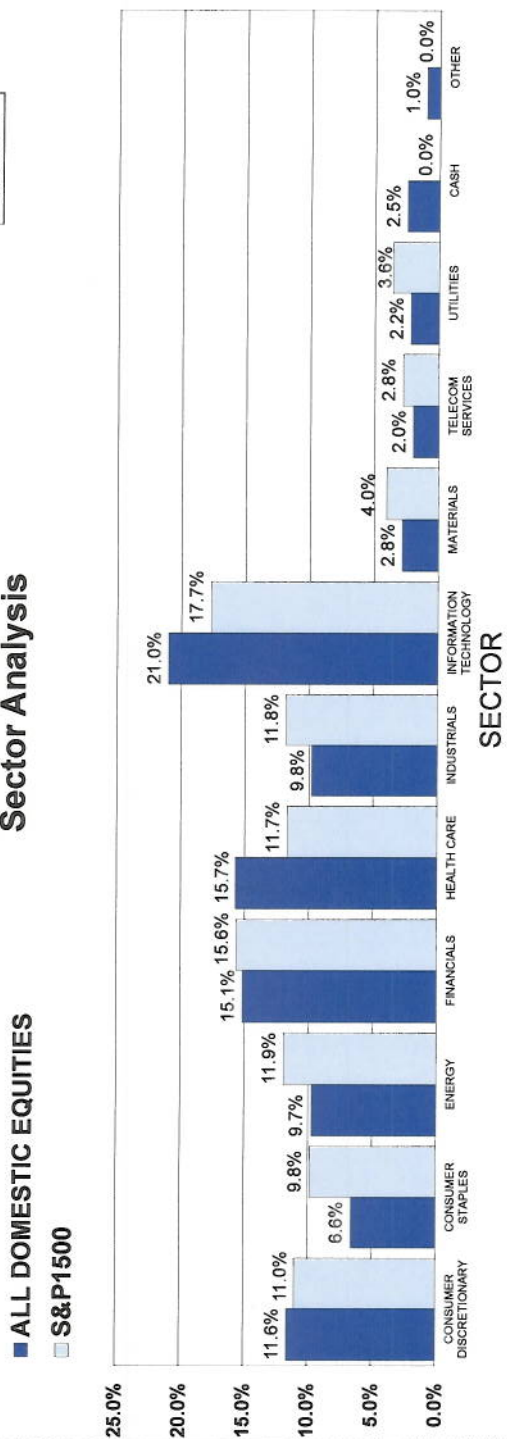
**SMRS**  
**All Domestic Equities Composite**  
**Sector Analysis**

6/30/12



**SMRS**  
**All Domestic Equities Composite**  
**Sector Analysis**

6/30/11

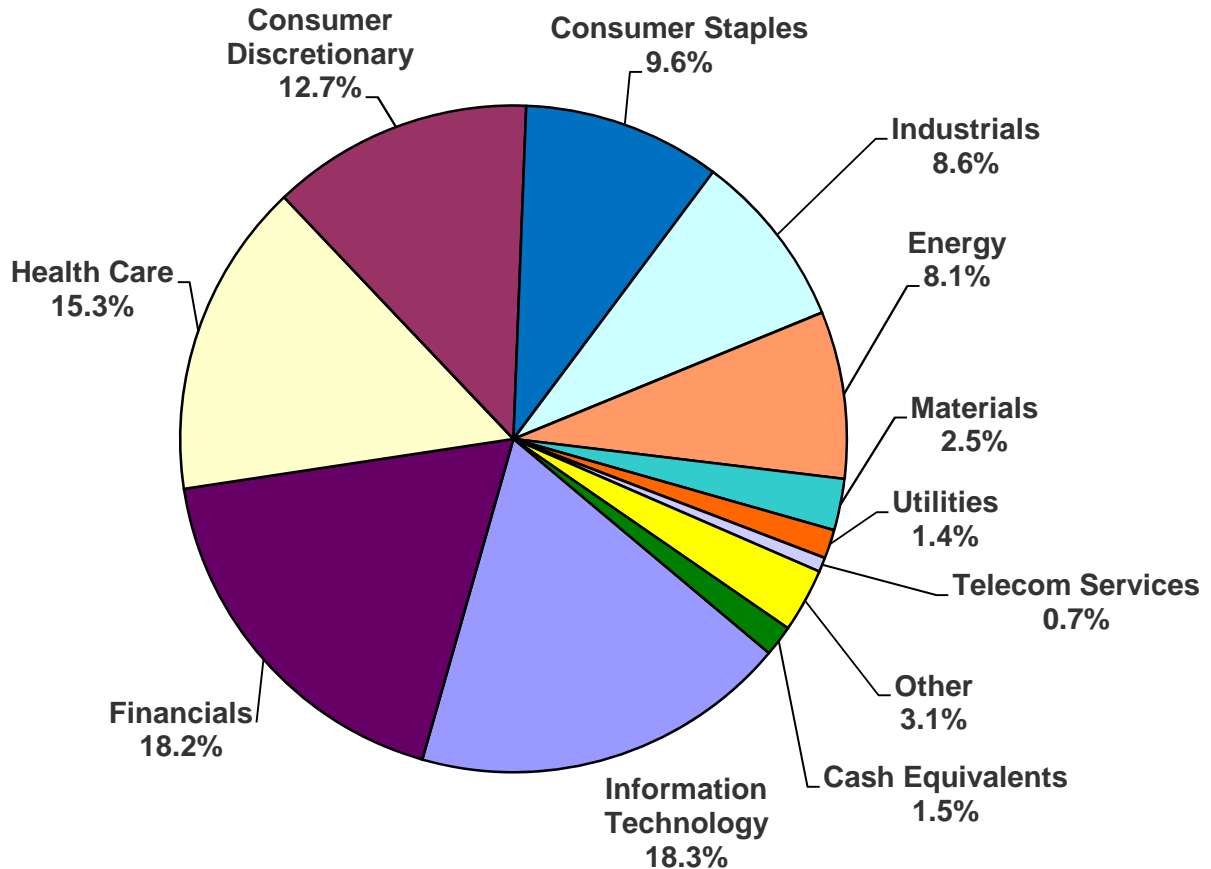




# SMRS

## All Active Domestic Equity Holdings By Category

6/30/2012



	Market Value in Millions			
	6/30/2012		3/31/2012	
Information Technology	\$1,351	18.3%	\$1,467	18.9%
Financials	1,341	18.2%	1,441	18.5%
Health Care	1,130	15.3%	1,220	15.7%
Consumer Discretionary	940	12.7%	903	11.6%
Consumer Staples	708	9.6%	718	9.3%
Industrials	634	8.6%	692	8.9%
Energy	595	8.1%	621	8.0%
Materials	184	2.5%	180	2.3%
Utilities	106	1.4%	101	1.3%
Telecom Services	52	0.7%	48	0.6%
Other	232	3.1%	221	2.9%
Total Investments	\$7,273	98.5%	\$7,612	98.0%
Cash Equivalents	111	1.5%	157	2.0%
<b>Total</b>	<b>\$7,384</b>	<b>100.0%</b>	<b>\$7,769</b>	<b>100.0%</b>

<b>ALL ACTIVELY MANAGED COMPOSITE</b>
---------------------------------------

<b>Date:</b>	<b><u>6/30/2012</u></b>	<b><u>3/31/2012</u></b>	<b><u>12/31/2011</u></b>	<b><u>9/30/2011</u></b>
Assets (\$million):	\$7,384	\$7,769	\$8,660	\$8,110
Number of Securities:	1,484	1,069	1,052	1,059

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.

<b>Characteristics:</b>	<b><u>SMRS</u></b>	<b><u>S&amp;P 1500</u></b>
Weighted Average Capitalization (\$billion):	\$78.0	\$97.7
Trailing 12-month P/E:	13.7x	14.7x
Forecast P/E:	12.2x	13.3x
Price/Book:	1.8x	2.0x
Beta:	0.99	0.99
Dividend Yield:	1.9%	2.1%
3-5 Year EPS Growth Estimate:	11.5%	11.2%
Return on Equity:	19.5%	19.8%

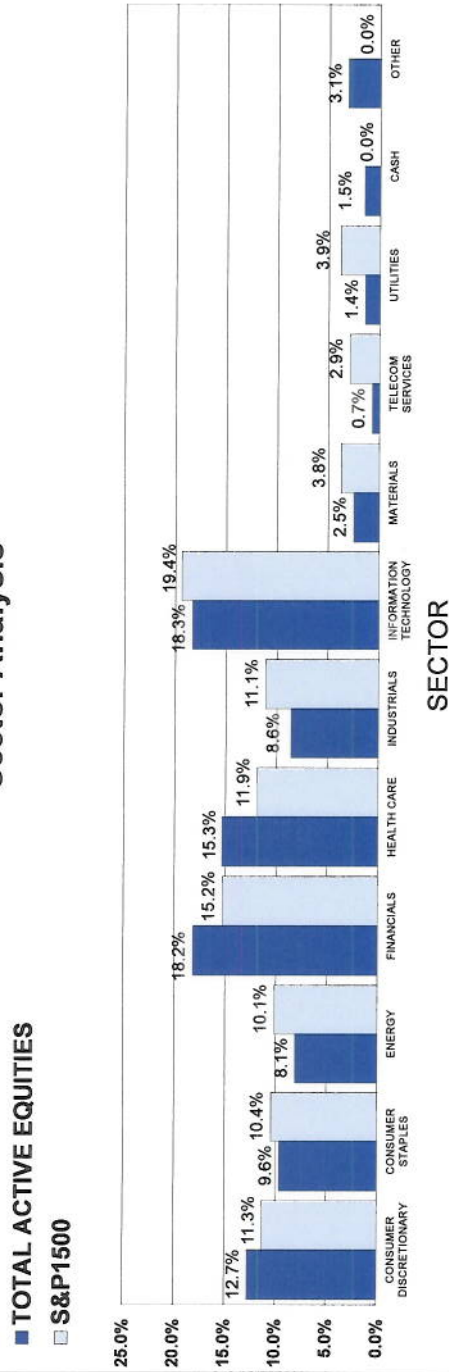
**TOP TEN HOLDINGS - All Actively Managed  
6/30/2012**

	<b><u>Portfolio Weight</u></b>	<b><u>Total Shares</u></b>	<b><u>Price</u></b>	<b><u>YTD12 Total Return</u></b>	<b><u>Market Value</u></b>
Apple Inc.	3.92%	495,158	\$584.00	44.20%	\$289,172,272
Johnson & Johnson	2.18%	2,380,071	\$67.56	4.93%	\$160,797,597
Google Inc. Cl A	2.00%	254,247	\$580.07	-10.19%	\$147,481,057
Abbott Laboratories	1.79%	2,049,583	\$64.47	16.64%	\$132,136,616
PepsiCo Inc.	1.62%	1,691,445	\$70.66	8.21%	\$119,517,504
Amgen Inc.	1.61%	1,629,160	\$72.91	14.73%	\$118,782,056
Merck & Co. Inc.	1.56%	2,754,820	\$41.75	13.18%	\$115,013,735
Microsoft Corp.	1.26%	3,036,528	\$30.59	19.40%	\$92,887,392
Goldman Sachs Group Inc.	1.18%	908,782	\$95.86	6.82%	\$87,115,843
Coca-Cola Co.	<u>1.10%</u>	1,041,103	\$78.19	13.33%	<u>\$81,403,844</u>
<b>TOTAL</b>	<b><u>18.21%</u></b>				<b><u>\$1,344,307,914</u></b>

\$7,383.92  
(\$ MILLION)

**SMRS**  
**Total Active Equities Composite**  
**Sector Analysis**

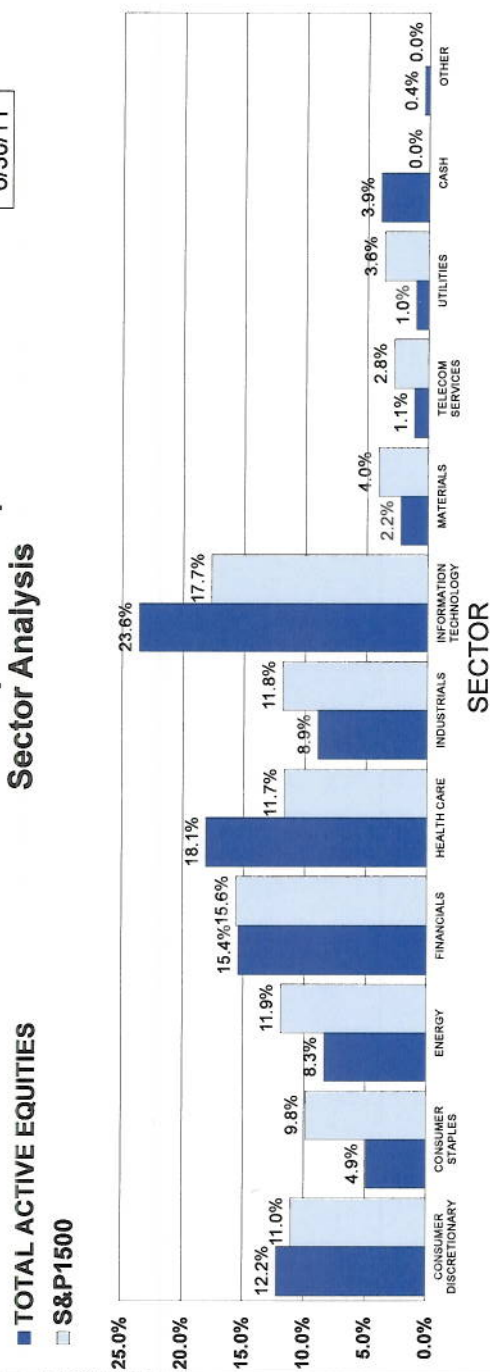
6/30/12



\$11,862.52  
(\$ MILLION)

**SMRS**  
**Total Active Equities Composite**  
**Sector Analysis**

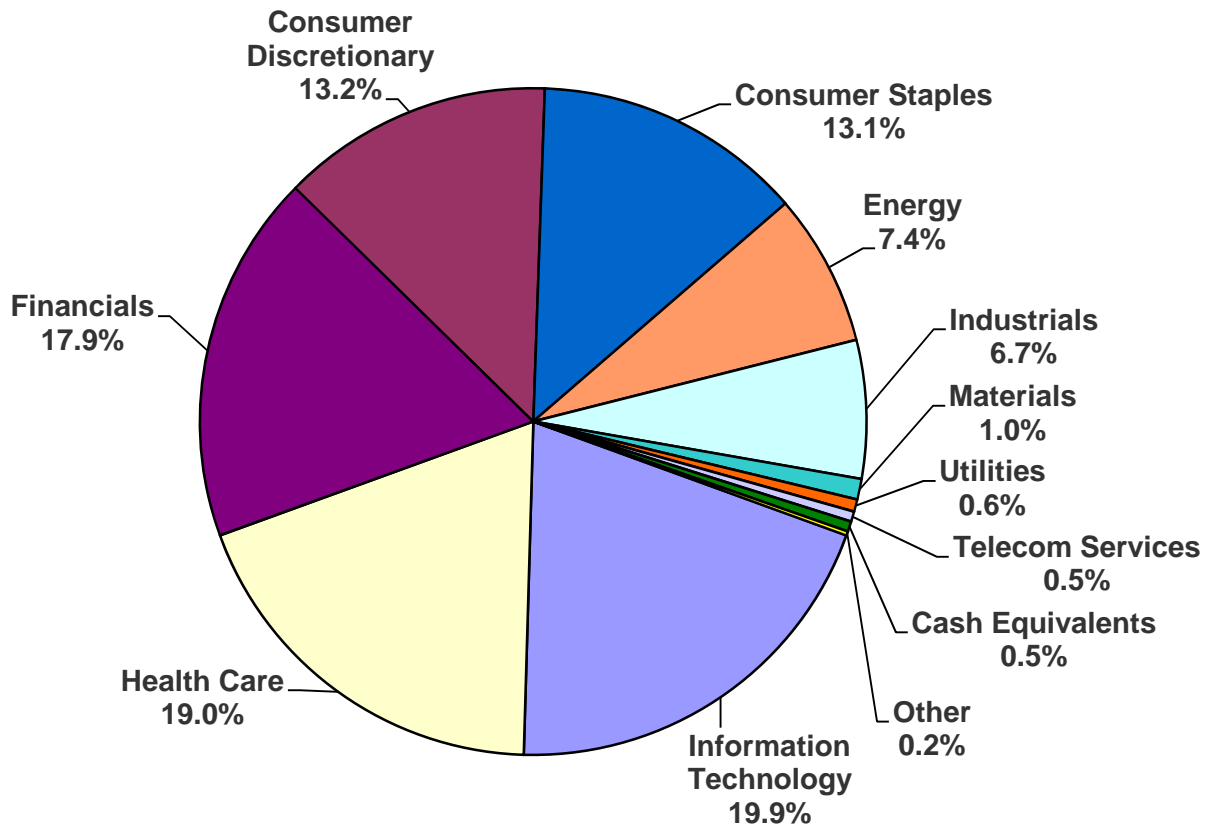
6/30/11





# SMRS

## Domestic Active Equity - Large-Cap All Internal Domestic Equity Holdings By Category 6/30/12



	Market Value in Millions			
	6/30/2012		3/31/2012	
Information Technology	\$803	19.9%	\$870	21.1%
Health Care	766	19.0%	794	19.2%
Financials	720	17.9%	586	14.2%
Consumer Discretionary	532	13.2%	500	12.1%
Consumer Staples	527	13.1%	505	12.2%
Energy	298	7.4%	276	6.7%
Industrials	268	6.7%	276	6.7%
Materials	42	1.0%	35	0.9%
Utilities	25	0.6%	13	0.3%
Telecom Services	19	0.5%	25	0.6%
Other	7	0.2%	58	1.4%
Total Investments	\$4,007	99.5%	\$3,938	95.4%
Cash Equivalents	18	0.5%	191	4.6%
<b>Total</b>	<b>\$4,025</b>	<b>100.0%</b>	<b>\$4,129</b>	<b>100.0%</b>



<b>SMRS LARGE-CAP INTERNAL ACTIVE COMPOSITE</b>
---

<b>Date:</b>	<u>6/30/2012</u>	<u>3/31/2012</u>	<u>12/31/2011</u>	<u>9/30/2011</u>
Assets (\$million):	\$4,025	\$4,129	\$4,569	\$4,467
Number of Securities:	162	157	92	90
Benchmark:	S&P 500			
Description:	The Large-Cap Internal Active portfolio represents a composite of the division's internally managed active portfolios. This currently includes Large-Cap Core, Large-Cap Growth, Large-Cap Value, All-Cap GARP, and the Absolute Return Income Fund.			

<b>Characteristics:</b>	<u>SMRS</u>	<u>S&amp;P 500</u>
Weighted Average Capitalization (\$billion):	\$106.5	\$110.0
Trailing 12-month P/E:	14.1x	14.4x
Forecast P/E:	12.4x	13.1x
Price/Book:	1.9x	2.1x
Beta:	0.94	0.99
Dividend Yield:	2.0%	2.2%
3-5 Year EPS Growth Estimate:	11.0%	10.9%
Return on Equity:	22.8%	20.8%

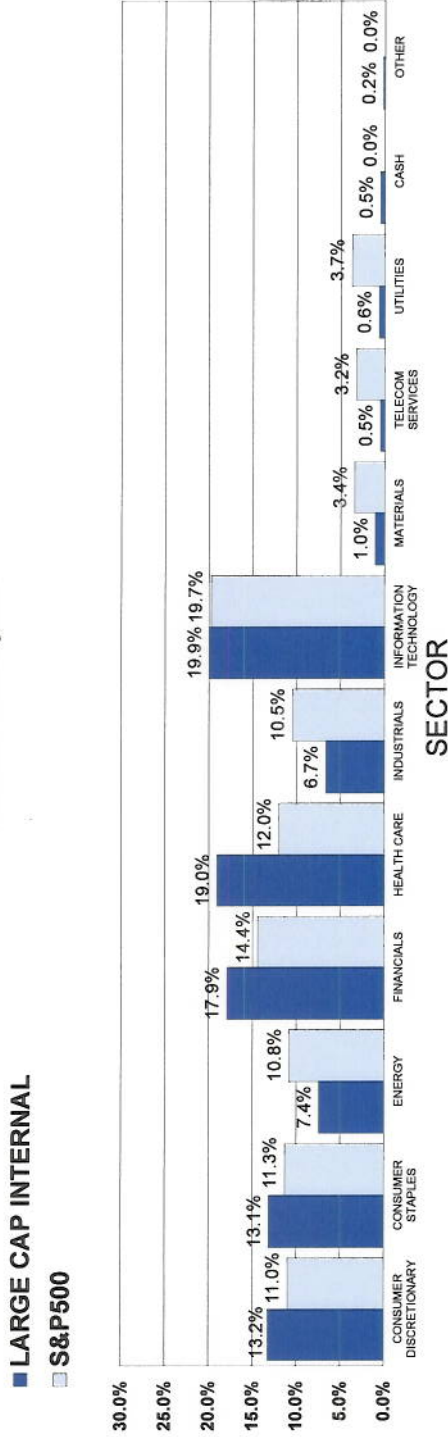
**TOP TEN HOLDINGS - Large-Cap Internal Active  
6/30/2012**

	<u>Portfolio Weight</u>	<u>Total Shares</u>	<u>6/30/2012 Price</u>	<u>YTD12 Total Return</u>	<u>Market Value</u>
Apple Inc.	6.25%	431,106	\$584.00	44.20%	\$251,765,904
Johnson & Johnson	3.69%	2,199,413	\$67.56	4.93%	\$148,592,342
Google Inc. Cl A	3.13%	217,049	\$580.07	-10.19%	\$125,903,613
Abbott Laboratories	2.72%	1,698,595	\$64.47	16.64%	\$109,508,420
PepsiCo Inc.	2.64%	1,501,815	\$70.66	8.21%	\$106,118,248
Amgen Inc.	2.59%	1,430,411	\$72.91	14.73%	\$104,291,266
Merck & Co. Inc.	2.39%	2,305,643	\$41.75	13.18%	\$96,260,595
Roche Holding AG ADS	1.98%	1,841,923	\$43.22	5.18%	\$79,607,912
Coca-Cola Co.	1.96%	1,009,000	\$78.19	13.33%	\$78,893,710
Kellogg Co.	<u>1.92%</u>	1,569,308	\$49.33	-0.79%	<u>\$77,413,964</u>
<b>TOTAL</b>	<u>29.27%</u>				<u>\$1,178,355,974</u>

06/30/12  
 \$4,025.25  
 (\$ MILLION)

**SMRS**  
**Large Cap Internal Composite**  
**Sector Analysis**

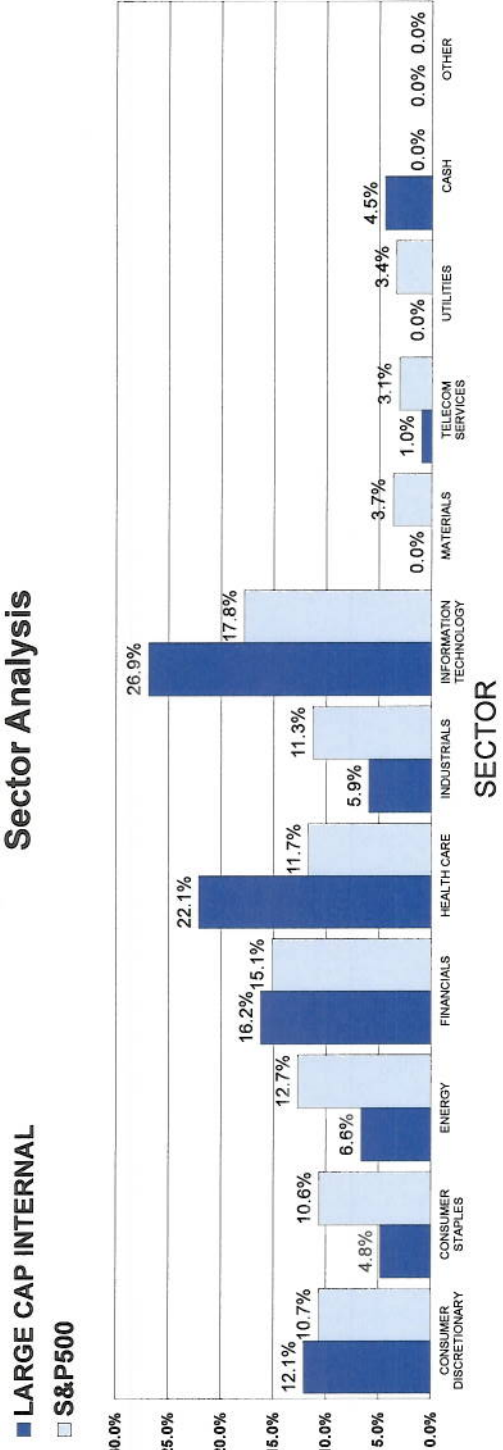
6/30/12



06/30/11  
 \$7,237.85  
 (\$ MILLION)

**SMRS**  
**Large Cap Internal Composite**  
**Sector Analysis**

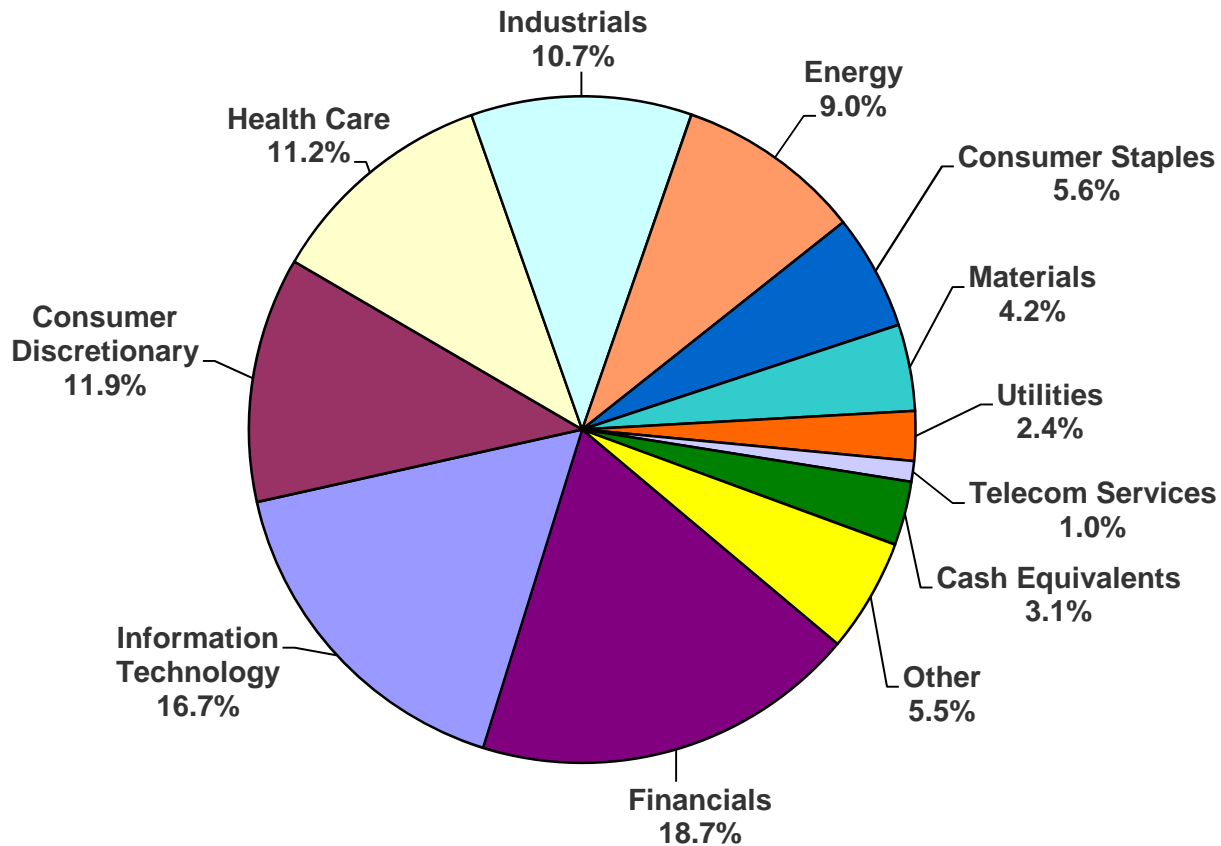
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# SMRS

## Domestic Active Equity - Large-Cap All External Domestic Equity Holdings By Category 6/30/12



	Market Value in Millions			
	6/30/2012		3/31/2012	
Financials	\$627	18.7%	N/A	N/A
Information Technology	560	16.7%	N/A	N/A
Consumer Discretionary	399	11.9%	N/A	N/A
Health Care	375	11.2%	N/A	N/A
Industrials	361	10.7%	N/A	N/A
Energy	301	9.0%	N/A	N/A
Consumer Staples	189	5.6%	N/A	N/A
Materials	142	4.2%	N/A	N/A
Utilities	81	2.4%	N/A	N/A
Telecom Services	33	1.0%	N/A	N/A
Other	186	5.5%	N/A	N/A
Total Investments	\$3,254	96.9%	\$0	0.0%
Cash Equivalents	105	3.1%	N/A	N/A
<b>Total</b>	<b>\$3,359</b>	<b>100.0%</b>	<b>\$0</b>	<b>0.0%</b>

<b>SMRS ALL CAP EXTERNAL ACTIVE COMPOSITE</b>
---

**Date:** 6/30/2012

Assets (\$million): \$3,359

Number of Securities: 1,443

Benchmark: S&P 1500

Description: The All-Cap External Active portfolio represents a composite of the division's externally managed active portfolios across the market capitalization spectrum.

<b>Characteristics:</b>	<b><u>SMRS</u></b>	<b><u>S&amp;P 1500</u></b>
Weighted Average Capitalization (\$billion):	\$45.2	\$97.7
Trailing 12-month P/E:	13.6x	14.7x
Forecast P/E:	12.1x	13.3x
Price/Book:	1.7x	2.0x
Beta:	1.08	0.99
Dividend Yield:	1.8%	2.1%
3-5 Year EPS Growth Estimate:	12.1%	11.2%
Return on Equity:	15.7%	19.8%

**TOP TEN HOLDINGS - All-Cap External Active  
6/30/2012**

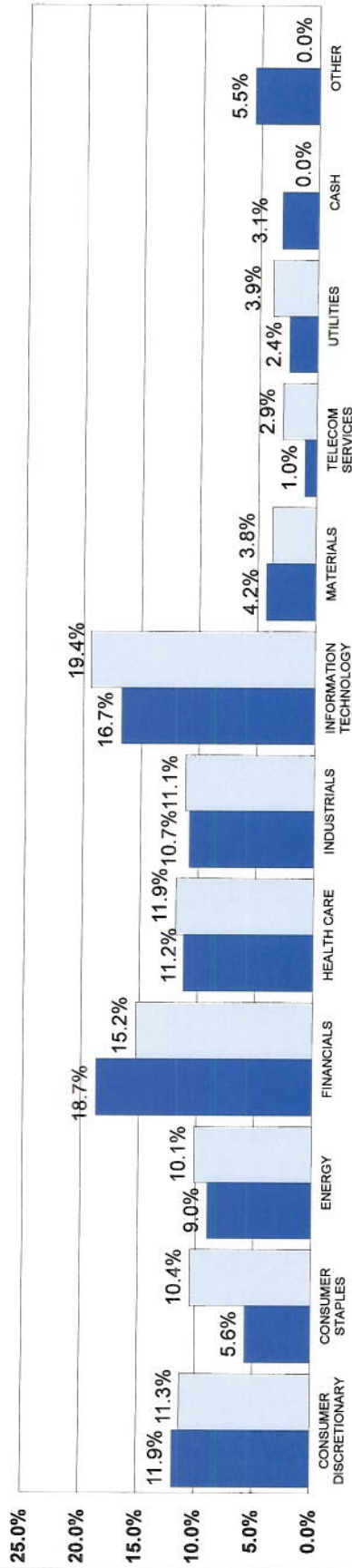
	<b><u>Portfolio Weight</u></b>	<b><u>Total Shares</u></b>	<b><u>6/30/2012 Price</u></b>	<b><u>YTD12 Total Return</u></b>	<b><u>Market Value</u></b>
Microsoft Corp.	1.14%	1,250,528	\$30.59	19.40%	\$38,253,652
Exxon Mobil Corp.	1.13%	444,155	\$85.57	2.21%	\$38,006,343
Apple Inc.	1.11%	64,052	\$584.00	44.20%	\$37,406,368
Pfizer Inc.	1.10%	1,605,518	\$23.00	8.43%	\$36,926,914
JPMorgan Chase & Co.	0.92%	867,311	\$35.73	8.94%	\$30,989,022
Wells Fargo & Co.	0.77%	769,691	\$33.44	22.99%	\$25,738,467
Cisco Systems Inc.	0.73%	1,429,797	\$17.17	-4.36%	\$24,549,614
Visa Inc.	0.71%	193,562	\$123.63	22.23%	\$23,930,070
Oracle Corp.	0.71%	799,721	\$29.70	16.29%	\$23,751,714
Chevron Corp.	<u>0.69%</u>	219,320	\$105.50	0.82%	<u>\$23,138,260</u>
<b>TOTAL</b>	<b><u>9.01%</u></b>				<b><u>\$302,690,424</u></b>

06/30/12  
 \$3,358.67  
 (\$ MILLION)

**SMRS**  
**All Cap External Composite**  
**Sector Analysis**

6/30/12

■ TOTAL EXTERNAL EQUITIES  
 ■ S&P1500

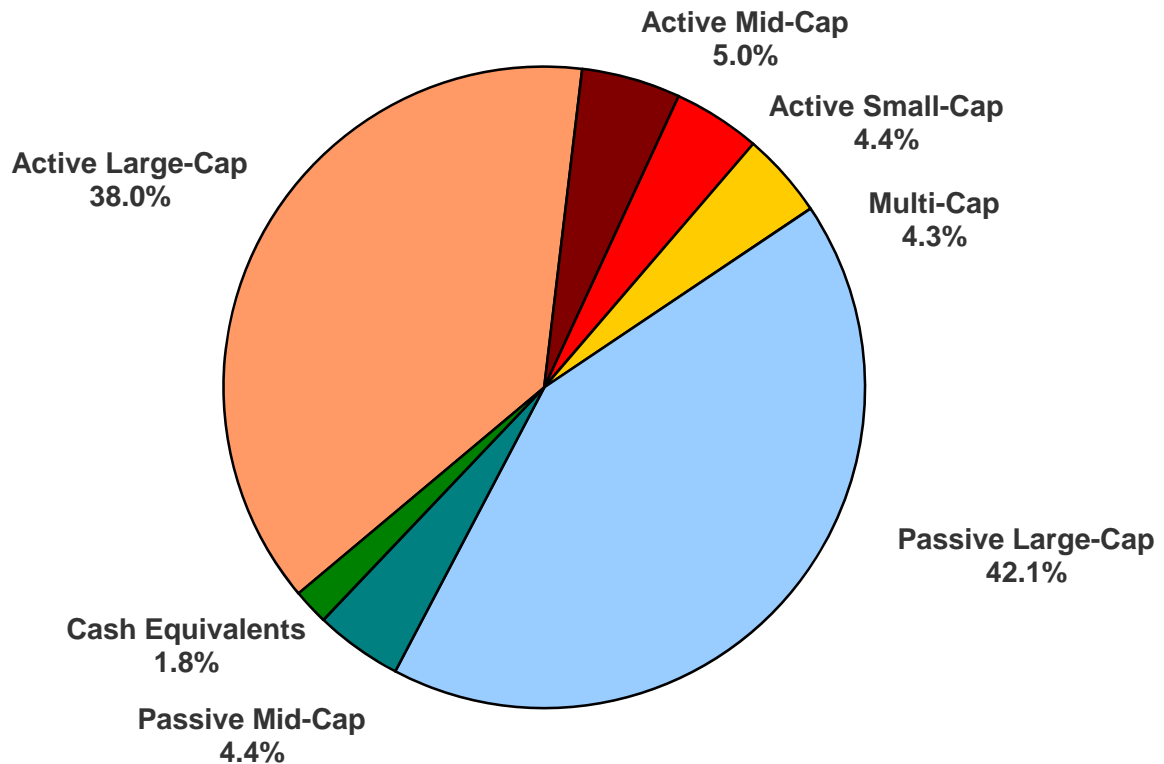


SECTOR



# SMRS

## Domestic Equity Holdings By Category 6/30/12

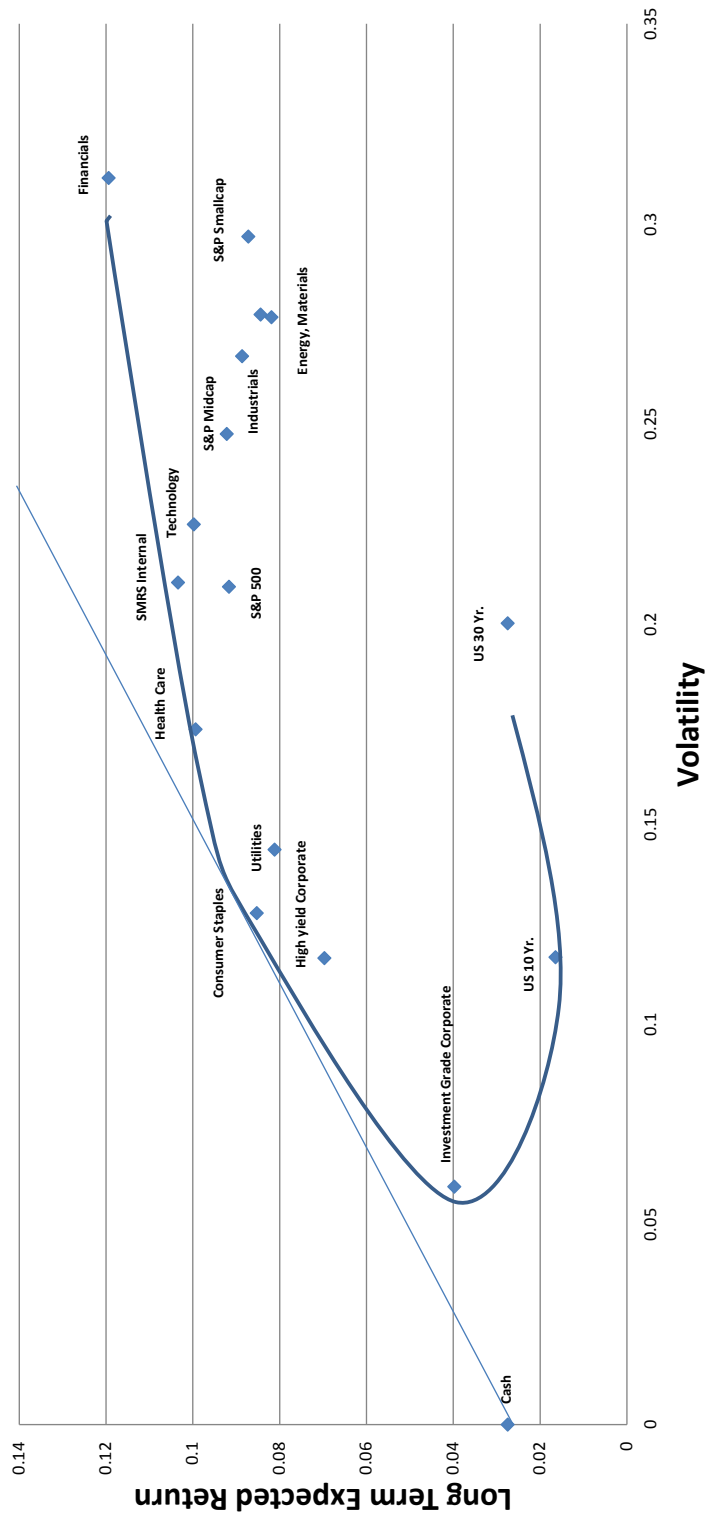


		Market Value in Millions			
		6/30/2012		3/31/2012	
<b>Active</b>					
Large-Cap		\$5,266	38.0%	\$5,484	38.0%
Mid-Cap		693	5.0%	739	5.1%
Small-Cap		610	4.4%	648	4.5%
Multi-Cap		589	4.3%	619	4.3%
<b>Total Active Equity</b>		<b>\$7,158</b>	<b>51.7%</b>	<b>\$7,490</b>	<b>51.9%</b>
<b>Passive</b>					
Large-Cap		\$5,832	42.1%	\$5,999	41.5%
Mid-Cap		604	4.4%	645	4.5%
<b>Total Passive Equity</b>		<b>\$6,436</b>	<b>46.5%</b>	<b>\$6,644</b>	<b>46.0%</b>
<b>Total Investments</b>		<b>\$13,594</b>	<b>98.2%</b>	<b>\$14,134</b>	<b>97.9%</b>
Cash Equivalents		254	1.8%	301	2.1%
<b>Total Domestic Equity</b>		<b>\$13,848</b>	<b>100.0%</b>	<b>\$14,435</b>	<b>100.0%</b>

**SMRS DOMESTIC EQUITIES**  
June 30, 2012

	INDEX		CORE		CONCENTRATED		TOTAL	%	S&P 1500
<b>Large-Cap</b>									
Index S&P 500	\$5,858,652		(in thousands)				\$5,858,652		
Large-Cap Core					\$1,577,251		1,577,251		
Large-Cap Growth					1,239,710		1,239,710		
Large-Cap Value					824,792		824,792		
All-Cap GARP					122,623		122,623		
Edgewood Large-Cap Growth					251,010		251,010		
Aletheia Large-Cap Growth					179,890		179,890		
LSV Large-Cap Value					543,962		543,962		
Wasatch Advisors Large-Cap Value					194,371		194,371		
Epoch Large-Cap Value					200,038		200,038		
Diamond Hill Large-Cap Value					218,200		218,200		
Absolute Return Income Fund					179,496		179,496		
Tactical Asset Allocation					81,372		81,372		
<b>Mid-Cap</b>									
S&P 400 Index	\$605,945						\$605,945		
Champlain Mid-Cap Core				\$75,823	95,328		75,823		
Cramer Rosenthal McGlynn Mid-Cap Value				69,480			69,480		
Los Angeles Capital Mid-Cap Plus Core				66,035			66,035		
Munder Mid-Cap Core				98,068			98,068		
Rainier Mid-Cap Growth					87,351		87,351		
Wellington Management Mid-Cap Growth									
<b>Small-Cap</b>									
Champlain Small-Cap Core					\$53,883		53,883		
Donald Smith Small-Cap Value					157,984		157,984		
Fisher Small-Cap Value				\$202,172			202,172		
GW Capital Small-Cap Value					45,087		45,087		
Northpointe Small-Cap Value					54,498		54,498		
Opus Small-Cap Value					33,864		33,864		
Pier Small-Cap Growth					62,673		62,673		
<b>All-Cap Managers</b>									
Attucks Asset Management				\$155,633	\$201,411		\$155,633		
Artisan All-Cap Value				140,928			140,928		
Bivium				49,333			49,333		
Leading Edge Investment Advisors					121,649		121,649		
Seizert Capital partners All-Cap Core								4.6%	3.8%
<b>Total</b>							\$610,161	100.0%	100.0%
<b>TOTAL</b>							\$1,098,030	8.3%	7.8%
							\$13,848,512		

# Return/Volatility Estimates for Selected Asset Classes and Sectors






## Internal Active Portfolio, Equity Return Expectations (6/30/2012)

### Return Assumption Estimates

	<u>Yield to Maturity *****</u>	<u>Normal Dividend Yield ***</u>	<u>LT Growth Rate ****</u>
<b>SAD Internal Active Equity</b>	<b>10.4%</b>	<b>5.5%</b>	<b>4.9%</b>
S&P 500 Large-Cap	9.2%	4.2%	5.0%
S&P 400 Mid-Cap	8.8%	3.5%	5.3%
S&P 600 Small-Cap	8.8%	3.0%	5.8%
US 30 Year Treasury	2.8%	2.8%	0.0%

### Trailing 12 Month and Normalized Earnings Characteristics

	<u>TTM Price/Earnings</u>	<u>TTM Dividend Yield</u>	<u>Normal Price/Earnings</u>
<b>SAD Internal Active Equity</b>	<b>13.8</b>	<b>3.7%</b>	<b>12.6</b>
S&P 500 Large-Cap	14.5	4.1%	15.7
S&P 400 Mid-Cap	17.3	2.8%	16.1
S&P 600 Small-Cap	20.2	2.3%	16.1

### Normalized Earnings & Dividend Characteristics

	<u>Normal Earnings Yield *</u>	<u>Normal Payout Ratio</u>	<u>Normal Dividend Yield **</u>
<b>SAD Internal Active Equity</b>	<b>7.9%</b>	<b>69%</b>	<b>5.5%</b>
S&P 500 Large-Cap	6.4%	66%	4.2%
S&P 400 Mid-Cap	6.2%	57%	3.5%
S&P 600 Small-Cap	6.2%	48%	3.0%

### Portfolio and Benchmark Risk Estimates

	<u>Yield to Maturity *****</u>	<u>Portfolio Standard Deviation</u>	<u>Yield/Volatility</u>
<b>SAD Internal Active Equity</b>	<b>10.4%</b>	<b>23.03%</b>	<b>0.45</b>
S&P 500	9.2%	22.95%	0.40
S&P 400	8.8%	28.99%	0.31
S&P 600	8.8%	31.95%	0.27
US 30 Year Treasury	2.8%	20.36%	0.14


\*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

\*\*\*\*\*Sharpe Ratio Calculation: (Expected Return – Tbill Yield)/Portfolio Standard Deviation

## SMRS Internal/External Manager Performance as of 6/30/2012

### Large-Cap Managers

	<u>Market Value</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>Inception</u>	<u>Inception Date</u>
<b>Active Equity Large Cap Composite</b>	<b>\$5,230,432</b>	<b>2.84%</b>	<b>13.29%</b>	<b>-0.71%</b>	<b>N/A</b>	
S&P 500		5.45%	16.40%	0.22%	N/A	
<i>Internal Large-Cap Active</i>	<i>\$3,642,960</i>	<i>3.34%</i>	<i>13.58%</i>	<i>N/A</i>	<i>0.04%</i>	<i>7/31/2007</i>
S&P 500		5.45%	16.40%	N/A	0.87%	
<i>External Large Cap Active</i>	<i>\$1,407,581</i>	<i>2.28%</i>	<i>11.66%</i>	<i>N/A</i>	<i>16.74%</i>	<i>4/1/2009</i>
S&P 500		5.45%	16.40%	N/A	20.40%	
<b><u>SMRS Large Cap Core Funds</u></b>						
<i>SMRS Large Cap Core</i>	<i>\$1,578,163</i>	<i>2.18%</i>	<i>13.39%</i>	<i>N/A</i>	<i>0.22%</i>	<i>7/31/2007</i>
S&P 500		5.45%	16.40%	N/A	0.87%	
<b><u>SMRS Large Cap Value Funds</u></b>						
<i>SMRS Large Cap Value</i>	<i>\$825,086</i>	<i>1.06%</i>	<i>12.12%</i>	<i>N/A</i>	<i>-2.95%</i>	<i>7/31/2007</i>
S&P 500 Value Index		3.00%	15.32%	N/A	-1.93%	
<i>External Large Cap Value Composite</i>	<i>\$1,156,571</i>	<i>-0.42%</i>	<i>N/A</i>	<i>N/A</i>	<i>7.65%</i>	<i>12/31/2009</i>
S&P 500 Value Index		3.00%	N/A	N/A	9.25%	
LSV Large Cap Value	\$543,962	-0.29%	N/A	N/A	8.65%	12/31/2009
S&P 500 Value Index		3.00%	N/A	N/A	9.25%	
Wasatch Advisors	\$194,371	-3.36%	N/A	N/A	4.72%	12/31/2009
S&P 500 Value Index		3.00%	N/A	N/A	9.25%	
Epoch Large Cap Value	\$200,038	0.73%	N/A	N/A	8.92%	12/31/2009
S&P 500 Value Index		3.00%	N/A	N/A	9.25%	
Diamond Hill Large Cap	\$218,200	0.96%	N/A	N/A	7.07%	12/31/2009
S&P 500 Value Index		3.00%	N/A	N/A	9.25%	
<b><u>SMRS Large Cap Growth Funds</u></b>						
<i>SMRS Large Cap Growth</i>	<i>\$1,239,711</i>	<i>6.72%</i>	<i>15.03%</i>	<i>2.58%</i>	<i>4.59%</i>	<i>5/1/2005</i>
S&P 500 Growth Index		7.76%	17.45%	3.04%	4.60%	
<i>External Large Cap Growth Composite</i>	<i>\$251,010</i>	<i>6.27%</i>	<i>13.08%</i>	<i>N/A</i>	<i>18.11%</i>	<i>4/1/2009</i>
S&P 500 Growth Index		7.76%	17.45%	N/A	20.98%	
Edgewood Large Cap Growth	\$251,010	5.35%	11.65%	N/A	16.47%	4/1/2009
S&P 500 Growth Index		7.76%	17.45%	N/A	20.98%	

### Mid-Cap Managers

	<u>Market Value</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>Inception</u>	<u>Inception Date</u>
<b>External Mid-Cap Composite</b>	<b>\$693,496</b>	<b>-3.16%</b>	<b>17.23%</b>	<b>0.64%</b>	<b>6.02%</b>	5/1/2005
S&P 400 Mid-Cap Index		-2.33%	19.36%	2.55%	7.22%	
<b>SMRS Mid-Cap Core Funds</b>						
Champlain Investment Partners, Mid Cap	\$75,823	-0.36%	16.93%	N/A	19.97%	1/31/2009
S&P 400 Mid Cap Index		-2.33%	19.36%	N/A	22.29%	
LA Capital Mid-Cap Core	\$69,480	-0.16%	19.09%	2.08%	8.00%	5/1/2005
S&P 400 Mid Cap Index		-2.33%	19.36%	2.55%	7.22%	
Munder Mid-Cap Core Growth	\$66,035	-2.17%	18.37%	N/A	22.17%	3/31/2009
S&P 400 Mid Cap Index		-2.33%	19.36%	N/A	24.14%	
<b>SMRS Mid-Cap Value Funds</b>						
Artisan Mid-Cap Value	\$201,411	1.20%	17.45%	3.67%	8.28%	5/1/2005
S&P 400 Value Index		-0.86%	18.42%	0.98%	6.15%	
Cramer Rosenthal Mid-Cap Value	\$95,328	-2.58%	16.30%	1.57%	7.36%	5/1/2005
S&P 400 Value Index		-0.86%	18.42%	0.98%	6.15%	
<b>SMRS Mid-Cap Growth Funds</b>						
Rainier Mid-Cap Growth	\$98,068	-3.72%	18.17%	-1.63%	3.81%	1/1/2006
S&P 400 Growth Index		-3.70%	20.34%	4.13%	6.35%	
Wellington Mid-Cap Growth	\$87,351	-14.07%	14.83%	-1.39%	3.44%	1/1/2006
S&P 400 Growth Index		-3.70%	20.34%	4.13%	6.35%	

### Small-Cap Managers

	<u>Market Value</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>Inception</u>	<u>Inception Date</u>
<b>External Small-Cap Composite</b>	<b>\$610,161</b>	<b>-7.00%</b>	<b>16.43%</b>	<b>2.30%</b>	<b>7.32%</b>	<b>10/1/2001</b>
S&P 600 Small-Cap Index		1.43%	19.78%	1.83%	9.24%	
<b><u>SMRS Small Cap Core Managers</u></b>						
Champlain Small-Cap Core	\$53,883	2.19%	18.33%	5.73%	7.01%	1/31/2007
S&P 600 Index		1.43%	19.78%	1.83%	2.86%	
Northpointe Small Cap	\$54,498	-9.35%	13.36%	-2.41%	3.86%	10/1/2004
S&P 600 Value/Core Index Blend		1.43%	18.17%	0.21%	5.87%	
<b><u>SMRS Small Cap Value Managers</u></b>						
Fisher Small-Cap Value	\$202,172	-5.51%	18.21%	2.33%	8.06%	9/30/2004
S&P 600 Value Index		1.74%	18.29%	0.27%	5.91%	
Donald Smith & Co.	\$157,984	-5.56%	16.28%	5.35%	5.91%	1/31/2007
S&P 600 Value Index		1.74%	18.29%	0.27%	1.04%	
GW Capital Small Cap Value	\$45,087	-10.56%	17.35%	0.07%	1.21%	1/31/2007
S&P 600 Value Index		1.74%	18.29%	0.27%	1.04%	
Opus Capital Small-Cap Value	\$33,864	-2.07%	16.61%	-1.27%	0.83%	1/31/2007
S&P 600 Value Index		1.74%	18.29%	0.27%	1.04%	
<b><u>SMRS Small Cap Growth Managers</u></b>						
Pier Small-Cap Growth	\$62,673	-11.46%	15.95%	3.09%	4.37%	1/31/2007
S&P 600 Growth Index		1.18%	21.37%	3.40%	4.72%	

### All-Cap Managers

	<u>Market Value</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>Inception</u>	<u>Inception Date</u>
Attucks Asset Management	\$155,602	1.28%	16.05%	N/A	-0.02%	11/1/2007
S&P 1500 Super Composite		4.63%	16.76%	N/A	-0.21%	
Bivium Capital Partners	\$140,880	0.52%	16.93%	N/A	-0.40%	11/1/2007
S&P 1500 Super Composite		4.63%	16.76%	N/A	-0.21%	
Leading Edge Investment Advisors	\$49,333	-0.18%	15.80%	N/A	0.00%	11/1/2007
S&P 1500 Super Composite		4.63%	16.76%	N/A	-0.21%	
<i>SMRS All Cap GARP</i>	\$122,773	12.65%	N/A	N/A	10.15%	5/1/2011
S&P 1500 Super Composite		4.63%	N/A	N/A	1.63%	
Seizert Capital Partners	\$121,649	-5.35%	N/A	N/A	12.62%	11/1/2009
S&P 1500/S&P 400 Blend		4.63%	N/A	N/A	19.05%	

### Balanced Fund Managers

	<u>Market Value</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>Inception</u>	<u>Inception Date</u>
<i>SMRS Absolute Return Income Fund</i>	\$179,496	10.92%	17.86%	N/A	16.38%	
60% S&P 500/40% BARCLAYS AGG		6.70%	12.90%	N/A	11.94%	

# Performance Persistence Analysis #1

- ▶ As illustrated by the below charts, RVK found no significant evidence of performance persistence by analyzing historical manager return data.

Rank Persistency of Top Quartile Managers (based on 5 year rolling total returns)						
Top Quartile mngs ranking above MEDIAN through 12.30.2010	Core US Fixed Income	Large Cap US Growth	Large Cap US Core	Large Cap US Value	Small Cap US Core	EAFE Core
% above median based on 1991-1995 rank	47%	27%	29%	36%	n/a	n/a
% above median based on 1996-2000 rank	43%	20%	30%	24%	27%	33%
% above median based on 2001-2005 rank	41%	42%	39%	34%	62%	36%

50% is considered random, greater than 50 is desirable

Example: 47% of top quartile Core Fixed Income managers (rank based on 1991-1995 five year total return) ranked above median for 1996-2010 period.

Rank Persistency of Top Quartile Managers (based on 3 year rolling total returns)						
Top Quartile mngs ranking above MEDIAN through 12.30.2010	Core US Fixed Income	Large Cap US Growth	Large Cap US Core	Large Cap US Value	Small Cap US Core	EAFE Core
% above median based on 1990-1992 rank	31%	36%	54%	36%	n/a	n/a
% above median based on 1993-1995 rank	59%	32%	37%	43%	n/a	n/a
% above median based on 1996-1998 rank	43%	28%	27%	21%	27%	22%
% above median based on 1999-2001 rank	44%	41%	52%	44%	67%	42%
% above median based on 2002-2004 rank	45%	39%	35%	39%	42%	26%
% above median based on 2005-2007 rank	57%	24%	40%	51%	57%	44%

50% is considered random, greater than 50 is desirable

Data Source: eVestment Alliance. <https://www.evestment.com>.

# Consistency Analysis #1

## Top Quartile Managers Also Experience Down Periods

- ▶ An analysis of top-quartile managers with 10+ year track records (ranks as of 12/31/2010) indicates that even top-quartile managers may experience a sustained period of below-median returns.
  - ▶ This period of underperformance may last several months, or even multiple years.
  - ▶ Following a period of underperformance, the managers in the study often experienced a significant performance recovery.

As of 12.31.2010 <sup>(1)</sup>	No. of products with 10 yr record		% of top Q mngrs that ranked below median...		Avg no. of consecutive Qs spent below median <sup>(2)</sup>	No. mngrs who recovered from "down period" by 09.30.2010 <sup>(3)</sup> , <sup>(4)</sup>	Avg rank of the recovered mngrs following 1st "down" period <sup>(4)</sup>
	Total	Top Quartile	for 1 or more quarters	for 4 or more quarters			
US Large Cap Value	176	44	89%	77%	7.6	17	26.5
US Large Cap Growth	204	51	92%	69%	5.6	24	28.1
US Small Cap Value	124	31	94%	61%	4.3	11	27.3
US Small Cap Growth	116	29	93%	72%	6.3	16	31.6
Fixed Income - Core	164	41	90%	68%	5.6	24	24.4
Fixed Income - High Yield	72	18	94%	72%	4.2	8	29.0
Non-US Equity - EAFE Core	40	10	90%	90%	5.6	6	22.4
Non-US Equity - Emerging	72	18	94%	67%	5.0	6	26.7

(1) For this analysis we used quarterly fund ranks for three year rolling periods; ranks are based on total gross of fees returns.

(2) The average is calculated on below median periods lasting more than one quarter; out of total 10 years analyzed in this study.

(3) Managers who experienced one or more periods of below median ranks for four or more consecutive quarters and achieved above median returns as of 09.30.2010.

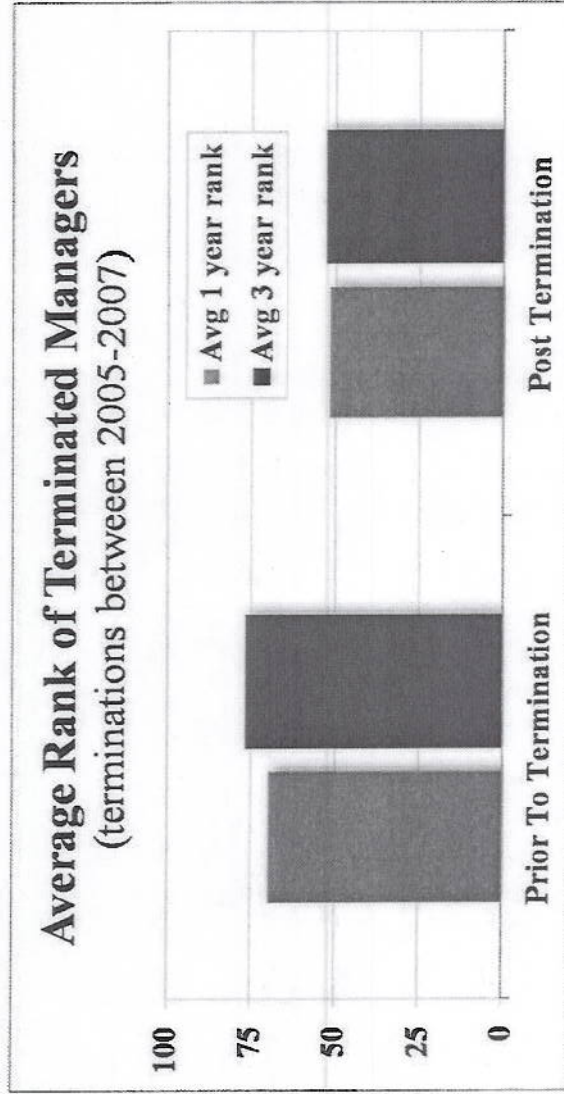
(4) "Down period" is classified as four or more consecutive quarters of below median ranks.

Data Source: eInvestment Alliance. <https://www.evestment.com>.

# "Chasing Returns": Study #1

## Poor Recent Performance ≠ Poor Future Performance

- ▶ RVK conducted a study of actual client manager termination decisions
  - ▶ On average the rank of the terminated managers significantly improved post termination event.
  - ▶ Poor *past* performance does not necessarily mean poor *future* performance.
  - ▶ It is important to understand the reasons for short-term underperformance.



Source: R.V. Kuhns & Associates, Inc., 2010. Client data for 36 performance based terminations of managers from 2005 to 2007.

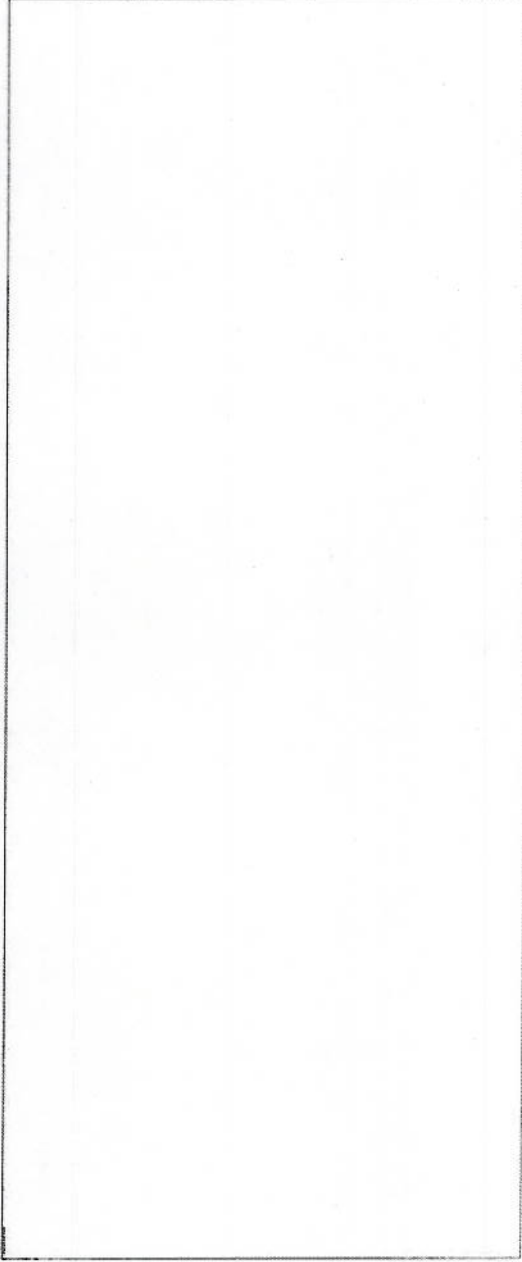




# "Chasing Returns": Study #3

## Investor Return < Fund Return

- ▶ The Morningstar study\* below indicates that the average investor's return is generally worse than the average fund's return.
- ▶ The gap between investor return and average fund return indicates how well investors timed their fund purchases and sales – few instances show a positive difference.



- ▶ A study\*\* of 1991-2004 data found similar results from investor timing decisions, which resulted in a reduction of average investor equity returns of 1.56% annually.

\* Source: Morningstar, "How the Average Investor's Returns Compare with the Average Fund's"

\*\* Source: Friesen, Geoffrey C. & Sapp, Travis R., 2006 "Mutual Fund Flows and Investor Returns: An Empirical Examination of Fund Investor Timing Ability". Journal of Banking and Finance, 2007, Vol. 31, pp. 2796-2816.



**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**ALTERNATIVE INVESTMENTS  
REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**SEPTEMBER 6, 2012**



**Peter A. Woodford, Administrator  
Alternative Investments Division**



## EXECUTIVE SUMMARY

### General Overview

- Macroeconomic uncertainty continues to be the dominant theme for the near term. The U.S. budget deficit crisis and the European sovereign debt crisis will continue to foster volatility in both public and private markets. Despite the uncertainty in developed markets, growth in emerging markets is expected generally to outpace developed markets.
- Buyout deal volume was slow during the first half of 2012 as economic uncertainty, particularly in Europe, dampened overall volume. Momentum on the deal side largely will depend upon, improvements in the credit markets. However, midmarket buyout professionals expect the year to end strong as institutional investors hunger for yield and the appetite for acquisitions among strategic buyers increases.
- In the secondary market, buyout pricing remained stable during the first half of 2012 and venture pricing improved. The average high first round bid for buyout funds was 85% of NAV, while the average high bid for venture funds increased to 74% of NAV.
- Fundraising remains extremely competitive. During the first half of 2012, U.S. private equity managers raised nearly \$86 billion, a 27% increase over the \$68 billion raised in the first half of 2011. However, a small handful of large funds drove most of the resurgence. Firms that had stellar performance and substantial distributions had no difficulty raising funds. The flip side is that less than half the funds in the market are getting any traction.
- InvestMichigan Updae: The program was capitalized with \$335 million, of which \$265 million is committed and reserved (approximately 79%). Although the program is still actively investing, there have been three realizations and one dividend recap.

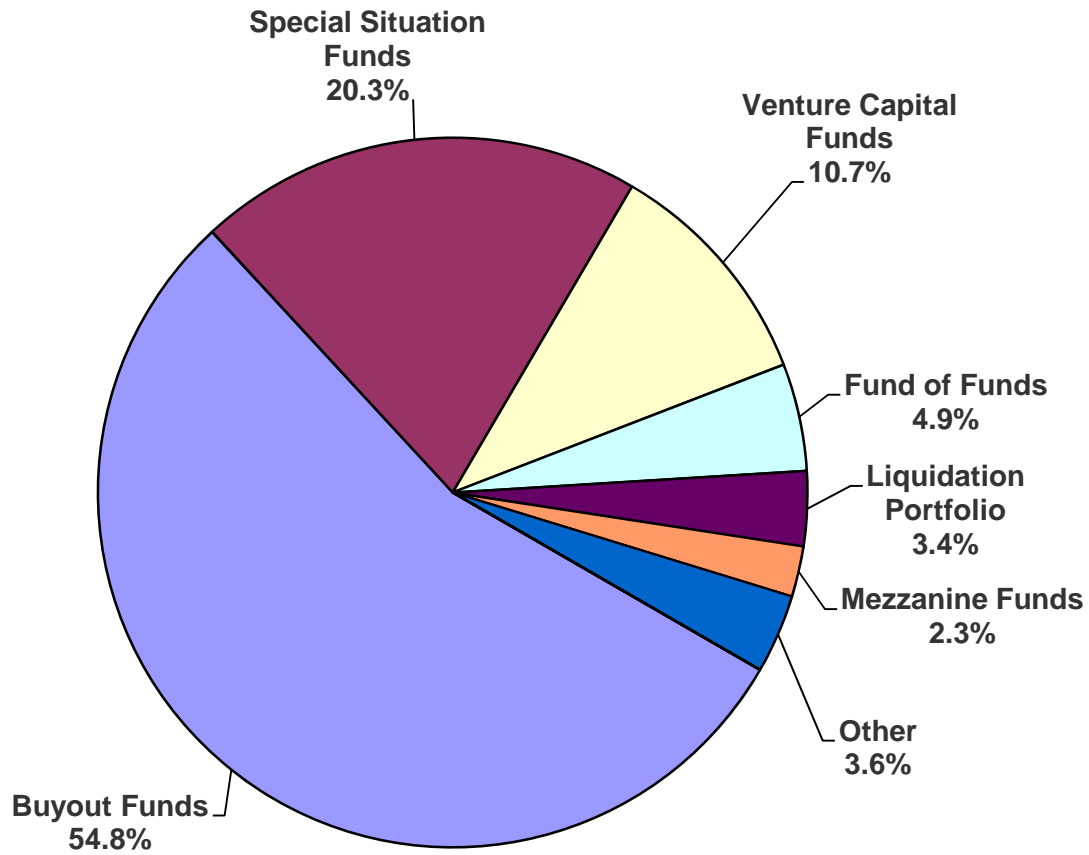
InvestMichigan Mezzanine Fund: Formed in partnership with the SBA to target investment opportunities in lower middle market Michigan companies, the \$130 million mezzanine fund was capitalized with \$80 million from the SBA, \$20 million from InvestMichigan and \$30 million from other investors.



# SMRS

## Alternative Investments

6/30/12



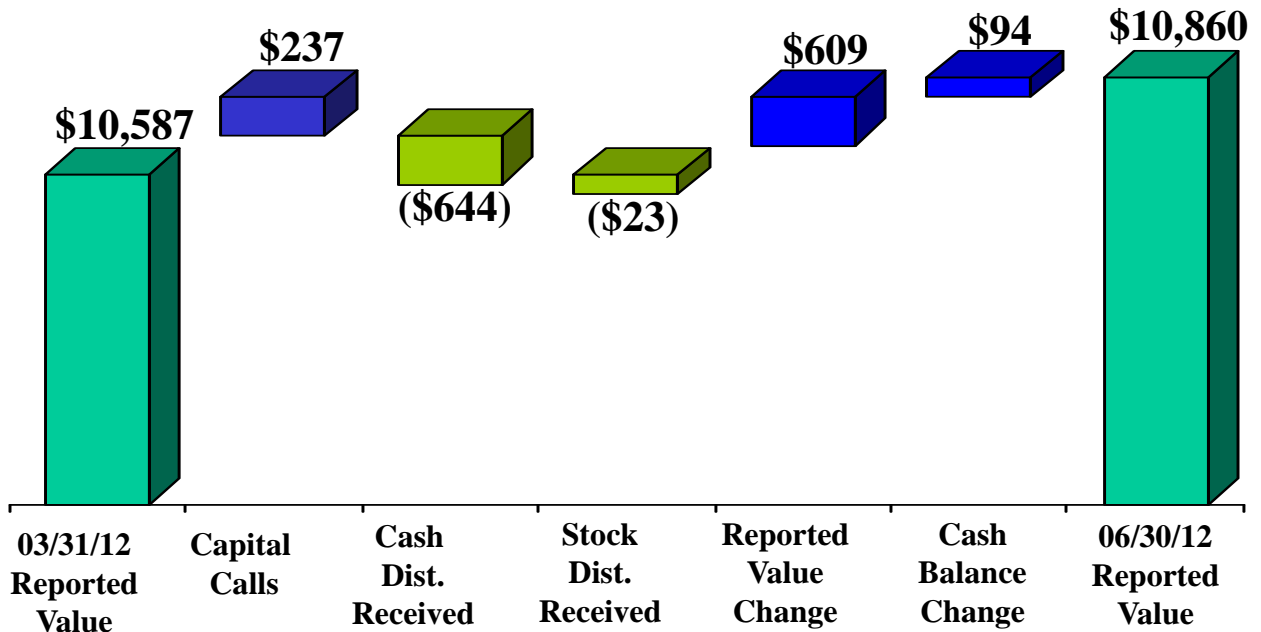
Market Value in Millions				
	6/30/2012		3/31/2012	
Buyout Funds	\$5,951	54.8%	\$5,813	54.9%
Special Situation Funds	2,211	20.3%	2,128	20.1%
Venture Capital Funds	1,158	10.7%	1,195	11.3%
Fund of Funds	532	4.9%	534	5.0%
Liquidation Portfolio	365	3.4%	370	3.5%
Mezzanine Funds	252	2.3%	245	2.3%
Other	391	3.6%	302	2.9%
<b>Total</b>	<b>\$10,860</b>	<b>100.0%</b>	<b>\$10,587</b>	<b>100.0%</b>

(\$ Millions)

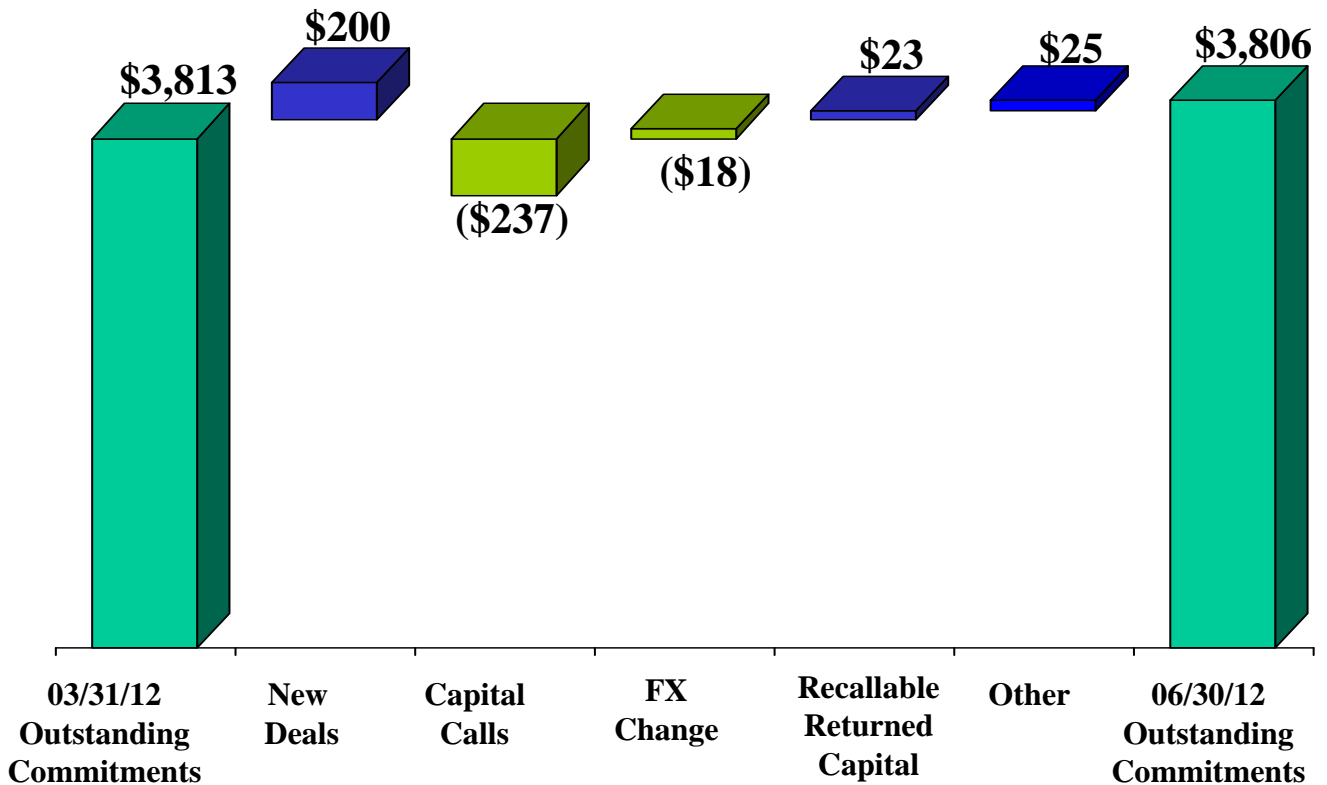
# Alternative Investments Division

As of June 30, 2012

## Invested Commitments



## Outstanding Commitments



(\$ Millions)

# Alternative Investments Division

As of June 30, 2012

## Portfolio Profile

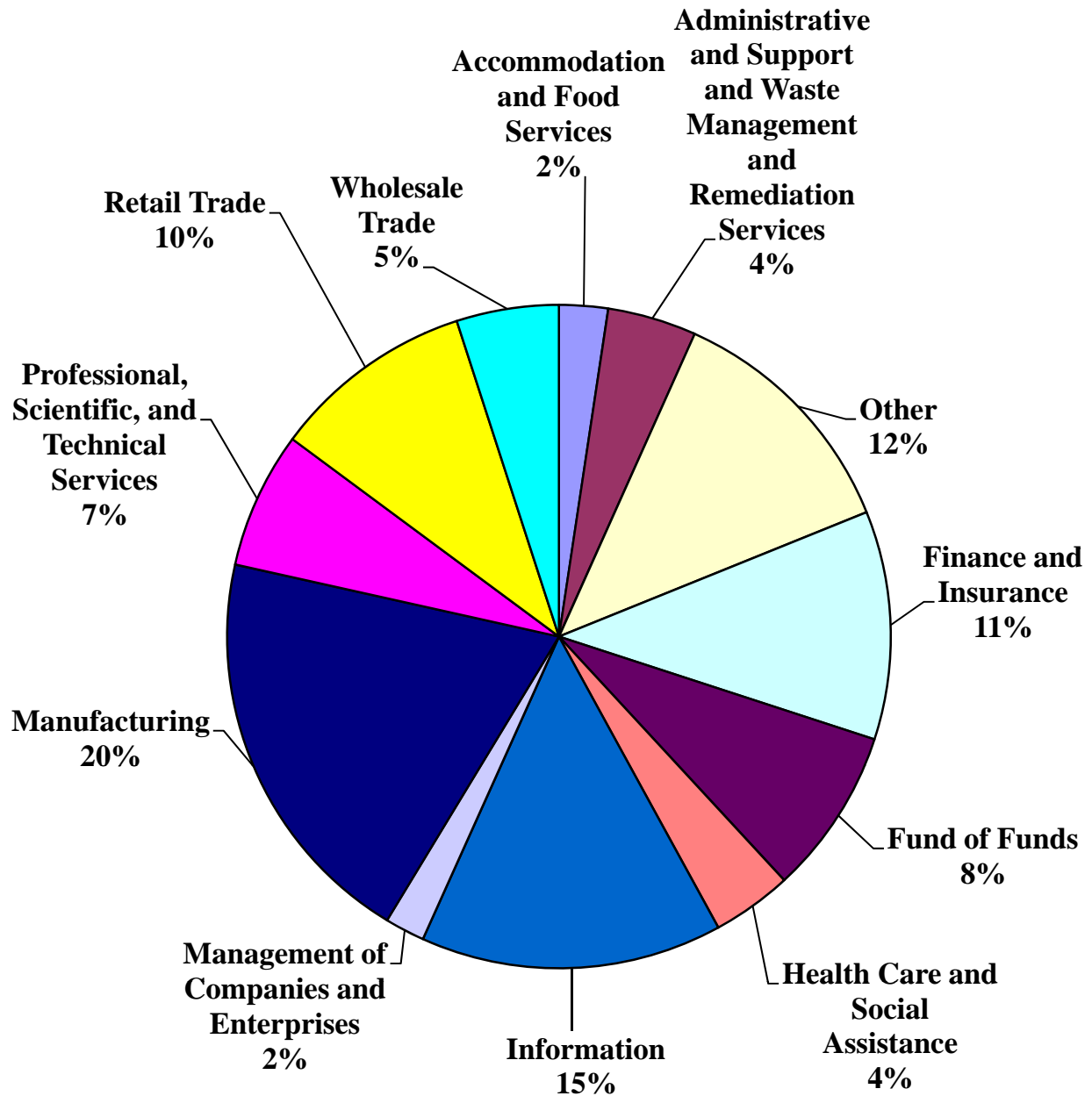
<u>Asset Type</u>	<u>Reported Value</u>	<u>Outstanding Commitment</u>	<u>Total Exposure</u>
Buyout	\$ 5,951	\$ 2,294	\$ 8,245
Venture Capital	1,158	293	1,451
Special Situations	2,108	804	2,912
Fund of Funds	532	197	729
Hedge Funds - Equity	39	-	39
Liquidation Portfolio	365	11	376
Active Small Cap - Stock Dist	10	-	10
<b>Total Alternative Equities</b>	<b>\$ 10,163</b>	<b>\$ 3,599</b>	<b>\$ 13,762</b>
Mezzanine Debt	\$ 252	\$ 183	\$ 435
Special Situations	103	24	127
Hedge Funds - Fixed Income	113	-	113
Cash	229	-	229
<b>Total Alternative Fixed Income</b>	<b>\$ 697</b>	<b>\$ 207</b>	<b>\$ 904</b>
<b>Total Alternative Investments</b>	<b>\$ 10,860</b>	<b>\$ 3,806</b>	<b>\$ 14,666</b>



# Alternative Investments Division

As of June 30, 2012

## Investments By Industry

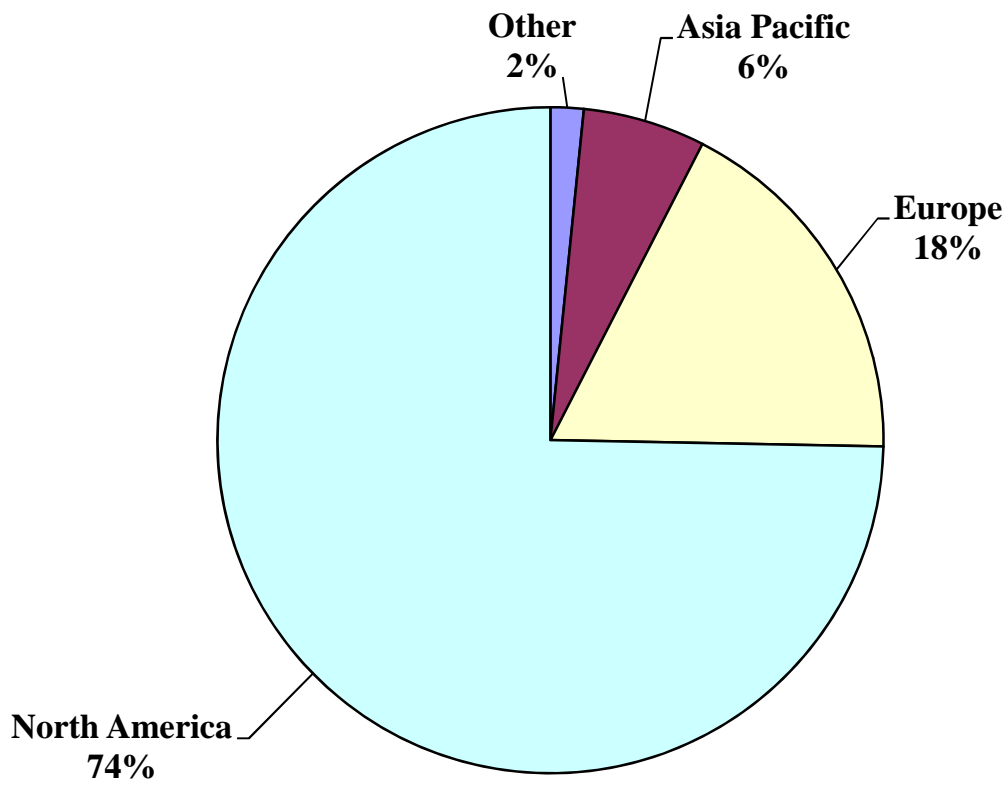


These numbers are based on the most recent available General Partner Data; primarily 03/31/2012 and are subject to change.

# Alternative Investments Division

As of June 30, 2012

## Investments By Region

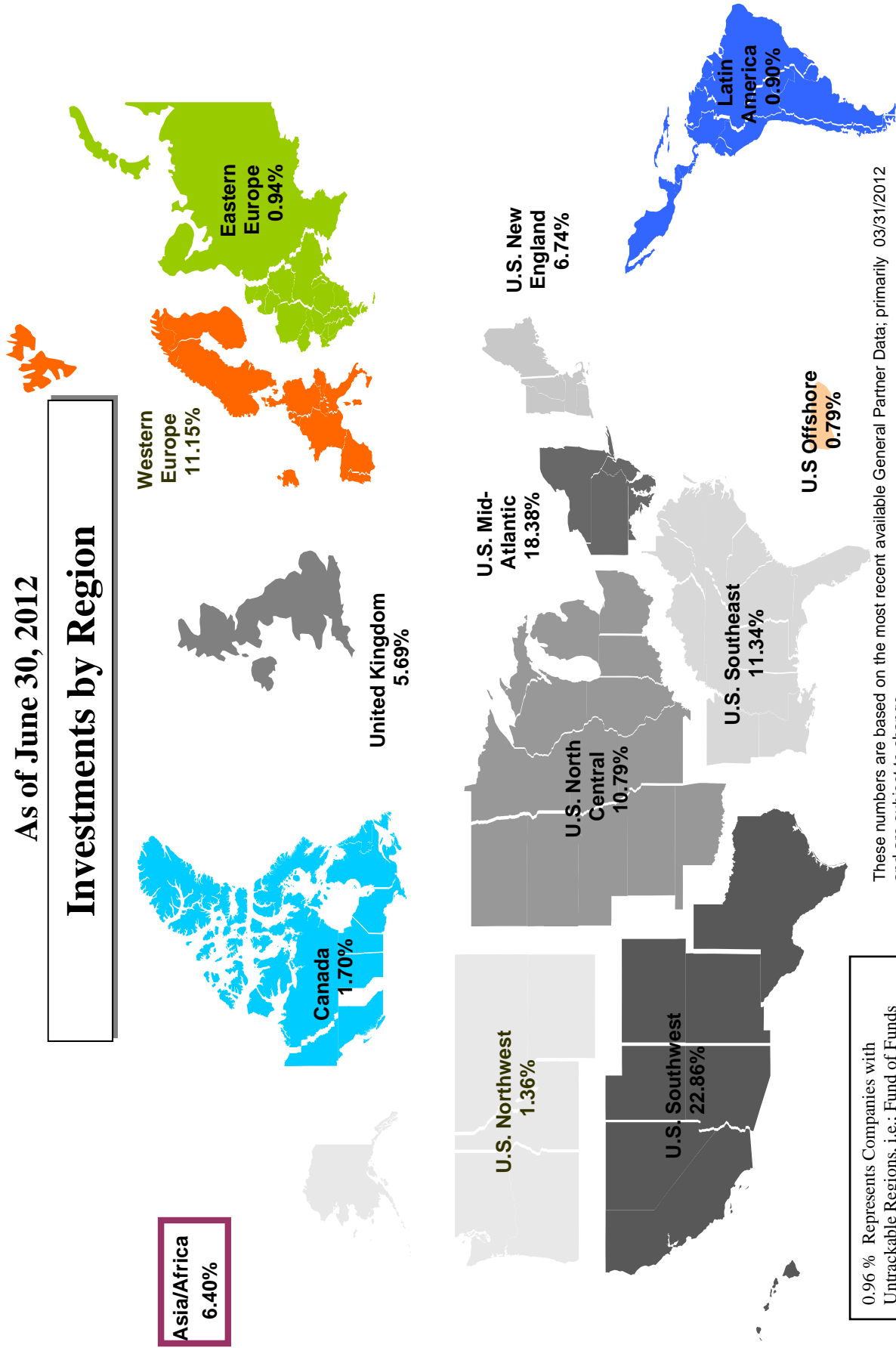


These numbers are based on the most recent available General Partner Data; primarily 03/31/2012 and are subject to change.

# Alternative Investments Division

As of June 30, 2012

## Investments by Region



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

These numbers are based on the most recent available General Partner Data; primarily 03/31/2012 and are subject to change.

(\$ Millions)

## Alternative Investments Division

As of June 30, 2012

### Portfolio By Asset Strategy

<u>Investment Fund Types</u>	<u>Reported Value</u>	<u>Outstanding Commitment</u>	<u>Total</u>	<u>Pct</u>
Large Buyout	\$ 3,674	\$ 1,272	\$ 4,946	34%
Small Middle Market Buyout	2,277	1,022	3,299	22%
<b>Buyout Total</b>	<b>\$ 5,951</b>	<b>\$ 2,294</b>	<b>\$ 8,245</b>	<b>56%</b>
Early Stage Venture Capital	\$ 511	\$ 125	\$ 636	4%
Late-Stage Venture Capital	180	81	261	2%
Multi-Stage Venture Capital	467	87	554	4%
<b>Venture Capital Total</b>	<b>\$ 1,158</b>	<b>\$ 293</b>	<b>\$ 1,451</b>	<b>10%</b>
Co-Investment Funds	\$ 523	\$ 26	\$ 549	4%
Global Opportunity Funds	731	63	794	5%
Secondary Funds	172	153	325	2%
Distressed	321	122	443	3%
Special Situations	361	440	801	6%
Natural Resources	-	-	-	0%
<b>Special Situations Total</b>	<b>\$ 2,108</b>	<b>\$ 804</b>	<b>\$ 2,912</b>	<b>20%</b>
<b>Fund of Funds</b>	<b>\$ 532</b>	<b>\$ 197</b>	<b>\$ 729</b>	<b>5%</b>
<b>Hedge Funds – Equity</b>	<b>\$ 39</b>	<b>\$ -</b>	<b>\$ 39</b>	<b>0%</b>
<b>Liquidation Portfolio</b>	<b>\$ 365</b>	<b>\$ 11</b>	<b>\$ 376</b>	<b>3%</b>
<b>Active Small Cap - Stock Dist.</b>	<b>\$ 10</b>	<b>\$ -</b>	<b>\$ 10</b>	<b>0%</b>
<b>Total Alternative Equities</b>	<b>\$ 10,163</b>	<b>\$ 3,599</b>	<b>\$ 13,762</b>	<b>94%</b>
<b>Mezzanine Debt</b>	<b>\$ 252</b>	<b>\$ 183</b>	<b>\$ 435</b>	<b>3%</b>
<b>Special Situations</b>	<b>103</b>	<b>24</b>	<b>127</b>	<b>1%</b>
<b>Hedge Funds – Fixed Income</b>	<b>113</b>	<b>-</b>	<b>113</b>	<b>1%</b>
<b>Cash</b>	<b>229</b>	<b>-</b>	<b>229</b>	<b>1%</b>
<b>Total Alternative Fixed Income</b>	<b>\$ 697</b>	<b>\$ 207</b>	<b>\$ 904</b>	<b>6%</b>
<b>Total Alternative Investments</b>	<b>\$ 10,860</b>	<b>\$ 3,806</b>	<b>\$ 14,666</b>	<b>100%</b>

(\$ Millions)

## Alternative Investments Division

As of June 30, 2012

### Top 10 Sponsors

<u>Asset Type</u>	<u>Reported Value</u>	<u>Outstanding Commitment</u>	<u>Total</u>
Kohlberg Kravis & Roberts	\$ 805	\$ 290	\$ 1,095
Credit Suisse Group	807	160	967
Warburg Pincus Capital	634	200	834
Blackstone Capital Partners	415	321	736
Carlyle Group	547	185	732
Glencoe Capital	612	111	723
TPG Group	405	159	564
Green Equity Investors	367	93	460
Apax Partners, Inc.	316	111	427
Providence Equity Partners	352	54	406
<b>Top 10 Total Value</b>	<b>\$ 5,260</b>	<b>\$ 1,684</b>	<b>\$ 6,944</b>

### 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	5.8%	7.8%	21.0%	7.6%	15.1%
Venture Capital	4.8%	14.1%	17.4%	9.8%	5.5%
Special Situations	5.0%	8.2%	20.0%	5.0%	8.5%
Fund of Funds	0.2%	8.4%	9.5%	6.5%	7.7%
Hedge Funds	3.5%	-0.5%	15.3%	2.1%	5.5%
Mezzanine Debt	4.1%	13.2%	28.0%	14.5%	9.1%

\*These numbers are based on most recent available General Partner reported data; primarily 03/31/2012 and are subject to change.

# Alternative Investments Division

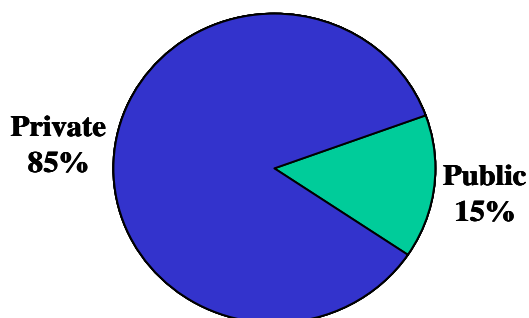
As of June 30, 2012

## Portfolio By Vintage Year

<u>Asset Vintage</u>	<u>Reported Value</u>	<u>Outstanding Commitment</u>	<u>Total Exposure</u>
1986-93	\$0	\$1	\$1
1994	-	-	-
1995	5	1	6
1996	8	2	10
1997	12	12	24
1998	84	22	106
1999	216	63	279
2000	318	60	378
2001	500	65	565
2002	732	16	748
2003	422	33	455
2004	620	61	681
2005	1,493	141	1,634
2006*	2,926	612	3,538
2007	1,665	482	2,147
2008	1,261	928	2,189
2009	109	118	227
2010	158	134	292
2011	79	708	787
2012	13	347	360
Cash	229	-	229
Act. Small Cap - Stock Dist	10	-	10
<b>Total</b>	<b>\$10,860</b>	<b>\$3,806</b>	<b>\$14,666</b>

\* Liquidation portfolio is 2006 vintage

## Public/Private Exposure



(\$ Millions)

## Alternative Investments Division

As of June 30, 2012

### Summary Of Transactions

<u>Month</u>	<u>Capital Calls*</u>	<u>Distributions Received</u>	<u>Net Cash Flow</u>
July 2011	\$120	\$175	\$55
August	129	157	28
September	<u>117</u>	<u>140</u>	<u>23</u>
<b>Total Quarter</b>	<b>\$366</b>	<b>\$472</b>	<b>\$106</b>
October 2011	\$160	\$215	\$55
November	104	209	105
December	<u>182</u>	<u>175</u>	<u>(7)</u>
<b>Total Quarter</b>	<b>\$446</b>	<b>\$599</b>	<b>\$153</b>
January 2012	\$89	\$89	\$0
February	95	134	39
March	<u>121</u>	<u>245</u>	<u>124</u>
<b>Total Quarter</b>	<b>\$305</b>	<b>\$468</b>	<b>\$163</b>
April 2012	\$65	\$190	\$125
May	79	250	171
June	<u>98</u>	<u>227</u>	<u>129</u>
<b>Total Quarter</b>	<b>\$242</b>	<b>\$667</b>	<b>\$425</b>
<b>Trailing Twelve Month</b>	<b><u>\$1,359</u></b>	<b><u>\$2,206</u></b>	<b><u>\$847</u></b>

\* Includes Fees and Expenses Paid Outside of Commitment

### FX Exposure

	<u>Reported Value</u>	<u>Oustanding Commitment</u>	<u>Total Exposure</u>	<u>Total (USD)</u>
Euro (\$1.269049/ €)	€949	€286	€1,235	1,522
Pound (\$1.568449/ £)	£9	£3	£12	18
Yen (\$0.012532/ ¥)	¥0	¥0	¥0	0

**Net Market Values by Ownership Entity**  
**June 30, 2012**

Fund Name	ARV	Unfunded Commitment
Accel Europe I, L.P.	16,772,058.00	1.00
Accel Europe II	23,263,131.00	3,300,000.00
Accel Growth Fund II, L.P.	3,265,501.00	8,640,000.00
Accel IX, L.P.	93,586,749.00	3,000,000.00
Accel VI, L.P.	3,358,655.00	-
Accel VII, L.P.	2,631,735.00	5,000,000.00
Accel VIII, L.P.	5,644,654.58	4,782,499.00
Accel VI-S	5,448,929.00	652,611.20
Accel X, L.P.	13,585,872.00	2,050,000.00
Accel XI, L.P.	1,577,760.00	6,320,000.00
Advent Global Private Equity III	1,248,136.00	20.00
Advent Global Private Equity IV	3,229,003.00	-
Advent Global Private Equity V	143,526,897.00	10,500,000.00
Advent International GPE VI-A LP	186,036,557.00	41,500,000.00
Affinity Asia Pacific Fund II, L.P.	298,426.00	5,288,236.78
Affinity Asia Pacific Fund III, L.P.	137,802,629.85	57,310,402.55
APA Excelsior IV, L.P.	306,789.00	-
APA Excelsior V	532,538.00	545,625.00
Apax Europe Fund VI	82,971,815.15	-
Apax Europe V, L.P.	9,114,744.56	-
Apax Europe VII, L.P.	160,369,306.00	12,690,490.03
Apax Excelsior VI	13,228,772.00	1,614,434.00
Apax US VII	49,764,817.00	491,301.70
Apax VIII - A, L.P.	-	95,178,675.00
Arboretum Ventures II	3,195,497.00	1,550,096.00
Arboretum Ventures III, L.P.	2,696,749.00	11,880,000.00
Ares Corporate Opportunities Fund II	63,344,606.82	13,737,012.26
Ares Corporate Opportunities Fund III, LP	72,025,966.17	37,118,636.23
ARGUS Capital Partners	41,896.78	2,813,671.97
Austin Ventures VIII, L.P.	18,058,792.38	-
Avenue International Ltd	112,555,826.49	-
Avenue Special Situations Fund IV, L.P.	3,884,393.00	-
Avenue Special Situations Fund V, L.P.	11,673,211.00	-
Avenue Special Situations Fund VI (B), L.P.	45,650,301.00	4,645,568.00
Axiom Asia Private Capital Fund III, L.P.	-	35,000,000.00
Banc Fund VI	20,029,343.93	-
Banc Fund VII	26,100,287.60	-
Banc Fund VIII	11,314,384.99	9,800,000.00
Battery Ventures V, L.P.	392,564.00	-
Battery Ventures VI, L.P.	7,854,562.00	-
Battery Ventures VII, L.P.	10,392,518.00	755,556.00
Battery Ventures VIII	38,573,908.00	701,800.00
BC European Capital IX	9,460,714.63	82,480,316.90
BC European Capital VII, L.P.	7,044,687.71	-
BC European Capital VIII, L.P.	177,742,512.88	14,885,944.77
Berkshire Fund IV, L.P.	3,036,091.00	1,898,016.14
Berkshire Fund V, L.P.	9,193,405.00	1,900,578.42



**Net Market Values by Ownership Entity**  
**June 30, 2012**

Fund Name	ARV	Unfunded Commitment
Berkshire Fund VI, L.P.	60,865,346.00	5,801,438.79
Berkshire Fund VII, L.P.	110,363,236.00	27,228,039.00
Berkshire Fund VIII, L.P.	6,730,023.00	117,474,592.00
Blackstone Capital Partners IV	125,998,976.59	7,045,344.87
Blackstone Capital Partners V	224,324,528.32	24,926,989.87
Blackstone Capital Partners VI, LP	34,527,170.00	264,466,961.29
Blackstone Capital Partners V-S	20,647,694.51	752,613.64
Blackstone Mezzanine Partners	8,388,144.00	14,141,621.00
Blackstone Partners III, L.P.	1,312,203.00	9,190,781.00
Bridgepoint Europe IV	45,605,055.00	24,414,844.95
Brockway Moran & Partners Fund III	11,570,338.00	4,971,232.00
Carlyle Asia Fund	21,399,053.00	5,278,440.00
Carlyle Europe Partners	131,510.60	430,702.54
Carlyle Europe Partners II	30,496,083.99	4,732,659.61
Carlyle Europe Partners III	104,826,979.24	29,339,047.38
Carlyle Partners II, L.P.	3,683,071.00	-
Carlyle Partners III, L.P.	2,093,077.00	14,184,834.00
Carlyle Partners IV, L.P.	189,632,189.00	15,735,030.00
Carlyle Partners V L.P.	195,064,538.00	115,724,755.00
Castle Harlan Partners IV	13,350,728.00	6,678,666.00
Castle Harlan Partners V	11,155,605.00	50,533,336.00
CCMP Capital Investors II	135,368,577.00	36,806,645.00
Clarus Life Sciences II, L.P.	19,425,487.94	20,065,000.00
Clarus Lifesciences I	25,686,627.31	4,079,460.00
Clearstone Venture Partners (idealab)	362,800.00	-
Clearstone Venture Partners II (idealab)	4,779,300.00	-
Clearstone Venture Partners III	22,430,462.00	1,612,000.04
CMEA Ventures VI	14,682,026.00	2,750,000.00
CMEA Ventures VII, L.P.	22,526,951.00	11,600,000.00
Coller International Partners III, L.P.	1,174,386.00	2,399,999.88
Coller International Partners IV	32,814,597.66	14,000,000.00
Coller International Partners V, L.P.	128,785,217.00	45,100,000.00
Coller International Partners VI, L.P.	9,650,544.95	91,109,452.05
CSFB Fund Co-Investment Program	1,617,381.00	251,260.34
CSG / DLJ Fund Program II	122,537,573.00	24,193,997.76
CSG Fund Investment Program III - 2004	115,434,008.64	12,222,896.84
CSG Fund Investment Program III - 2006	105,011,699.92	46,944,414.35
CSG Fund Investment Program V, L.P.	58,775,439.00	63,500,450.76
CSG Seasoned Primary Fund Investment Program	365,179,205.26	11,290,306.20
DLJ Fund Investment Program I	38,228,905.08	1,993,564.16
DLJ Investment Partners II	906,274.78	9,910,342.35
DLJ Investment Partners III	30,196,894.73	81,869,216.76
DLJ Merchant Banking Partners III, L.P.	23,474,696.31	3,105,583.03
DLJ Merchant Banking Ptrs II, L.P.	2,303,279.98	1,856,745.55
Doughty Hanson & Co IV	122,578,765.15	1,954,883.69
Doughty Hanson & Co V	147,457,083.96	30,266,588.95
Doughty Hanson Co. III L.P.	18,548,468.00	3,102,822.00
EDF Ventures III	5,225,955.20	300,518.86
Energy Investors III	20,610.00	-
Essex Woodlands Health IV	3,706,451.00	-

**Net Market Values by Ownership Entity**  
**June 30, 2012**

Fund Name	ARV	Unfunded Commitment
Essex Woodlands Health V	10,689,849.00	-
Essex Woodlands Health Ventures Fund VIII	41,683,465.00	25,125,000.00
Essex Woodlands Health VI	15,057,538.00	1,312,500.00
Essex Woodlands Health VII	63,718,797.00	7,500,000.00
FirstMark Capital Fund II (fka: Pequot PEFII)	1,802,855.11	-
FirstMark Capital III (fka: Pequot PEFIII)	12,929,315.39	271,999.81
FirstMark Capital IV (fka: Pequot PEFIV)	24,257,980.75	3,961,386.17
Flagship Ventures Fund 2004	22,930,483.00	-
Flagship Ventures Fund 2007, L.P.	48,074,503.00	4,875,000.00
Flagship Ventures Fund IV, L.P.	3,036,186.00	11,550,000.00
Fox Paine Capital Fund II, LP	55,833,508.00	16,337,658.43
Frontenac VII	10,176.00	-
Frontenac VIII	8,357,693.00	1,800,000.00
Glencoe Capital Michigan Opportunities Fund, LP	74,055,443.38	77,999,606.57
Glencoe Capital Partners II	5,936,109.00	355,381.00
Glencoe Capital Partners III	9,953,847.48	6,255,972.75
Glencoe Stockwell Fund	400,239,722.51	-
Glencoe Stockwell Fund II, L.P.	121,545,251.65	25,893,983.90
Globespan Capital Partners IV (Jafco)	17,374,385.00	875,000.00
Globespan Capital Partners V, LP	76,315,969.00	11,137,500.00
Green Equity Investors III	9,304,188.00	8,978,083.17
Green Equity Investors IV	104,892,372.73	1,136,035.53
Green Equity Investors V	252,687,601.00	83,369,616.92
Grotech Partners V	806,048.00	-
Grotech Partners VI	13,276,167.00	-
GSO Capital Opportunities Fund II, L.P.	7,829,417.00	32,691,660.00
H.I.G. Bayside Debt & LBO Fund II, LP	8,900,948.87	10,826,890.13
H.I.G. Brightpoint Capital Partners II	39,356,010.00	-
H.I.G. Capital Partners IV, L.P.	15,710,623.00	8,874,166.66
H.I.G. Europe Capital Partners L.P.	18,278,969.98	10,025,487.10
HarbourVest Int'l II Partnership	243,873.00	799,999.00
HarbourVest Int'l III Direct	4,798,015.00	1,000,000.00
HarbourVest Int'l III Partnership	8,735,546.00	1,600,000.00
HarbourVest IV Partnership Fund LP	262,889.00	600,000.00
HarbourVest Partners V - Direct Fund LP	583,170.00	-
HarbourVest V Partnership	2,005,616.00	300,000.00
HarbourVest VI - Direct Fund LP	8,882,981.00	750,000.00
HarbourVest VI Partnership	42,086,610.00	2,750,000.00
Healthcare Venture V	1,185,270.00	-
Healthcare Venture VI	982,378.00	-
Healthcare Venture VII	6,190,886.00	487,500.00
Healthcare Venture VIII	19,884,856.00	10,900,000.00
InterWest Partners IX	12,295,864.83	3,200,000.00
JAFCO America Technology Fund III	2,140,820.00	-
JP Morgan Chase 1998 Pool Participation Fund	3,240,403.00	1,604,605.00
JP Morgan Chase 1999/2000 Pool Participation Fund	3,220,692.00	4,045,214.00
JP Morgan Partners Global Investors	40,206,973.00	3,084,095.00
JPMorgan Global Investors Selldown	31,379,934.00	5,513,867.00
Kelso Investment Associates VII	90,059,042.34	6,496,890.00
Kelso Investment Associates VIII	71,295,495.00	66,797,698.00

**Net Market Values by Ownership Entity**  
**June 30, 2012**

Fund Name	ARV	Unfunded Commitment
Khosla Ventures III, L.P.	47,554,727.00	12,000,000.00
Khosla Ventures IV, L.P.	10,886,003.00	38,500,000.00
KKR 1996 Fund	4,616,991.93	-
KKR 1996 Secondary Fund	557,059.07	10,841.00
KKR 2006 Fund, L.P.	245,929,320.00	23,479,700.00
KKR Asia	101,390,966.00	27,212,000.00
KKR China Growth Fund	23,646,912.00	31,761,000.00
KKR E2 Investors (Annex) Fund	11,867,263.00	18,145,079.00
KKR European Fund II	110,983,249.00	-
KKR European Fund III	61,970,389.00	64,121,921.00
KKR European Fund LP 1	40,895,102.00	307,605.00
KKR Millennium Fund	203,482,574.00	-
KKR North America Fund XI, L.P.	-	125,000,000.00
Lightspeed Venture Partners VI	12,364,243.52	3,299,088.85
Lightspeed Venture Partners VII	35,968,896.00	2,960,435.56
Lion Capital Fund I (HME II)	8,601,964.54	12,843,722.73
Lion Capital Fund II	48,067,762.09	7,487,860.13
Lion Capital Fund III, L.P.	21,874,983.33	50,949,130.15
Long Point Capital Fund	268,851.40	66,927.00
Long Point Capital Fund II	11,245,194.63	1,530,630.00
Matlin Patterson Global Opportunities Partners	68,774.00	-
MatlinPatterson Global Opportunities Partners II	3,243,311.00	92,719.00
MatlinPatterson Global Opportunities Partners III	51,151,243.22	15,001,072.62
Menlo Ventures IX, L.P.	15,191,898.00	-
Menlo Ventures VIII	2,511,938.00	-
Menlo Ventures X, L.P.	22,376,075.00	8,000,000.00
Menlo Ventures XI, L.P.	4,673,817.00	15,000,000.00
MeriTech Capital Partners II, L.P.	4,486,071.00	2,150,000.00
Meritech Capital Partners III, L.P.	104,192,445.00	1,200,000.00
Meritech Capital Partners IV, L.P.	7,145,580.00	12,500,000.00
MeriTech Capital Partners, L.P.	2,196,155.00	6,187,500.00
Michigan Growth Capital Partners, LP	155,384,679.41	38,006,549.33
MPM BioVentures III	7,104,184.00	-
New Leaf Ventures II, L.P.	18,156,598.00	14,525,000.00
Nordic Capital VI, L.P.	42,195,922.37	-
Nordic Capital VII	47,435,477.65	19,057,514.70
North Castle Partners III	5,577,940.00	19,839.18
NV Partners II	1,266,153.00	479,146.56
Oak Investment Partners X, L.P.	17,430,951.21	-
Oak Investments Partners IX, L.P.	3,207,996.43	-
OCM Opportunities Fund VII (B), L.P.	30,493,858.00	25,250,000.00
OCM Opportunities Fund VII, L.P.	29,531,068.00	-
OCM Opportunities Fund VIII B, L.P.	15,321,456.00	22,500,000.00
OCM Opportunities Fund VIII, L.P.	41,339,242.00	-
OCM Principal Opportunities Fund IV	42,212,317.00	5,002,376.50
One Liberty Fund III	843,547.00	-
One Liberty Fund IV	1,791,809.00	-
One Liberty Ventures 2000	11,790,532.00	-
Paine & Partners Capital Fund III, LP	97,513,121.00	45,983,684.00
Parthenon Investors II	16,487,266.00	3,417,779.00

**Net Market Values by Ownership Entity**  
**June 30, 2012**

Fund Name	ARV	Unfunded Commitment
Parthenon Investors III	61,555,124.00	8,764,318.00
Parthenon Investors IV, L.P.	-	40,000,000.00
Peninsula Capital Fund III	6,413,424.09	1,400,000.00
Peninsula Capital Fund IV	24,988,825.36	2,201,025.93
Permira Europe III LP	8,034,622.14	323,607.50
Permira Europe IV	134,446,662.04	17,132,161.50
Phoenix Equity Partners IV	13,796,545.04	4,536,473.66
Primus Capital Fund IV	47,858.79	500,000.00
Primus Capital Fund V	16,410,414.99	712,500.00
Providence Equity Partners V, L.P.	77,767,034.00	13,260,083.00
Providence Equity Partners VI, L.P.	274,242,490.00	41,168,288.00
Questor Partners Fund II	14,514,823.00	5,794,611.79
RFE Investment Partners VII, LP	21,673,031.00	1,983,332.00
RFE Investment Partners VIII, L.P.	2,458,825.00	27,082,171.00
RFE IV Venture	492,589.00	-
RFE V Ventures	66,940.00	397,090.93
RFE VI Ventures	362,545.00	3,211,623.21
Riverside Micro Cap Fund I, LP	69,592,236.00	3,125,017.00
Riverside Micro-Cap Fund II, L.P.	19,764,313.00	16,517,133.00
Silver Lake Partners II	19,526,773.97	3,506,245.93
Silver Lake Partners III	73,947,797.00	41,949,206.00
Sprout Capital IX	3,440,233.00	-
Sprout Capital VII	216,130.00	-
Sprout Capital VIII, L.P.	120,876.00	-
TCW Shared Op Fund III	3,724,801.41	2,781,354.00
TCW Shared Op Fund IV	10,856,511.36	4,603,324.83
TCW Shared Op Fund V	38,884,409.37	11,723,993.00
TCW/Crescent Mezzanine	1.00	-
TCW/Crescent Mezzanine II	1.00	-
TCW/Crescent Mezzanine Partners III, L.P.	5,223,978.17	4,552,763.00
TCW/Crescent Mezzanine Partners IV, L.P.	48,832,911.55	7,010,855.00
TCW/Crescent Mezzanine Partners V, LLC	119,637,824.32	29,583,821.00
The Huron Fund III, L.P.	17,825,547.00	15,472,500.00
The Shansby Group 4	44,756,561.00	1,166,256.85
The Shansby Group 5 (TSG5)	123,490,782.00	20,575,579.74
TPG IV (Texas Pacific Group IV)	31,611,236.00	3,638,891.00
TPG Partners III, LP	40,196,503.00	2,087,002.00
TPG Partners VI, L.P.	150,862,890.00	111,739,321.00
TPG V (Texas Pacific Group V)	181,981,972.00	41,892,388.00
TSG6, L.P.	-	125,000,000.00
Tullis - Dickerson Capital II	5,997,716.25	-
Tullis - Dickerson Capital III	9,183,379.84	-
Unitas Asia Opportunity Fund	224,020.47	-
Unitas Asia Opportunity Fund II	90,690,590.84	26,750,584.62
Unitas Asia Opportunity Fund III	41,526,581.20	51,804,096.32
Warburg Pincus Equity Partners, L.P.	14,958,288.00	-
Warburg Pincus International Partners	37,331,879.00	-
Warburg Pincus Private Equity IX	211,209,385.00	-
Warburg Pincus Private Equity VIII, L.P.	66,302,220.17	-
Warburg Pincus Private Equity X, L.P.	291,205,226.00	12,300,000.00

**Net Market Values by Ownership Entity**  
**June 30, 2012**

Fund Name	ARV	Unfunded Commitment
<b>Warburg Pincus Private Equity XI, L.P.</b>	<b>12,600,000.00</b>	<b>187,400,000.00</b>
Warburg Pincus Ventures Int'l	408,170.00	-
Weiss, Peck & Greer V (adm: Opus Capital)	4,592,207.28	386,240.15
WestAm COREplus Private Equity QP	14,217,018.67	3,073,318.52
WestAm Special Private Equity Partners	10,273,313.00	2,455,371.92
Wind Point Partners III	2,303,285.00	-
Wind Point Partners IV	3,029,299.00	1,541,518.00
Wind Point Partners V, L.P.	15,527,817.00	455,013.00
Wind Point Partners VI	37,770,574.00	8,382,764.00
Wind Point Partners VII	38,167,385.00	37,132,848.00
<b>Total Alternative Investments *</b>	<b>\$ 10,621,187,923</b>	<b>\$ 3,805,576,180</b>

\* Total Alternative Investment amounts do not include Cash and Active Small Cap



**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**ABSOLUTE AND REAL RETURN REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**SEPTEMBER 6, 2012**



**James L. Elkins, Administrator  
Short-Term Fixed Income, Absolute and Real Return Division**





# EXECUTIVE SUMMARY

## **Absolute Return**

### **Portfolio Performance**

- The portfolio outperformed the HFRI Fund of Funds Conservative Index by 78 basis points (bp) for the second quarter. Eurozone concerns as well as reduced expectations for economic growth globally, eroded positive results from earlier in the quarter.

### **Strategy Overview**

- Arbitrage - Many event-driven managers gave back a portion of the prior quarter's gain, with value and event oriented equities responsible for most of the loss. Fixed income arbitrage generated a gain for the quarter due to opportunities in RMBS and structured corporate credit.
- Credit/Distressed - Liquidations continued to perform well during the quarter, with Lehman Brothers making its first distribution in April. Managers took advantage of the volatility during the quarter to make opportunistic purchases that rebounded in June. RMBS and structured credit continued to perform well during the period, with gains coming from price appreciation and income.
- Long/Short Equity - Long/Short managers generated a loss during the quarter as equity correlations rose. Long positions in energy and technology stocks and short positions in consumer and healthcare companies were drivers of the losses. Several company-specific catalysts occurred during the quarter in media equities and healthcare companies that mitigated the losses elsewhere in the portfolio.
- Brevan Howard Multi-Strategy Fund was funded (\$100 million) during the quarter.

## **Real Return & Opportunistic**

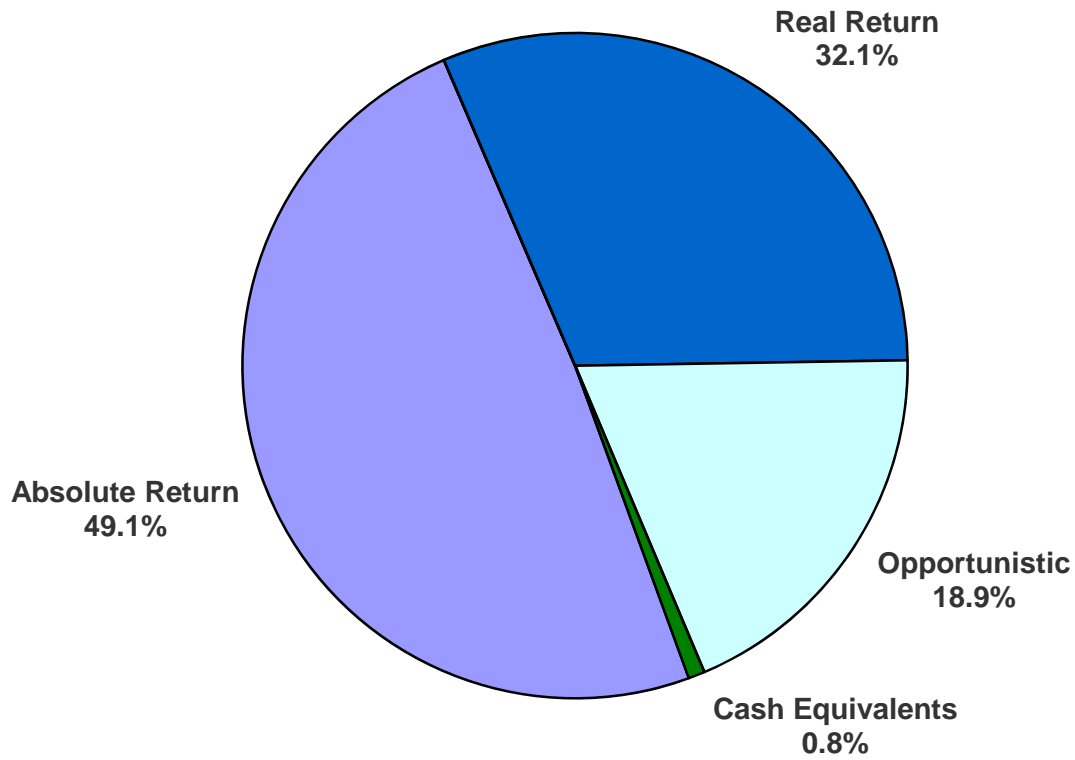
- The commodity portfolio underperformed the Dow Jones UBS Commodity Total Return Index by 272 bp for the second quarter. The enhanced passive strategies were underweight grains including corn, which hit an all-time high this summer. Most of the portfolio managers have various levels of backwardation enhancements, thus missing out on the front month rally in the perpetually contangoed natural gas.
- The fund committed €50 million to Apollo European Principal Finance Fund II.



# SMRS

## Absolute and Real Return

6/30/2012



Market Value in Millions				
	<u>6/30/2012</u>		<u>3/31/2012</u>	
Absolute Return	\$1,854	49.1%	\$1,749	48.1%
Real Return	1,178	31.2%	1,166	32.1%
Opportunistic	715	18.9%	683	18.8%
Cash Equivalents	30	0.8%	36	1.0%
<b>Total Investments</b>	<b>\$3,777</b>	<b>100.0%</b>	<b>\$3,634</b>	<b>100.0%</b>

# ABSOLUTE AND REAL RETURN

As of June 30, 2012

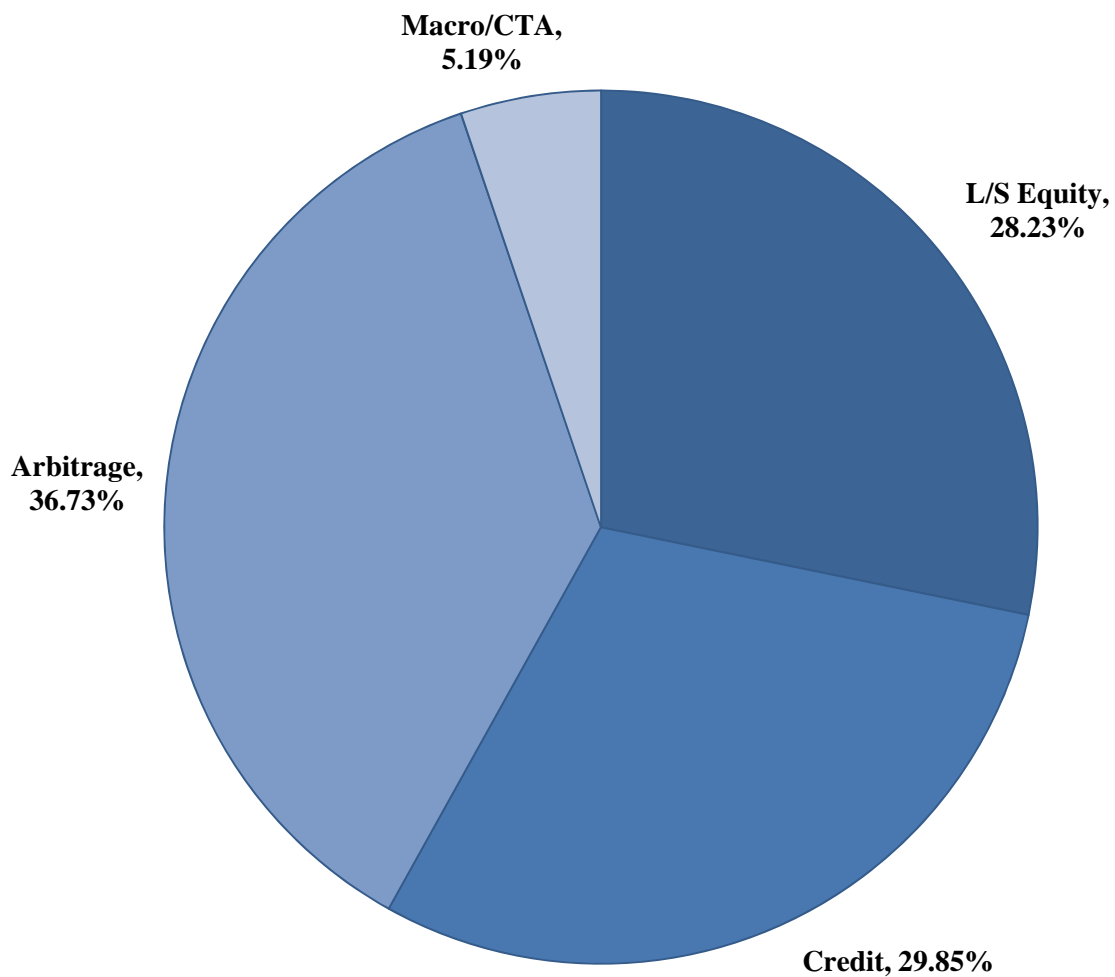
## Absolute Return Portfolio Summary

<u>Advisor/Fund Name</u>	<u>Net Market Value</u>
Sand Hill	\$1,022,505,608
Tahquamenon	268,153,320
EnTrust White Pine	249,259,083
Apollo Credit Strategies Fund	117,363,779
<b>Brevan Howard Multi-Strategy Fund</b>	<b>100,000,000</b>
Bain Absolute Return Capital	51,047,581
PSAM - Spartan Fund	29,295,475
Elliott International	9,825,000
FrontPoint Multi-Strategy Fund	6,151,962
<b>Total Market Value</b>	<b><u><u>\$1,853,601,808</u></u></b>

# ABSOLUTE AND REAL RETURN

As of June 30, 2012

## Absolute Return Investments By Strategy



Underlying Funds:	103	Median Position Size:	0.49%
Strategies:	4	Average Position Size:	0.97%
Relationships:	9	Largest Position Size:	6.36%

# ABSOLUTE AND REAL RETURN

As of June 30, 2012

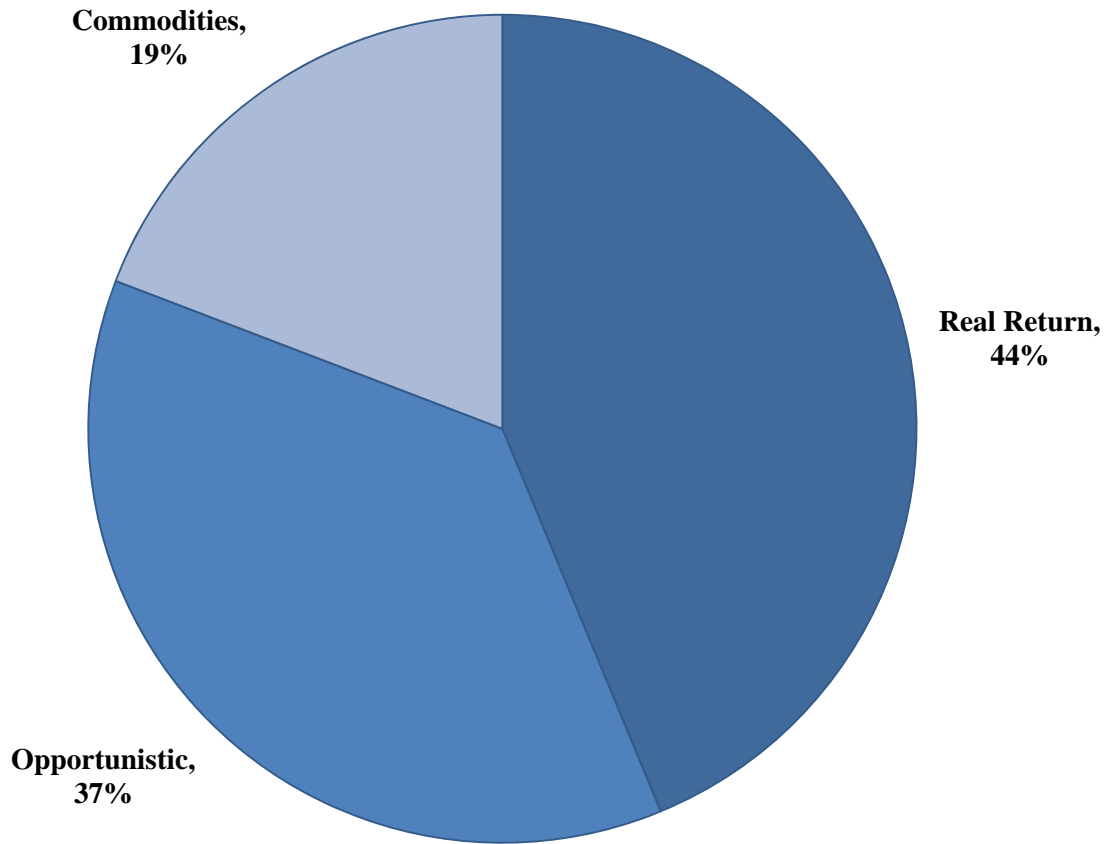
## Real Return & Opportunistic Portfolio Summary

<u>Advisor/Fund Name</u>	<u>Net Market Value</u>	<u>Unfunded Commitment</u>
Social Network Holdings, LLC	\$ 463,439,379	
Commodity Holdings	363,312,207	
Apollo Credit Fund	260,308,657	
HPS Senior Loan Fund II	164,737,218	52,169,912
SJC Direct Lending Fund	138,983,326	58,721,628
Lakewater, LLC	107,222,120	78,894,981
Galaxie Ave., LLC	104,117,700	
Abernathy Fund I, LLC	68,715,646	146,299,483
Fairfield Settlement Partners, LLC	62,748,493	60,556,289
KKR Lending Partners	45,699,631	55,597,014
Emerald Co-invest	43,665,795	
Structured Credit Recovery Fund II	35,000,000	15,000,000
Energy Recapitalization and Restructuring Fund	17,038,036	117,876,418
<b>Apollo European Principal Finance Fund</b>	<b>13,427,486</b>	<b>36,572,514</b>
JP Morgan Global Maritime Fund	2,204,618	115,737,386
Hopen Life Sciences Fund II	1,574,592	8,250,000
Renaissance Venture Cap Fund II	750,000	24,250,000
<b>Total Market Value</b>	<b><u><u>\$1,892,944,903</u></u></b>	<b><u><u>\$769,925,625</u></u></b>

# ABSOLUTE AND REAL RETURN

As of June 30, 2012

## Real Return & Opportunistic Portfolio Investments By Strategy



**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**INTERNATIONAL EQUITY  
REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**SEPTEMBER 6, 2012**



**Richard J. Holcomb, CFA, Administrator  
Quantitative Analysis Division**





# EXECUTIVE SUMMARY

## Outlook

- International equities are expected to remain under pressure as recognition of system credit risk in multiple asset categories progress, and write-offs continue. Greece, Portugal, Italy, and Ireland debt problems are unresolved and Spain has now joined the group. Structural reforms that reduce risk have been proposed, but harmonized accounting rules and regulation are illusive goals. Earnings growth in the next year is expected to be slower than U.S. growth. Growth expectations in emerging markets are relatively positive, but slowing with the European and Chinese markets. Political instability remains an issue.
- Indices are at reasonable levels for progressive buying of exposure over the next 6 to 18 months. These additions will be primarily through external managers to continue diversification, and recognize a better environment for active fundamental analysis techniques.
- Emerging markets are expected to discount weaker overall demand and economic concerns, but growing local demand is real and the longer term outlook is positive. Political instability, lack of established and tested legal systems, regulation, possible nationalization of assets and changing tax regimes are continuing concerns. Individual company financing of receivables and other strategic changes will reduce many company returns for the next few years.

## Investment Plan

- Move toward desired higher asset allocation targets in a progressive series of investments with both passive and active managers. Take advantage of external manager capacity and established conduits as market corrections occur. Move some assets from other categories as international equities become more attractive on a relative basis.
- Add new counterparties with strong credit ratings and unique capabilities for diversification and helpful information for decision-making. Identify external managers for incremental additions and attractive niche investments.
- Be aware of opportunistic situations with non-benchmark and active products that may be stressed by withdrawal activities if they occur. Accept reasonable tracking error risk to products based on other benchmarks and exchange traded funds.
- Encourage managers to view U.S. equities as substitutes for international equities up to 20% of the funds as they once did with emerging markets holdings.
- Take advantage of attractive corporate spreads in Libor notes that reset quarterly. Prepare for derivative market changes by focusing on standardized structures, increasing collateral balances and more frequent settlement requirements. Major regulatory clarification for international local country index derivatives is not expected until 2013.

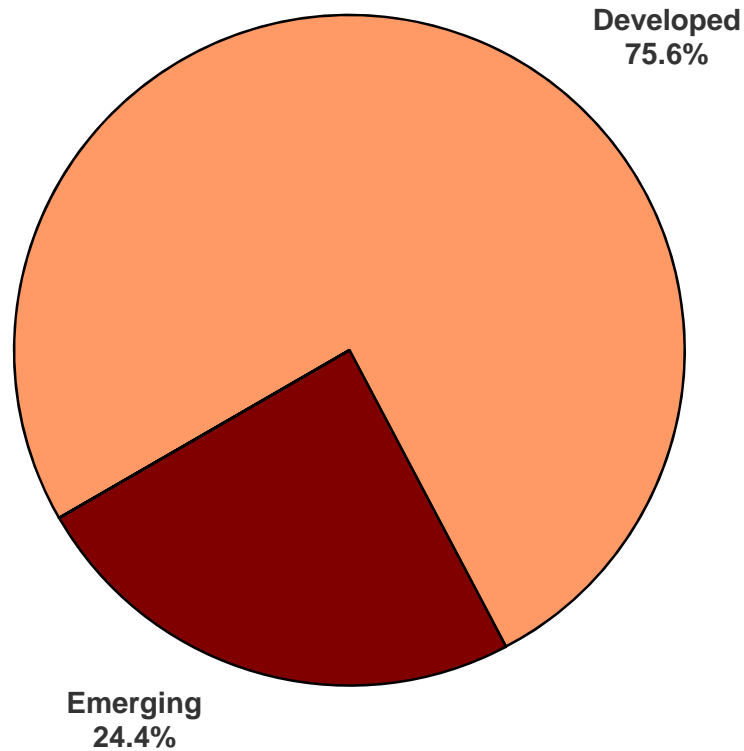
## Performance Review for International Investments

- Performance of the total international equity positions in developed markets versus the MSCI ACWI ex USA benchmark was  $-6.43\%$  versus  $-7.38\%$  in the second quarter, resulting in a +95 basis points (bp) tracking error and a cumulative +198 basis points for the trailing year. Both variance numbers are within the normal expected range that recognizes a 250 basis point possible variance. The three and five-year numbers reflect the market decline in 2009 and recovery from the significant fixed income price disruption environment. The three and five-year tracking error numbers were +265 and +98 basis points, respectively. Emerging markets represent approximately 25.4% of the MSCI ACWI ex USA benchmark.
- The largest component in passive exposure to international developed market returns is the internally managed stock plus fund. The approximate \$1.0 billion of negotiated swap agreement contracts are combined with internally managed fixed income Libor note holdings and an internal Global Dividend Income fund. All counterparties used for swap agreements are investment grade. The net unrealized gain on the combined positions was \$11 million as of June 30, 2012. Recognized but unrealized gains from fixed income Libor notes, remarked at lower cost values, but expected to be held to maturity are now \$19 million. Libor notes held are listed at the end of this report.
- The S&P BMI EPAC 25% hedged benchmark is used for internal stock plus passive position management and related risk control analysis. The performance of total international equity investments in developed markets was  $-6.46\%$  in the second quarter versus the benchmark's return of  $-6.84\%$ . The one, three and five-year tracking error numbers are positive 95, 193 and 62 basis points, respectively.
- Externally managed, active strategy funds in all Non-U.S. equity categories totaled \$2.9 billion.
- External active international fund managers are compared to the S&P Developed BMI World X U.S. benchmark index in U.S. dollars, which had a return of  $-5.86\%$  in the quarter and  $-12.74\%$  for the trailing year. Manager returns are now quite diversified, and reflect different investment strategies and approaches. External active managers have been given the authority to use a limited amount of emerging or U.S. market exposure (i.e. for security substitution purposes), but those uses are considered individually and are normally constrained to no more than 20% of their portfolios.
- The Emerging Market Index returns were  $-8.89\%$  for the quarter, and  $-15.95\%$  for the trailing year. Passive and active exposure of \$1.7 billion to emerging markets plays a significant diversification role, but returns were more negative than developed markets. Fifty-seven percent of exposure to Emerging Markets is passive.



# SMRS

## International Equity Holding By Category SMRS Versus Benchmark 6/30/12

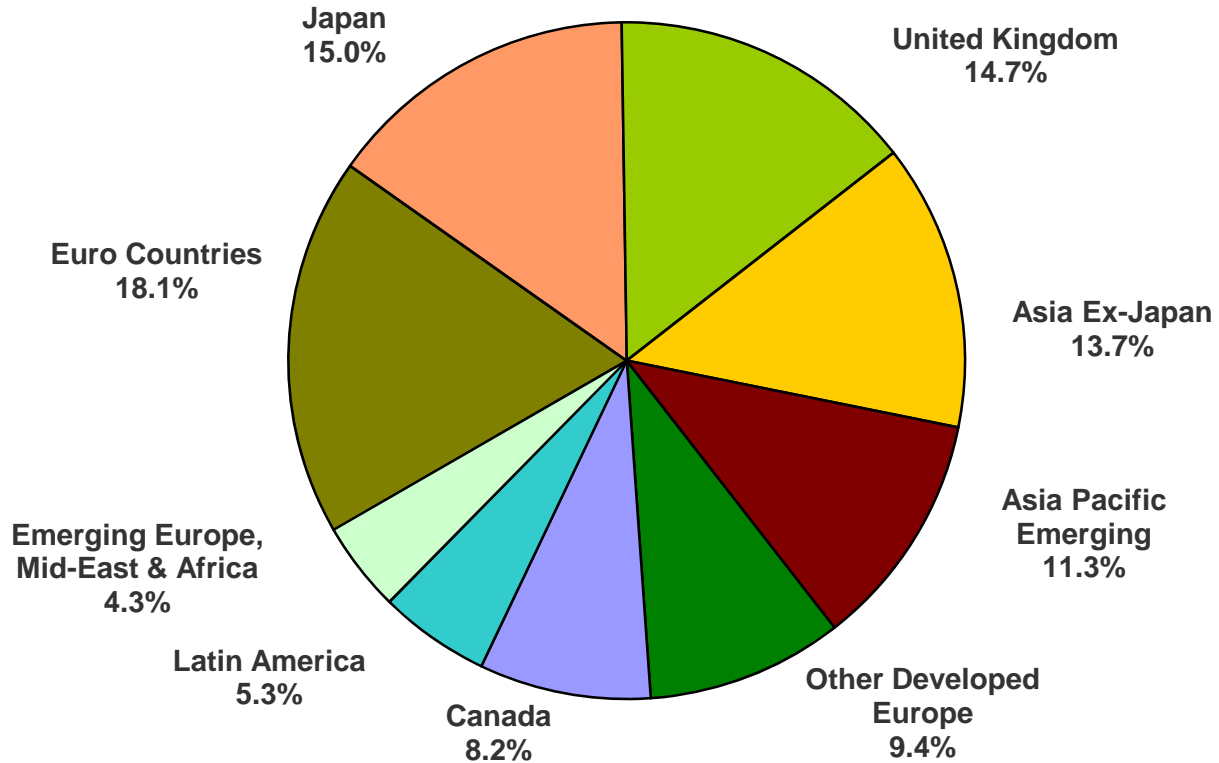


	<u>SMRS</u>	<u>Benchmark</u>
Developed	75.6%	74.6%
Emerging	24.4%	25.4%
<b>Sub-Total</b>	<b>100.0%</b>	<b>100.0%</b>
Cash	0.0%	0.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>



# SMRS

## S&P Global BMI - EX U.S. 6/30/12



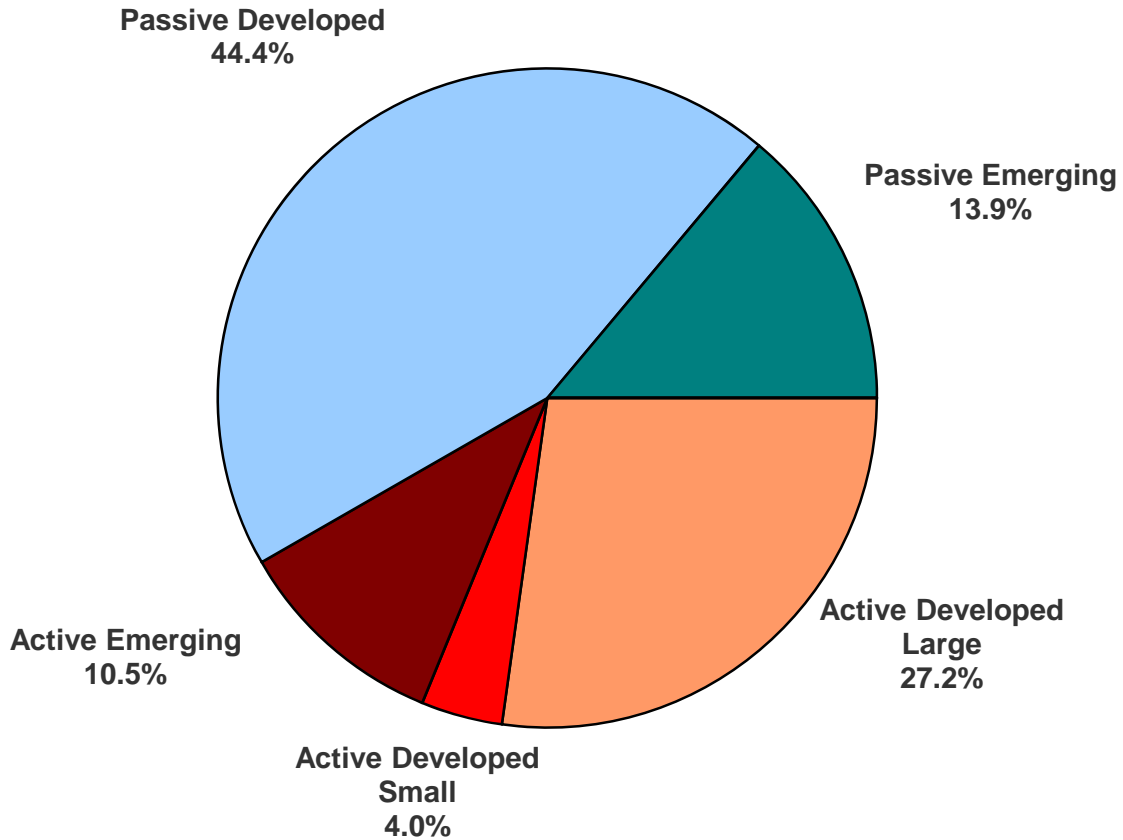
### Investments by Region

	<u>Benchmark</u>
Euro Countries	18.1%
Japan	15.0%
United Kingdom	14.7%
Asia Ex-Japan	13.7%
Asia Pacific Emerging	11.3%
Other Developed Europe	9.4%
Canada	8.2%
Latin America	5.3%
Emerging Europe, Mid-East & Africa	4.3%
<b>Total</b>	<b>100.0%</b>



# SMRS

## International Equity Holdings By Category 6/30/12

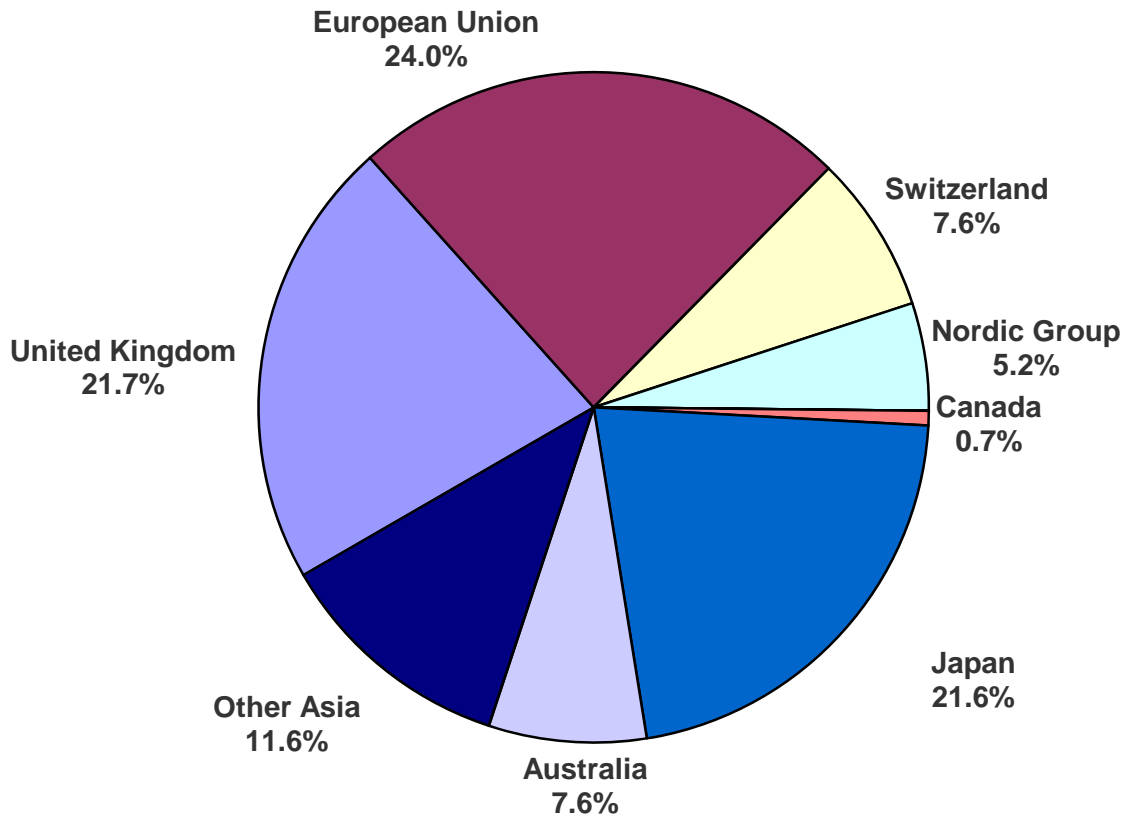


Market Value in Millions				
	<u>6/30/2012</u>		<u>3/31/2012</u>	
<b>Active</b>				
Developed Large	\$1,904	27.2%	\$2,023	27.7%
Developed Small	279	4.0%	87	1.2%
Emerging	739	10.5%	695	9.5%
<b>Total Active Equity</b>	<b>2,922</b>	<b>41.7%</b>	<b>2,805</b>	<b>38.4%</b>
<b>Passive</b>				
Developed	\$3,107	44.4%	\$3,401	46.5%
Emerging	974	13.9%	1,063	14.5%
<b>Total Passive Equity</b>	<b>4,081</b>	<b>58.3%</b>	<b>4,464</b>	<b>61.0%</b>
<b>Total Investments</b>	<b>7,003</b>	<b>100.0%</b>	<b>7,269</b>	<b>99.4%</b>
Cash Equivalentents	\$0	0.0%	\$45	0.6%
<b>Total International Equity</b>	<b>\$7,003</b>	<b>100.0%</b>	<b>\$7,314</b>	<b>100.0%</b>



# SMRS

## Developed International Passive Equity SMRS Versus BMI EPAC Benchmark 6/30/12



	<u>SMRS</u>	<u>Benchmark</u>
<b>Europe</b>		
United Kingdom	21.7%	20.9%
European Union	24.0%	25.6%
Switzerland	7.6%	7.5%
Nordic Group	5.2%	5.2%
Other Europe	0.0%	0.0%
<b>Total Europe</b>	<b>58.5%</b>	<b>59.2%</b>
<b>Asia</b>		
Japan	21.6%	21.3%
Australia	7.6%	8.2%
Other Asia	11.6%	11.3%
<b>Total Asia</b>	<b>40.8%</b>	<b>40.8%</b>
Canada	0.7%	0.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>

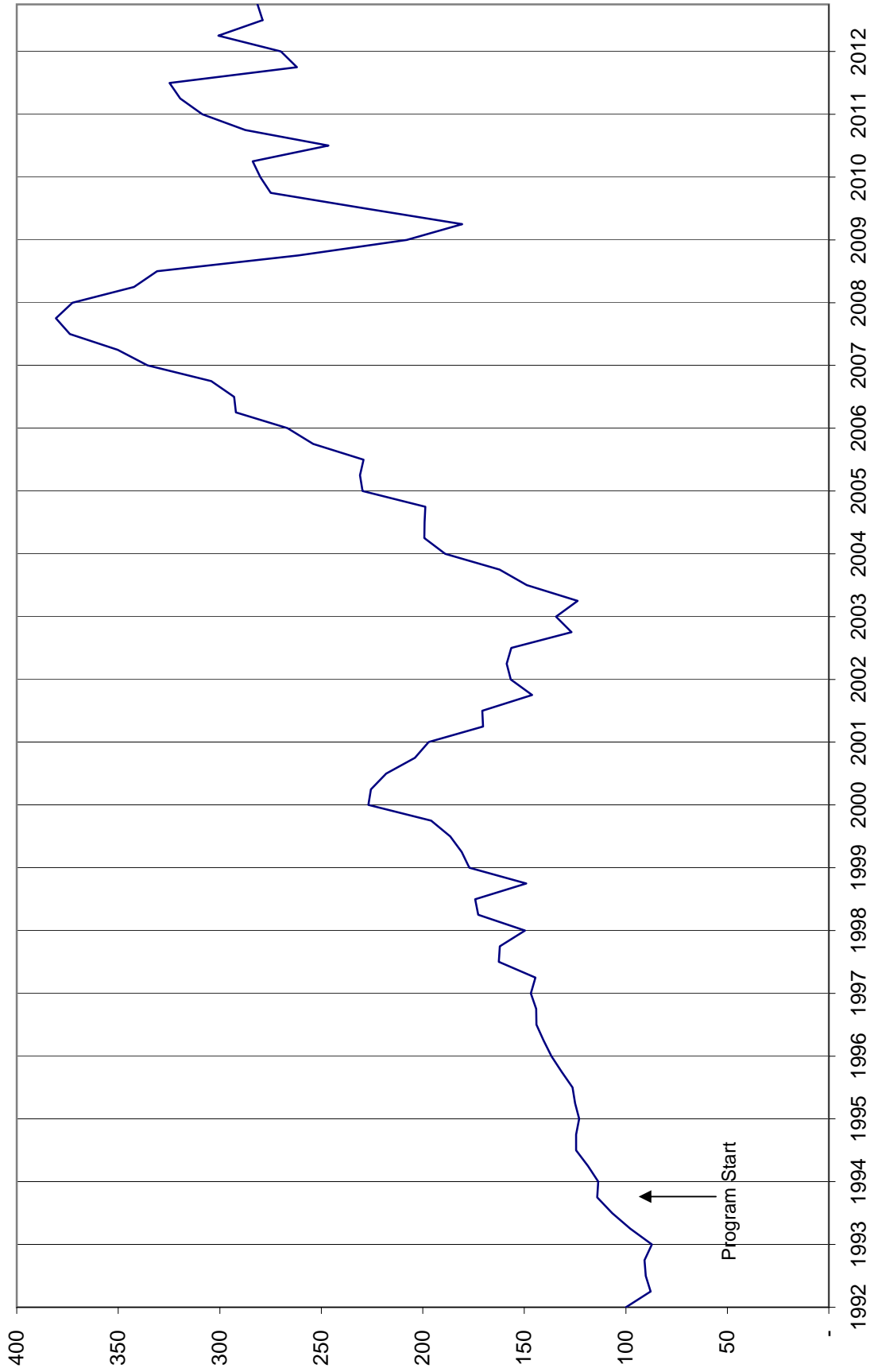
**Total Developed International Passive Equity Investment: \$3,107 Million**

**SMRS NON-US EQUITIES**

**June 30, 2012**

	<u>INDEXED</u>	<u>ACTIVE</u>	<u>TOTAL</u>	<u>Percent</u>
<b>Developed Markets - Large/Mid Capitalization</b>				
Internal Stock Plus Combination	\$1,232,106,000		\$1,232,106,000	
SSgA PMI fund	453,855,000		453,855,000	
Vanguard Developed Markets Fund	995,981,000		995,981,000	
SSgA International Alpha Select BMI Fund		\$393,131,000	393,131,000	
Wellington International Research Equity Fund		391,176,000	391,176,000	
PIMCO Stock Plus		646,923,000	646,923,000	
Marathon-London EAFE		238,352,000	238,352,000	
Baillie Gifford ACWI Ex US Alpha		234,365,000	234,365,000	
<b>Sub-Total Developed Large/Mid Cap</b>	<b>\$2,681,942,000</b>	<b>\$1,903,947,000</b>	<b>\$4,585,889,000</b>	<b>65.5%</b>
<b>Developed Markets - Small Capitalization</b>				
SSgA EMI Fund	\$424,881,000		\$424,881,000	
SSgA International Small Cap Alpha Fund		\$80,306,000	80,306,000	
MFS International Small Cap		96,100,000	96,100,000	
Franklin Templeton Int'l Small Cap Fund		103,105,000	103,105,000	
<b>Sub-Total Developed Small Cap</b>		<b>704,392,000</b>	<b>704,392,000</b>	<b>10.1%</b>
<b>Total Developed Markets</b>			<b>\$5,290,281,000</b>	<b>75.5%</b>
<b>Emerging Markets - All Capitalization</b>				
Vanguard Emerging Mkt Stock Index Fund	\$973,791,000		\$973,791,000	
LACM Emerging Market Fund		\$185,293,000	185,293,000	
PIMCO Emerging Market Fund		452,336,000	452,336,000	
Wellington Emerging Market Fund		101,070,000	101,070,000	
<b>Total Emerging</b>			<b>\$1,712,490,000</b>	<b>24.5%</b>
<b>TOTAL</b>	<b>\$4,080,614,000</b>	<b>\$2,922,157,000</b>	<b>\$7,002,771,000</b>	<b>100%</b>
<b>Percent</b>	<b>58.3%</b>	<b>41.7%</b>		

**BMI EPAC Net Dividend Return Index (USD)**





## SMRS SWAP AGREEMENTS

### International Equity Exposure

Maturity Date	Trade Date	Notional	Countries	Indices	Local Currency	
					FX Expos.	U.S. Dollar No FX Expos.
07/13/2012	07/13/2011	90,003,758	2	2	100%	0%
10/19/2012	10/21/2011	190,000,000	5	5	76%	24%
10/19/2012	10/21/2011	13,000,000	1	1	100%	0%
10/19/2012	10/07/2011	130,000,000	7	7	100%	0%
12/03/2012	12/01/2011	214,999,996	8	8	100%	0%
12/03/2012	12/16/2011	35,000,000	5	5	100%	0%
01/18/2013	02/15/2012	12,000,000	2	2	0%	100%
01/18/2013	01/18/2012	30,000,000	2	2	100%	0%
01/18/2013	01/18/2012	39,991,452	2	2	100%	0%
03/12/2013	03/12/2012	85,000,000	5	5	32%	68%
04/16/2013	04/16/2012	10,000,000	1	1	0%	100%
04/17/2013	04/17/2012	50,000,000	7	7	4%	96%
06/18/2013	06/25/2012	100,000,000	7	7	100%	0%

	Total	<b>999,995,207</b>
Notional maturing during 2012		<b>673,003,754</b> 67%

# Index Reference Summary Price Returns w/o Dividends

Index	Description	Region	6/29/12		05/31/12		03/30/12		12/30/11		12/31/09		12/31/09		Date
			Current Level	MTD	Level	% Chg	Level	% Chg	Level	% Chg	Level	% Chg	Level	% Chg	
<b>US</b>															
DJIA		USA	12,880.09	3.93%	12,393.45	-2.51%	13,212.04	5.42%	12,217.56	-9.28%	14,198.10	10/11/07	6,469.95	99.08%	3/6/09
S&P 500		USA	1,362.16	3.96%	1,310.33	-3.29%	1,408.47	8.31%	1,257.60	-13.57%	1,576.09	10/11/07	666.79	104.29%	3/6/09
S&P Midcap		USA	941.64	1.73%	925.63	-5.30%	994.30	7.11%	879.16	-7.56%	1,018.65	5/2/11	370.83	153.93%	10/10/02
S&P Small		USA	445.44	4.04%	428.13	-3.89%	463.45	7.32%	415.07	-3.67%	462.42	7/7/11	169.64	162.58%	10/10/02
NASDAQ Composite		USA	2,935.05	3.81%	2,827.34	-5.06%	3,091.57	12.66%	2,605.15	-42.82%	5,132.62	3/10/00	1,108.49	164.78%	10/10/02
NASDAQ 100 (QQQQ)		USA	64.16	3.38%	62.06	-5.02%	67.55	14.92%	55.83	-46.76%	120.50	3/24/00	19.76	224.70%	10/8/02
Russell 1000		USA	750.61	3.66%	724.12	-3.63%	778.92	8.26%	693.36	-12.58%	858.63	10/11/07	362.25	107.21%	3/6/09
Russell 2000		USA	798.49	4.81%	761.82	-3.83%	830.30	7.77%	740.92	-8.07%	868.57	5/2/11	324.90	145.76%	10/10/02
<b>Composite Indices - International</b>															
BMI EPAC (USD)		Non-US Dev.	209.19	6.23%	196.92	-8.33%	228.20	1.45%	206.20	-38.31%	339.11	10/31/07	111.85	87.03%	3/12/03
PMI EPAC (USD)		Non-US Dev.	202.99	6.57%	190.48	-8.17%	221.04	1.09%	200.79	-38.60%	330.58	10/31/07	114.21	77.73%	3/12/03
EMI EPAC (USD)		Non-US Dev.	234.27	4.43%	224.34	-9.21%	258.04	3.44%	226.47	-35.34%	362.32	7/16/07	99.77	134.81%	10/10/02
EAFE I-Share (USD)		Non-US Dev.	49.96	4.61%	47.76	-8.98%	54.89	0.87%	49.53	--	N/A	--	N/A	--	--
EAFE		Non-US Dev.	1,423.38	6.79%	1,332.89	-8.37%	1,533.46	0.77%	1,412.55	-40.66%	2,398.71	11/1/07	813.30	75.01%	3/13/03
BMI EPAC (Local)		Non-US Dev.	165.47	4.38%	158.53	-6.74%	177.43	2.61%	161.26	-40.29%	277.12	7/13/07	110.06	50.35%	3/12/03
MSCI Emerging (USD)		Emerging	370.52	3.88%	356.75	-8.89%	406.67	3.93%	356.50	-21.72%	473.35	10/29/07	75.12	393.23%	9/21/01
FTSE RAFI Emerging (USD)		Emerging	5,769.99	3.53%	5,573.46	-12.35%	6,583.30	-0.20%	5,781.49	-27.24%	7,930.70	11/1/07	972.52	493.30%	10/3/01
<b>Europe</b>															
CAC-40		France	3,196.65	5.95%	3,017.01	-6.63%	3,423.81	1.17%	3,159.81	-53.97%	6,944.77	9/4/00	2,401.15	33.13%	3/12/03
DAX-30		Germany	6,416.28	2.42%	6,264.38	-7.64%	6,946.83	8.78%	5,898.35	-19.15%	8,151.57	7/13/07	2,188.75	193.15%	3/12/03
EuroStoxx		Europe	2,264.72	6.88%	2,118.94	-8.58%	2,477.28	-2.24%	2,316.55	-58.99%	5,522.42	3/7/00	1,765.49	28.28%	3/9/09
<b>UK</b>															
FTSE-100		U.K.	5,571.15	4.70%	5,320.86	-3.42%	5,768.45	-0.02%	5,572.28	-19.61%	6,930.20	1/4/00	3,277.50	69.98%	3/12/03
<b>Pacific</b>															
TOPIX		Japan	770.08	7.03%	719.49	-9.86%	854.35	5.69%	728.61	-57.78%	1,823.89	2/27/07	698.46	10.25%	3/12/09
KOSPI 200		S. Korea	244.90	0.35%	244.05	-8.13%	266.58	2.86%	238.08	-17.13%	295.51	5/3/11	57.02	329.50%	9/27/01
<b>Currencies</b>															
Euro (\$ / Euro)		Europe	1.2667	2.46%	1.2363	-5.07%	1.3343	-2.27%	1.2961	1.2961	1.2961				Note: Positive returns show local currency strength and USD weakness.
Pound (\$ / Pound)		U.K.	1.5707	1.88%	1.5417	-1.88%	1.6008	1.06%	1.5543	1.5543	1.5543				
Yen (Yen / \$)		Japan	79.80	-1.77%	78.39	3.85%	82.87	-3.62%	76.91	76.91	76.91				
US Dollar (LC JPM / \$)		USA	83.60	1.52%	82.35	3.17%	81.03	1.65%	82.24	82.24	82.24				Note: Based on J.P. Morgan Index (US dollar vs. a trade weighted basket of non-US developed market currencies)
FX - Major Curr, Nominal (F USA)			73.93	0.00%	73.93	2.26%	72.29	2.33%	72.24	72.24	72.24				

SUMMARY OF PASSIVE INTERNATIONAL MANAGERS  
06/30/2012  
Valuation Report

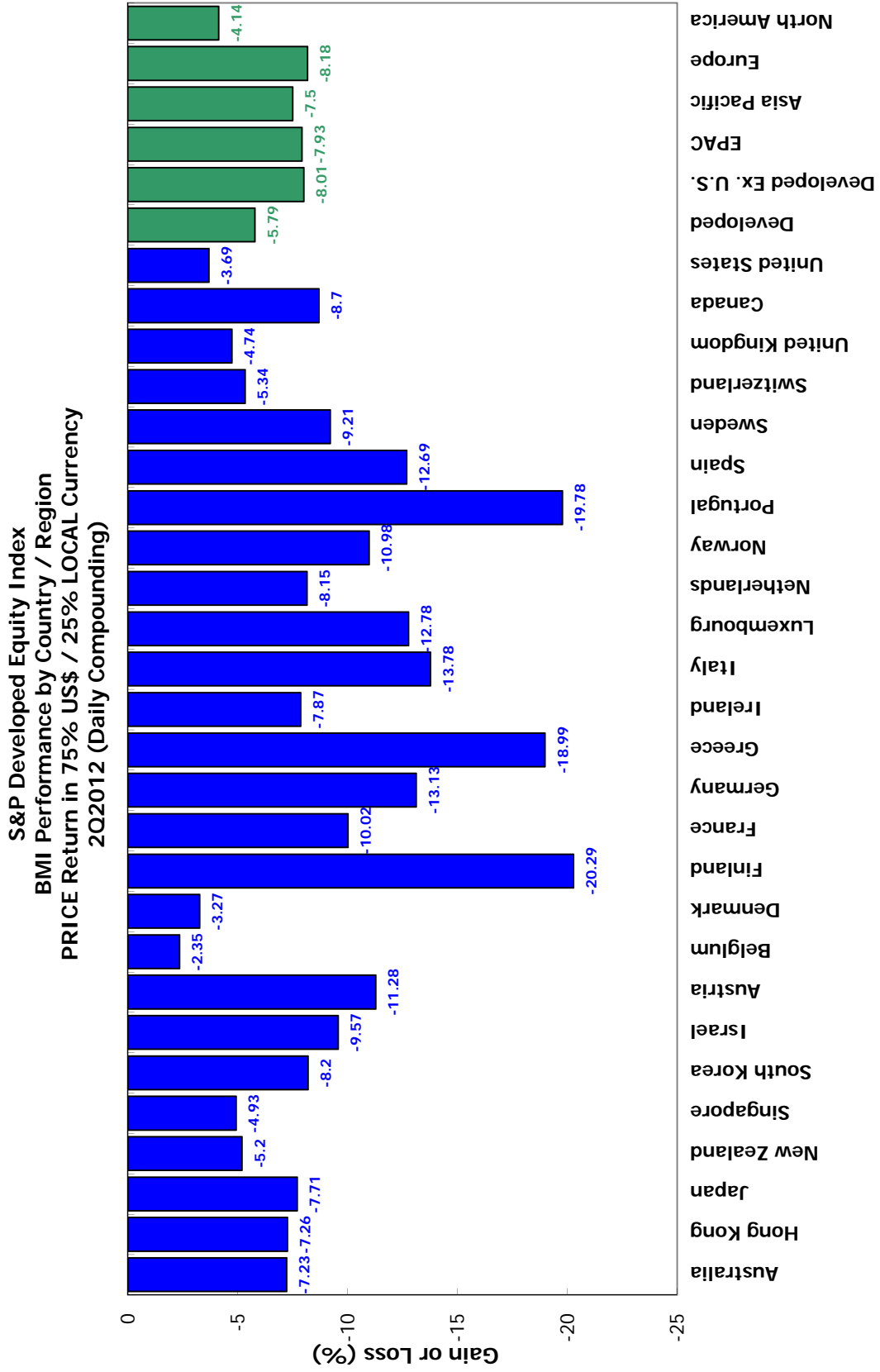
	<u>Country</u>	<u>Total Cost</u>	<u>% of Total</u>	<u>Current Value</u>	<u>% of Total</u>
SSgA EMI Fund					
	Europe	\$176,961,894	6.33%	\$254,410,482	8.93%
	Pacific	<u>\$129,449,997</u>	<u>4.63%</u>	<u>\$170,470,535</u>	<u>5.98%</u>
Small Cap Sub-Total		\$306,411,891		\$424,881,017	
SSgA PMI Fund	EPAC	\$386,091,313	13.81%	\$453,855,068	15.93%
Vanguard Dev. Mkts.	EAFE	<u>\$1,068,009,660</u>	38.20%	<u>\$995,980,729</u>	34.96%
Large Cap Sub-Total		\$1,454,100,973		\$1,449,835,797	
Vanguard Emerging Mkts.	EMEA	<u>\$1,035,064,561</u>	37.03%	<u>\$973,791,396</u>	34.19%
Large Cap Emerging Sub-Total		\$1,035,064,561		\$973,791,396	
<b>External Passive Total</b>		<b>\$2,795,577,425</b>	<b>100.00%</b>	<b>\$2,848,508,210</b>	<b>100.00%</b>

**International Swap Portfolio**  
**Month End Report**  
**06/30/12**

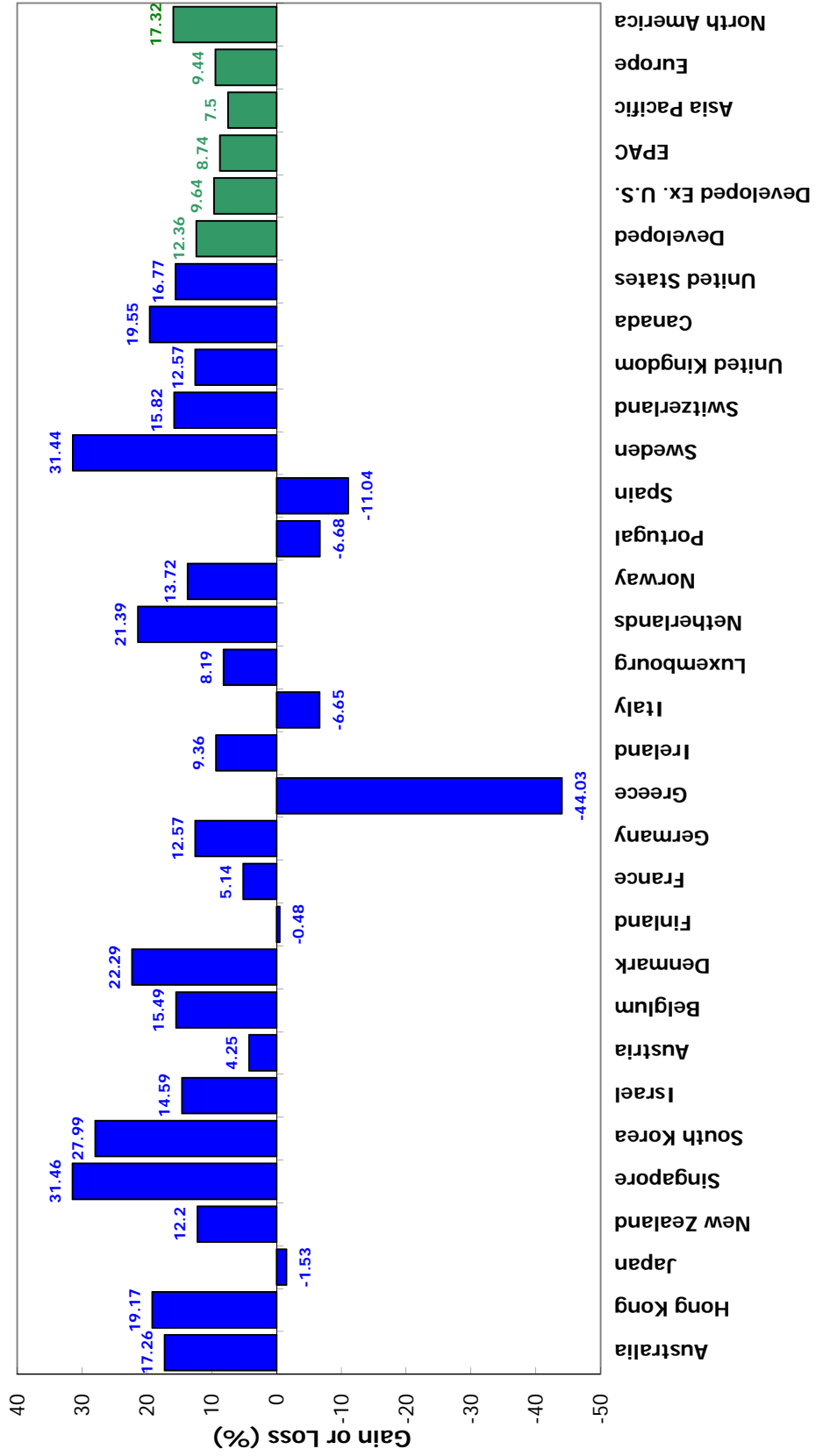
COUNTRY	STOCK INDEX	AVERAGE SET LEVEL	NOTIONAL AMOUNT	% OF TOTAL	INDEX 06/30/12	CURRENT NOTIONAL	% OF TOTAL	UNREALIZED GAIN/LOSS	% CHG
<b>EUROPE</b>									
United Kingdom	FTSE 100 INDEX	3,798.21	-	20.50%	5,571.15	-	0.00%	-	0.81%
United Kingdom	FTSE 100 TOTAL RETURN INDEX	3,863.18	204,999,306	20.55%	3,863.18	206,662,657	20.55%	1,663,351	0.81%
United Kingdom	FTSE 250 INDEX	6,088.16	-	7.00%	10,932.13	-	0.00%	-	0.48%
Germany	DAX INDEX	6,088.16	69,994,342	7.00%	6,416.28	70,328,119	6.99%	333,778	0.48%
Germany	DAX MID-CAP INDEX	-	-	-	10,343.71	-	0.00%	-	-
France	CAC 40 INDEX	-	-	-	3,196.65	-	0.00%	-	-
France	CAC 40 TOTAL RETURN INDEX	6,616.09	95,004,452	9.50%	6,822.01	90,782,669	9.03%	(4,221,783)	-4.44%
France	CAC MID100 INDEX	-	-	-	6,051.58	-	0.00%	-	-
Switzerland	SWISS MARKET INDEX	9,992.41	-	7.68%	6,066.86	-	0.00%	-	1.31%
Switzerland	SWISS MARKET TOTAL RETURN INDEX	9,992.41	76,797,111	7.68%	10,228.26	77,805,104	7.74%	1,007,993	1.31%
Switzerland	SPI MEDIUM COMPANIES INDEX	-	-	-	6,600.49	-	0.00%	-	-
Netherlands	AMSTERDAM EXCHANGES INDEX	847.69	25,300,000	2.53%	307.31	24,835,002	2.47%	(464,998)	-1.84%
Netherlands	AMSTERDAM EXCHANGES TOTAL RETURN INDEX	847.69	25,300,000	2.53%	837.03	24,835,002	2.47%	(464,998)	-1.84%
Netherlands	AMSTERDAM MIDCAP INDEX	-	-	-	504.58	-	0.00%	-	-
Spain	IBEX 35 INDEX	15,741.59	10,000,000	1.00%	7,102.20	9,203,376	0.92%	(796,624)	-7.97%
Spain	IBEX 35 TOTAL RETURN INDEX	15,741.59	10,000,000	1.00%	14,890.10	9,203,376	0.92%	(796,624)	-7.97%
Portugal	PORTUGAL PSI-20 INDEX	22,941.23	-	0.50%	23,196.10	4,917,409	0.49%	(82,591)	-1.65%
Italy	MILAN MIB30 INDEX	-	-	-	-	-	-	-	-
Italy	MILAN MIB30 TOTAL RETURN INDEX	135.26	21,020,000	2.10%	134.09	20,747,485	2.06%	(272,515)	-1.30%
Italy	MILAN MID-CAP INDEX	-	-	-	-	-	-	-	-
Sweden	OMX (STOCKHOLM) INDEX	616.76	3,000,000	0.30%	612.74	2,980,446	0.30%	(19,554)	-0.65%
Sweden	OMX (STOCKHOLM) TOTAL RETURN INDEX	616.76	3,000,000	0.30%	612.74	2,980,446	0.30%	(19,554)	-0.65%
Ireland	IRISH OVERALL INDEX	4,512.68	10,900,000	1.09%	2,227.63	11,082,343	1.10%	182,343	1.67%
Ireland	IRISH OVERALL TOTAL RETURN INDEX	4,512.68	10,900,000	1.09%	2,227.63	11,082,343	1.10%	182,343	1.67%
Belgium	BEL20 INDEX	40.67	7,000,000	0.70%	42.21	7,387,600	0.73%	387,600	5.54%
Finland	FOX 25 INDEX	455.97	9,000,000	0.90%	446.04	8,804,000	0.88%	(196,000)	-2.18%
Denmark	KFX INDEX	382.20	11,000,000	1.10%	375.55	10,808,608	1.08%	(191,392)	-1.74%
Norway	OBX STOCK TOTAL RETURN INDEX	382.20	11,000,000	1.10%	375.55	10,808,608	1.08%	(191,392)	-1.74%
Norway	OBX STOCK INDEX	-	-	-	-	-	-	-	-
Norway	FTSE/ASE 20 INDEX	-	-	-	-	-	-	-	-
Greece	AUSTRIAN TRADED ATX INDEX	-	-	-	-	-	-	-	-
Austria	AUSTRIAN TRADED ATX INDEX	-	-	-	-	-	-	-	-
<b>Asia</b>									
Japan	TOPIX INDEX (TOKYO)	952.41	235,000,000	23.50%	1,001.27	238,678,865	23.74%	3,678,865	1.57%
Japan	TOPIX TOTAL RETURN INDEX (TOKYO)	952.41	235,000,000	23.50%	1,001.27	238,678,865	23.74%	3,678,865	1.57%
Japan	TSE2 TOPIX 2ND SECT INDEX	-	-	-	-	-	-	-	-
Hong Kong	HANG SENG STOCK INDEX	42,554.69	45,000,000	4.50%	43,092.42	45,604,159	4.54%	604,159	1.34%
Hong Kong	HANG SENG TOTAL RETURN STOCK INDEX	42,554.69	45,000,000	4.50%	43,092.42	45,604,159	4.54%	604,159	1.34%
Australia	ASX 200 INDEX	31,603.07	70,000,000	7.00%	31,904.52	72,516,662	7.21%	2,516,662	3.60%
Australia	ASX 200 TOTAL RETURN INDEX	31,603.07	70,000,000	7.00%	31,904.52	72,516,662	7.21%	2,516,662	3.60%
New Zealand	NZSE 10 INDEX	299.76	2,000,000	0.20%	279.86	1,867,201	0.19%	(132,799)	-6.64%
New Zealand	NZSE 10 TOTAL RETURN INDEX	299.76	2,000,000	0.20%	279.86	1,867,201	0.19%	(132,799)	-6.64%
Singapore	STI INDEX	3,661.24	23,000,000	2.30%	3,896.47	24,477,739	2.43%	1,477,739	6.42%
Singapore	STI TOTAL RETURN INDEX	3,661.24	23,000,000	2.30%	3,896.47	24,477,739	2.43%	1,477,739	6.42%
Korea	KOREA KOSPI 200 INDEX	241.73	55,999,996	5.60%	244.90	57,388,577	5.71%	1,388,580	2.48%
Canada	TX60AR INDEX	1,591.22	19,980,000	2.00%	1,515.07	18,538,651	1.84%	(1,441,349)	-0.14%
<b>TOTAL COMPOSITE</b>			\$ 999,995,207	100.00%		\$ 1,005,416,673	100.00%	5,421,466	0.54%
	LIBOR NOTES		\$ 785,763,020			\$ 791,226,120		\$ 5,463,099	0.70%
	CURRENT NET MARKET VALUE:		\$ 785,763,020			\$ 791,226,120		\$ 5,463,099	0.70%

NOTES:  
1. Notional amounts include currency change impacts, and changes related to dividend reinvestment in some agreements  
2. Current net market value excludes cash balances related to interest on continuing swaps of \$127.1 Million as of 06/30/12  
3. Information on completed swaps: (201 completed)

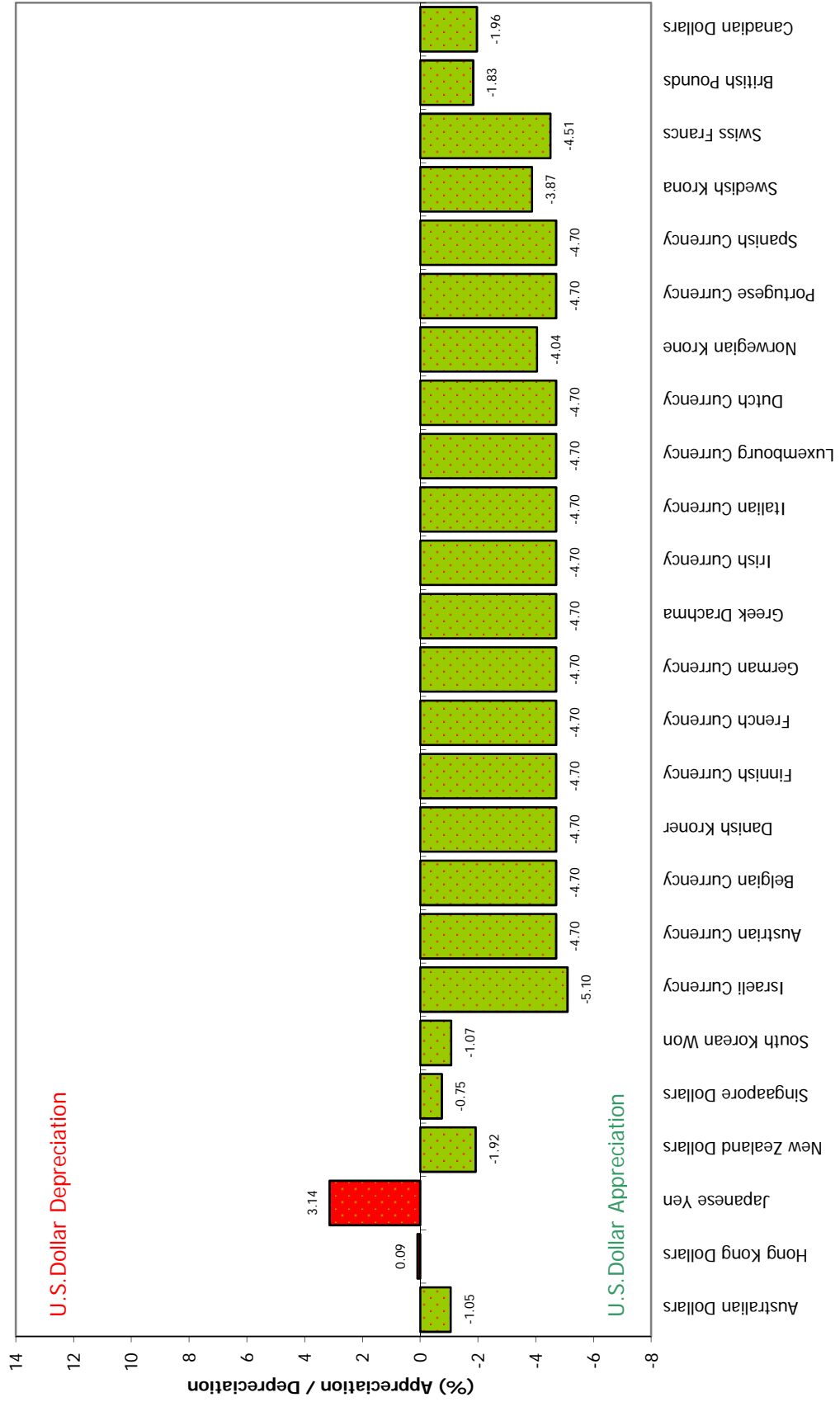
Gains/Losses on Equity Swap Agreements	\$ 2,464,448,564.20
Net Interest received on Fixed Income	\$ 799,171,475.68
Gains/Losses on Dedicated Fixed Income	\$ 30,862,368.78
<b>TOTAL</b>	
Total realized Gain/Losses and Net Interest	3,294,482,408.66



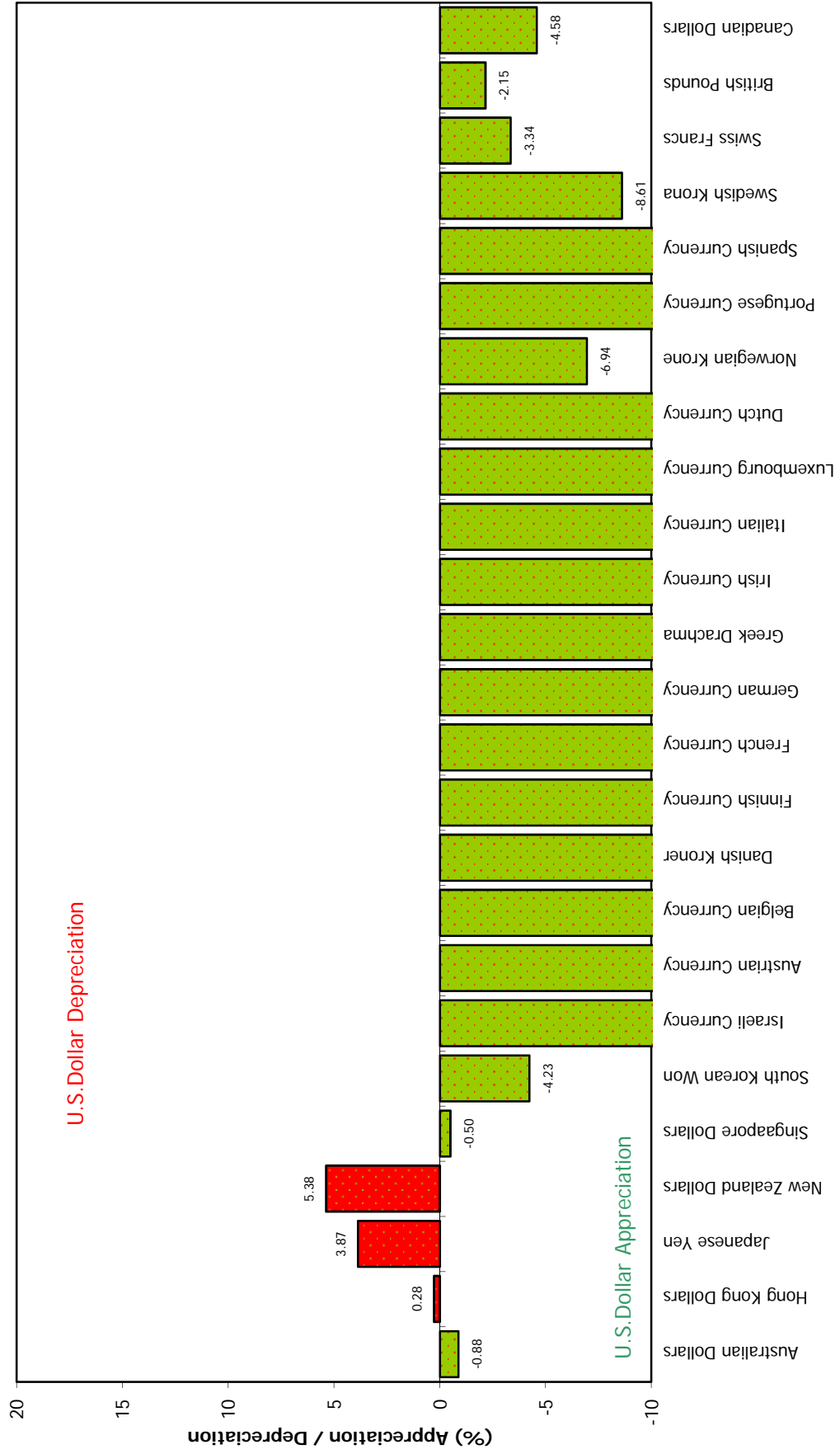
**S&P Developed Equity Index  
 BMI Performance by Country / Region  
 NET Total Rates of Return in 75% US\$ / 25% LOCAL Currency  
 2Q2012 Trailing 4 Quarters (Daily Compounding)**



**S&P Developed Equity Index  
 Currency Performance versus the U.S. Dollar (In Percentage Terms)  
 30Mar2012 to 29JUN2012**

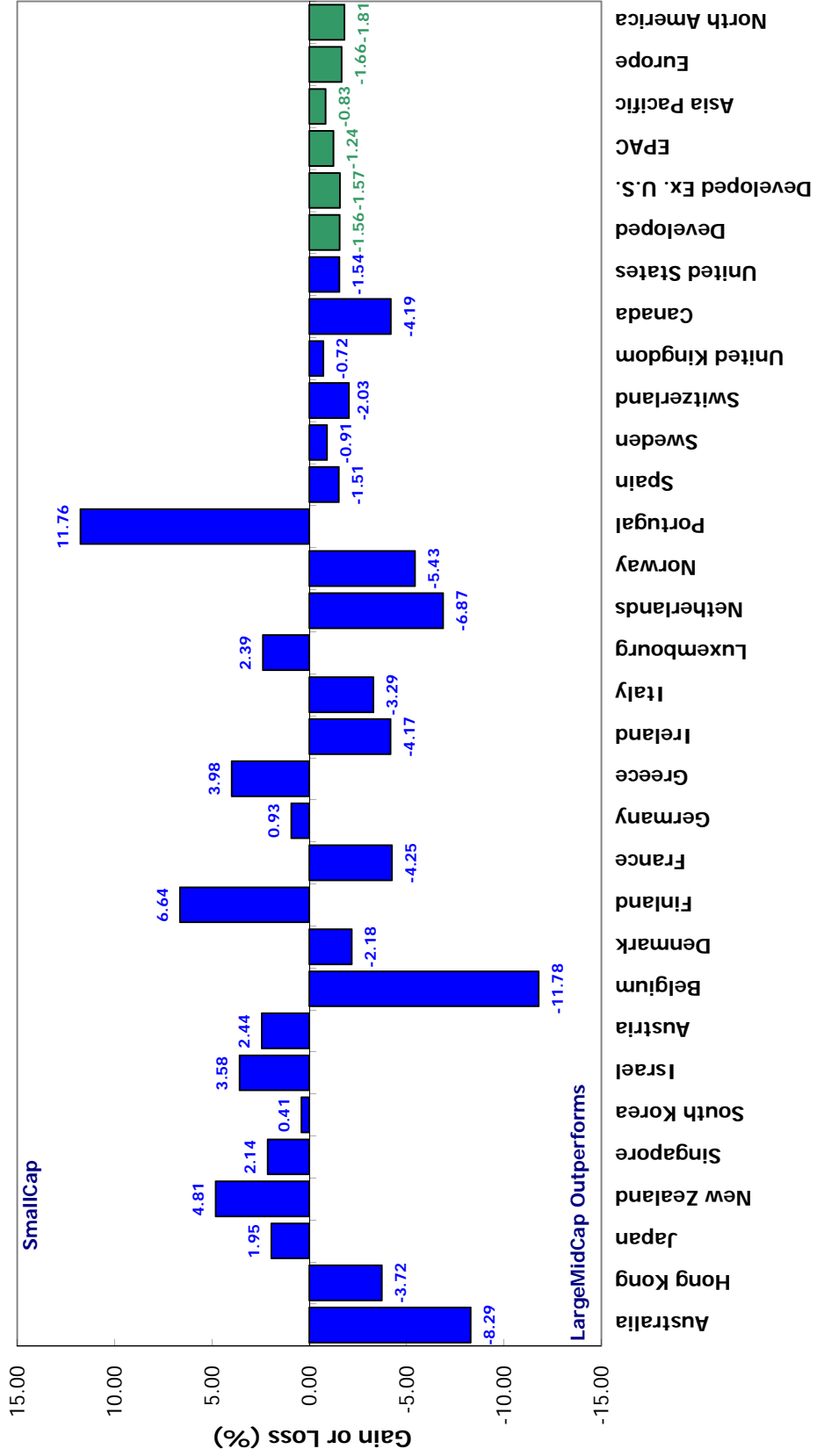


**S&P Developed Equity Index  
 Currency Performance versus the U.S. Dollar (In Percentage Terms)  
 30Mar2012 to 29JUN2012**

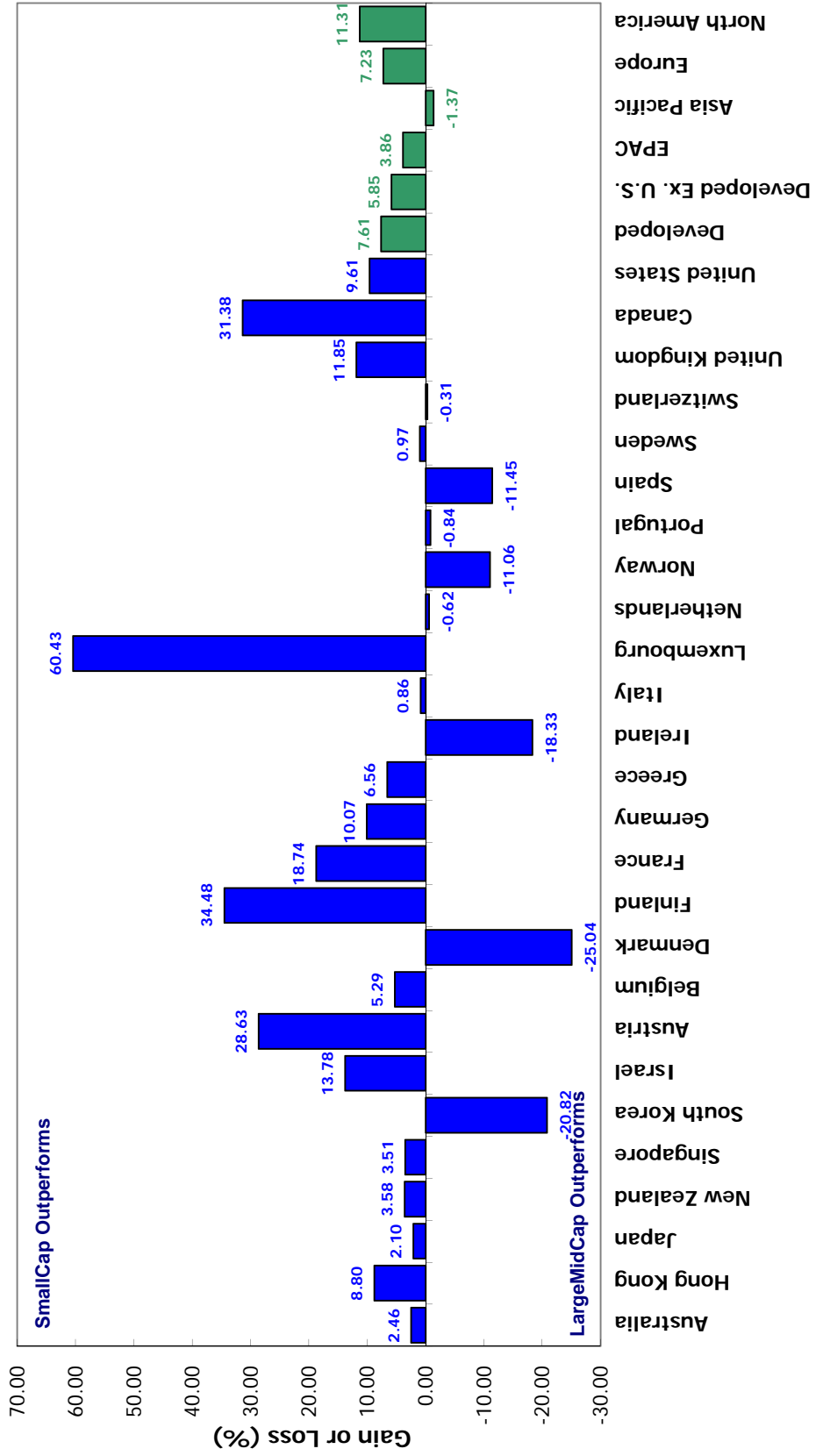




S&P Developed Equity Index  
 SmallCap minus LargeMidCap  
 Total Rates of Return in Local Currency  
 2Q2012 (Daily Compounding)



**S&P Developed Equity Index  
SmallCap minus LargeMidCap  
Total Rates of Return in U.S. Dollars  
2Q2012 Trailing 4 Quarters (Daily Compounding)**



INTERNATIONAL SWAP FIXED INCOME DETAILS Sorted by Issuer											MONTHEND: 7/31/12	
CUSIP	NOTE NAME	MAT. DATE	PAR	COST	MKT VALUE	G/L	% G/L	CR. RATING	SPREAD			
06406hbv0	BANK OF NEW YORK MELLON	1/31/2014	12,000,000.00	12,032,852.00	12,032,064.00	(588.00)	0.00%	Aa3	0.280%			
06406hbv0	BANK OF NEW YORK MELLON	1/31/2014	9,000,000.00	9,002,232.00	9,024,048.00	21,816.00	0.24%	Aa3	0.280%			
06406hbv0	BANK OF NEW YORK MELLON	1/31/2014	24,000,000.00	24,005,952.00	24,064,128.00	59,176.00	0.24%	Aa3	0.280%			
			<b>45,000,000.00</b>	<b>45,040,836.00</b>	<b>45,120,240.00</b>	<b>79,404.00</b>	<b>0.18%</b>					
064159an6	BANK OF NOVA SCOTIA	1/12/2015	50,000,000.00	50,761,545.00	50,737,000.00	(24,545.00)	-0.05%	Aa1	1.040%			
			<b>50,000,000.00</b>	<b>50,761,545.00</b>	<b>50,737,000.00</b>	<b>(24,545.00)</b>	<b>-0.05%</b>					
06740pr40	BARCLAYS BANK PLC	1/13/2014	500,000,000.00	479,739.17	498,156.00	18,416.84	3.84%	A2	0.860%			
06740pr40	BARCLAYS BANK PLC	1/13/2014	2,500,000,000.00	2,398,695.83	2,490,780.00	92,084.17	3.84%	A2	0.860%			
06740pr40	BARCLAYS BANK PLC	1/13/2014	50,000,000.00	49,042,600.00	49,815,600.00	773,000.00	1.58%	A2	0.860%			
06740pr40	BARCLAYS BANK PLC	1/13/2014	3,000,000.00	2,890,020.00	2,988,936.00	98,916.00	3.42%	A2	0.860%			
06740pr40	BARCLAYS BANK PLC	1/13/2014	32,815,710.00	31,612,666.07	32,694,665.66	1,081,999.59	3.42%	A2	0.860%			
06740pr40	BARCLAYS BANK PLC	1/13/2014	10,184,290.00	9,810,974.93	10,146,730.34	335,755.41	3.42%	A2	0.860%			
06740pr40	BARCLAYS BANK PLC	1/13/2014	1,000,000.00	980,852.00	996,312.00	15,460.00	1.58%	A2	0.860%			
			<b>100,000,000.00</b>	<b>97,215,567.99</b>	<b>99,631,200.00</b>	<b>2,415,632.01</b>	<b>2.48%</b>					
084664bp5	BERKSHIRE HATHAWAY FIN	1/10/2014	35,000,000.00	34,678,140.00	35,136,465.00	458,325.00	1.32%	Aa2	0.330%			
084664bp5	BERKSHIRE HATHAWAY FIN	1/10/2014	15,000,000.00	14,904,382.50	15,058,485.00	154,102.50	1.03%	Aa2	0.330%			
084664bp5	BERKSHIRE HATHAWAY FIN	1/10/2014	5,000,000.00	4,968,127.50	5,019,495.00	51,367.50	1.03%	Aa2	0.330%			
			<b>55,000,000.00</b>	<b>54,550,650.00</b>	<b>55,214,445.00</b>	<b>663,795.00</b>	<b>1.22%</b>					
13606XW87	CANADIAN IMP BK COMM NY	4/12/2016	9,000,000.00	9,024,240.60	9,085,284.00	61,043.40	0.68%	Aa2	0.720%			
13606XW87	CANADIAN IMP BK COMM NY	4/12/2016	41,000,000.00	41,110,429.40	41,388,516.00	278,086.60	0.68%	Aa2	0.720%			
			<b>50,000,000.00</b>	<b>50,134,670.00</b>	<b>50,473,800.00</b>	<b>339,130.00</b>	<b>0.68%</b>					
17296FM8	CITIGROUP INC	2/15/2013	40,000,000.00	39,333,920.00	40,004,440.00	670,520.00	1.70%	Baa2	0.850%			
			<b>40,000,000.00</b>	<b>39,333,920.00</b>	<b>40,004,440.00</b>	<b>670,520.00</b>	<b>1.70%</b>					
36962g2i0	GENERAL ELEC CAP CORP	2/15/2017	76,900,000.00	72,361,438.90	72,633,511.10	272,072.20	0.38%	A1	0.170%			
36962g2i0	GENERAL ELEC CAP CORP	2/15/2017	27,100,000.00	25,519,175.70	25,596,464.90	77,289.20	0.30%	A1	0.170%			
36962g2i0	GENERAL ELEC CAP CORP	2/15/2017	29,000,000.00	27,283,993.00	27,391,051.00	107,068.00	0.39%	A1	0.170%			
36962g2i0	GENERAL ELEC CAP CORP	2/15/2017	16,100,000.00	14,503,451.05	15,206,755.90	703,304.85	4.85%	A1	0.170%			
36962g2i0	GENERAL ELEC CAP CORP	2/15/2017	18,400,000.00	16,575,372.63	17,379,149.60	803,776.97	4.85%	A1	0.170%			
36962g2i0	GENERAL ELEC CAP CORP	2/15/2017	23,500,000.00	21,169,633.52	22,196,196.50	1,026,562.98	4.85%	A1	0.170%			
36962g2i0	GENERAL ELEC CAP CORP	2/15/2017	9,000,000.00	8,424,099.00	8,500,671.00	76,572.00	0.91%	A1	0.170%			
			<b>200,000,000.00</b>	<b>185,837,153.80</b>	<b>188,903,800.00</b>	<b>3,066,646.20</b>	<b>1.65%</b>					
46623eccc0	JPMORGAN CHASE & CO	11/1/2012	35,000,000.00	35,052,780.00	35,008,540.00	(44,240.00)	-0.13%	A2	0.150%			
46623eccc0	JPMORGAN CHASE & CO	11/1/2012	22,000,000.00	22,007,524.00	22,005,368.00	(2,156.00)	-0.01%	A2	0.150%			
46623eccc0	JPMORGAN CHASE & CO	11/1/2012	43,000,000.00	42,890,264.00	43,010,492.00	120,228.00	0.28%	A2	0.150%			
			<b>100,000,000.00</b>	<b>99,950,568.00</b>	<b>100,024,400.00</b>	<b>73,832.00</b>	<b>0.07%</b>					
78008KV83	ROYAL BANK OF CANADA	3/9/2016	40,000,000.00	39,509,408.00	39,572,800.00	63,392.00	0.16%	Aa3	0.500%			
78008KV83	ROYAL BANK OF CANADA	3/9/2016	10,000,000.00	9,877,352.00	9,893,200.00	15,848.00	0.16%	Aa3	0.500%			
			<b>50,000,000.00</b>	<b>49,386,760.00</b>	<b>49,466,000.00</b>	<b>79,240.00</b>	<b>0.16%</b>					
78010jg18	ROYAL BK OF SCOTLAND PLC	3/11/2014	35,000,000.00	34,094,970.00	34,601,402.15	506,432.15	1.49%	A2	1.530%			
78010jg18	ROYAL BK OF SCOTLAND PLC	3/11/2014	15,000,000.00	14,612,130.00	14,829,172.35	217,042.35	1.49%	A2	1.530%			
			<b>50,000,000.00</b>	<b>48,707,100.00</b>	<b>49,430,574.50</b>	<b>723,474.50</b>	<b>1.49%</b>					
89153uaa9	TOTAL CAPITAL CANADA LTD	1/17/2014	23,000,000.00	23,093,955.00	23,115,920.00	21,965.00	0.10%	Aa1	0.380%			
89153uaa9	TOTAL CAPITAL CANADA LTD	1/17/2014	40,000,000.00	40,163,400.00	40,201,600.00	38,200.00	0.10%	Aa1	0.380%			
			<b>63,000,000.00</b>	<b>63,257,355.00</b>	<b>63,317,520.00</b>	<b>60,165.00</b>	<b>0.10%</b>					
			<b>803,000,000.00</b>	<b>784,176,125.79</b>	<b>792,323,419.50</b>	<b>8,147,293.71</b>	<b>1.04%</b>					



**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**INDEXED DOMESTIC EQUITY  
REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**SEPTEMBER 6, 2012**



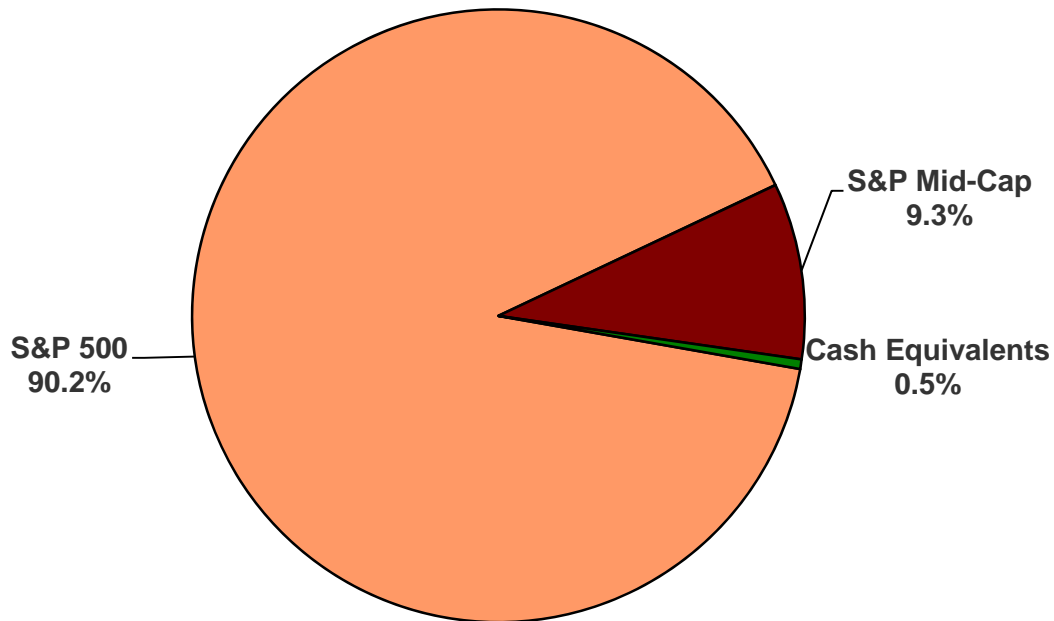
**Richard J. Holcomb, CFA, Administrator  
Quantitative Analysis Division**





# SMRS

## Domestic Passive Equity Investments 6/30/12



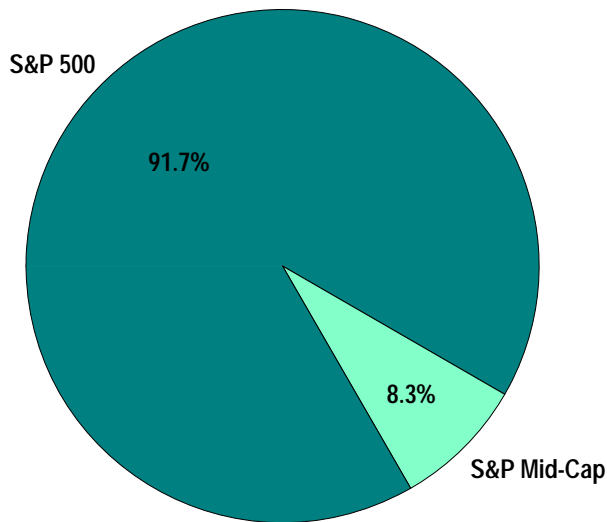
Market Value in Millions			Benchmark
S&P 500	\$5,828	90.2%	91.7%
S&P Mid-Cap	<u>602</u>	<u>9.3%</u>	<u>8.3%</u>
Total Investments	\$6,430	99.5%	100.0%
Cash Equivalents	<u>34</u>	<u>0.5%</u>	<u>0.0%</u>
<b>Total</b>	<b>\$6,464</b>	<b>100.0%</b>	<b>100.0%</b>



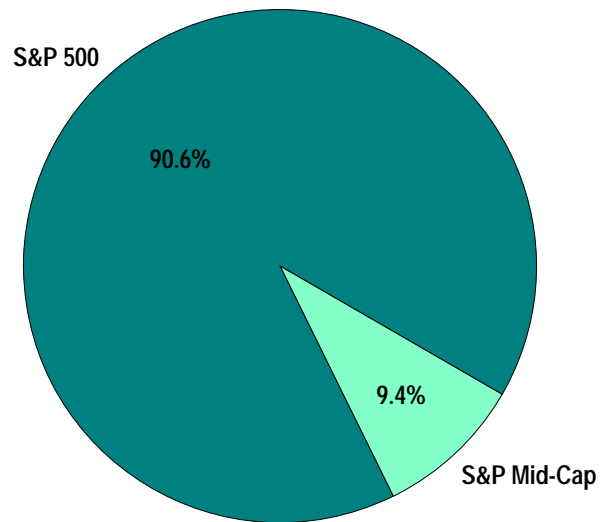
# SMRS

## Passive U.S. Equity Exposure 06/30/12

*Standard & Poor's 900*



*SMRS Actual*



	<u>S&amp;P Benchmarks</u>		<u>SMRS Position Values</u>		
	<u>06/30/12 Market Cap.</u>	<u>06/30/12 Weights</u>	<u>06/30/12 Market Value</u>	<u>06/30/12 Weights</u>	<u>03/31/12 Market Value</u>
S&P 500	\$12,312 B	91.7%	\$5,859 M	90.6%	\$6,020 M
S&P Mid-Cap	\$1,116 B	8.3%	\$606 M	9.4%	\$646 M



# Indexed Domestic Equity Quarter Ending 06/30/12

## U.S. Index Portfolios

6/30/2012	6/30/2012	6/30/2012	6/30/2012	6/30/2012	Period	Transaction	S&P
Portfolio	Index	Synthetic	Cash	Cash Flow	Activity	SMRS	
Value	Level	% Ending	% Ending	% Beginning	% Beginning	% Weight	% Weight
\$ 5,858,652,277	1,362.16	0.00%	0.38%	-0.08%	2.12%	90.63%	91.69%
\$ 605,945,156	941.64	0.00%	0.50%	-1.59%	5.22%	9.37%	8.31%
\$ 6,464,597,433	313.85	0.00%	0.39%	-0.22%	2.41%	100.00%	100.00%

S&P 500  
S&P Mid-Cap  
Total Passive

## Portfolio Returns

Quarter	6 Mo.	9 Mo.	1-Year	2-Year	3-Year	5-Year	10-Year
-2.57%	9.82%	22.84%	6.03%	17.84%	16.88%	0.59%	5.59%
-4.60%	8.49%	22.80%	-0.88%	18.01%	20.45%	3.69%	8.86%
-2.77%	9.69%	22.84%	5.31%	17.92%	17.26%	0.90%	5.99%

S&P 500  
S&P Mid-Cap  
Total Passive

## Tracking Error

Quarter	6 Mo.	9 Mo.	1-Year	2-Year	3-Year	5-Year	10-Year
0.18%	0.33%	0.41%	0.58%	0.45%	0.48%	0.37%	0.26%
0.33%	0.59%	0.89%	1.45%	1.33%	1.09%	1.14%	0.65%
0.17%	0.34%	0.46%	0.56%	0.58%	0.61%	0.49%	0.35%

S&P 500  
S&P Mid-Cap  
Total Passive Benchmark



**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**FIXED INCOME REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**SEPTEMBER 6, 2012**



**Paul R. Nelson II, CFA, Administrator  
Long-Term Fixed Income Division**

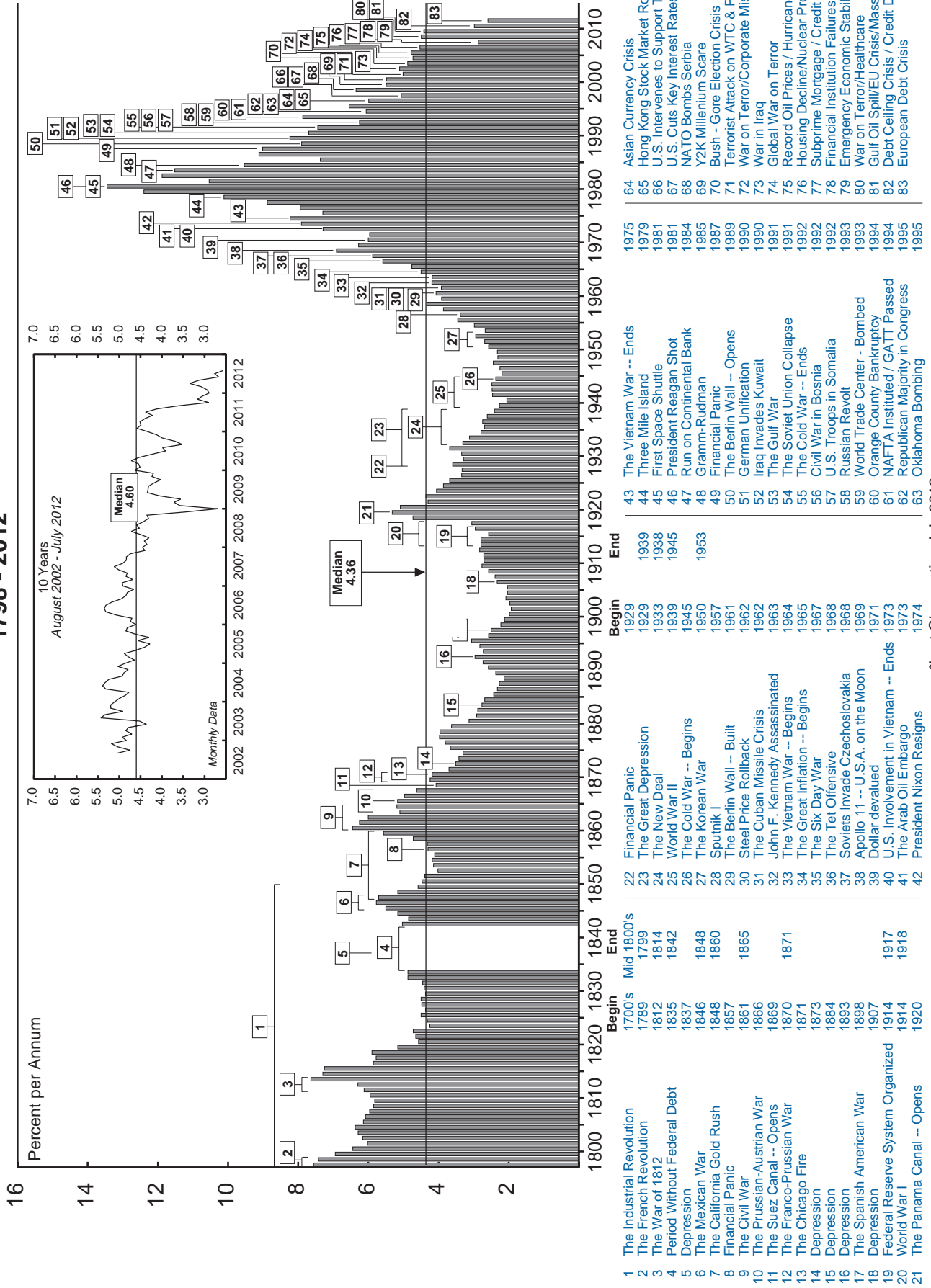


## EXECUTIVE SUMMARY

### Long-Term Fixed Income

- Treasury yields continue to be near historic lows and the yield curve is steep. Quality spreads are still wide. Under these conditions, investors are being paid to accept some credit risk but should avoid excessive maturity extension risk.
- Accordingly, the Long-Term Fixed Income Division continues to focus on five to ten-year maturities and ride the yield curve where possible. To take advantage of spreads, purchases will tend to be skewed toward A and Baa issues with an overall portfolio rating of single A or better.
- Later, as spreads narrow and rates increase, the Division focus will shift to higher grade and longer maturity issues.

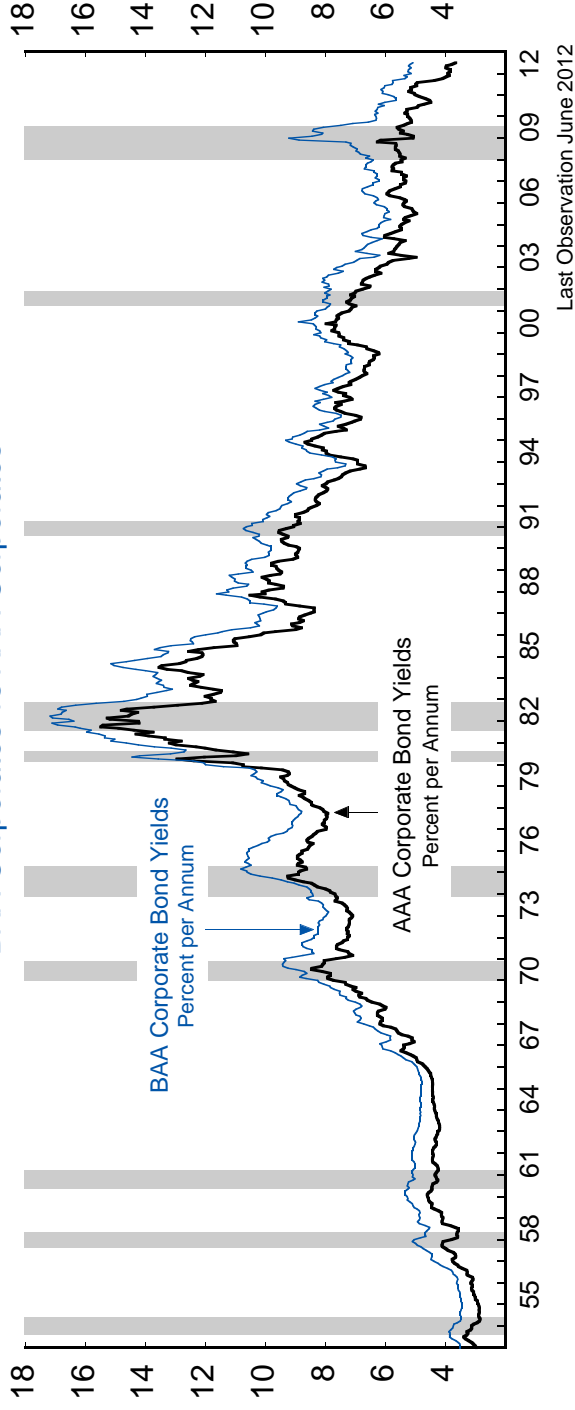
# Long-Term U.S. Government Bond Yields 1798 - 2012\*



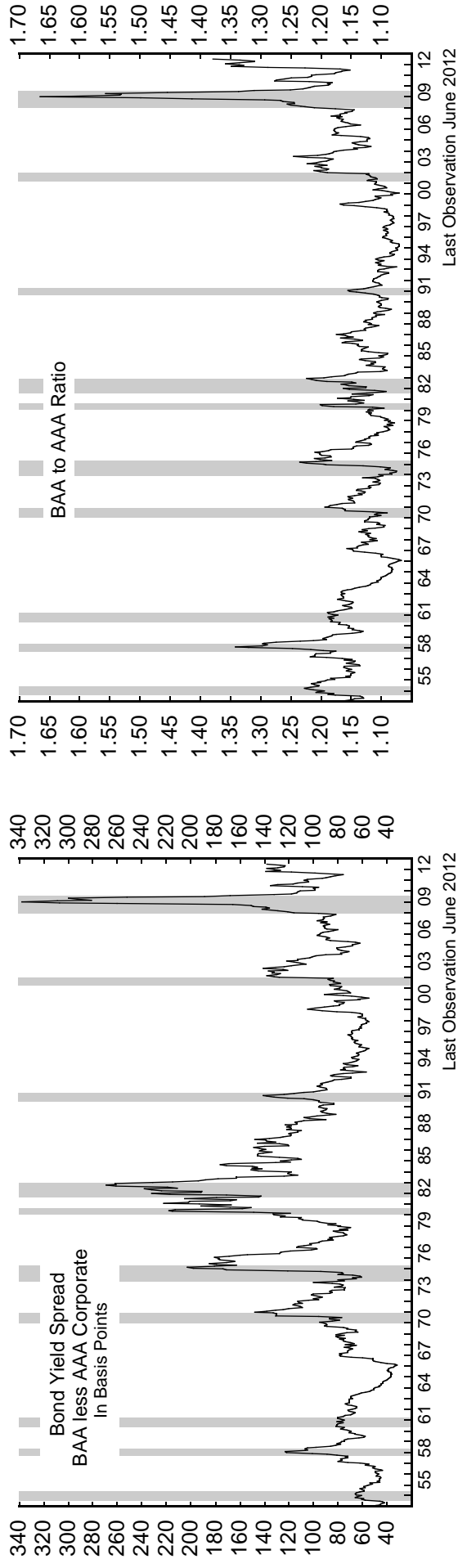
Sources: Federal Reserve Board; Bureau of Economic Analysis; U.S. Department of Commerce; A History of Interest Rates, Sidney Homer; Copyright © 2012 Crandall, Pierce & Company • All rights reserved.

# Bond Risk Premium

BAA Corporates vs AAA Corporates

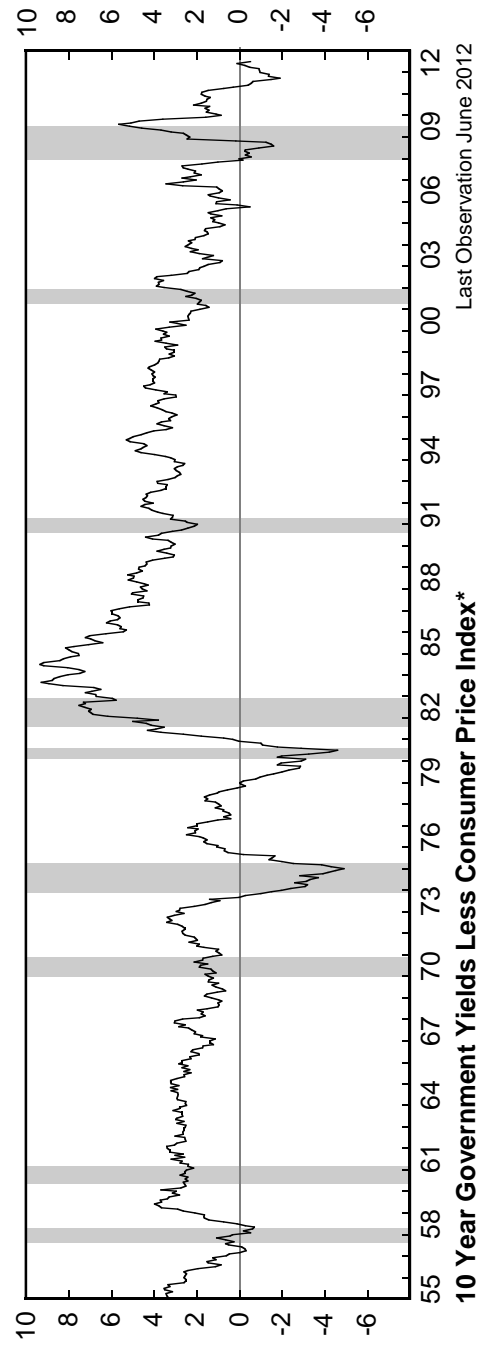
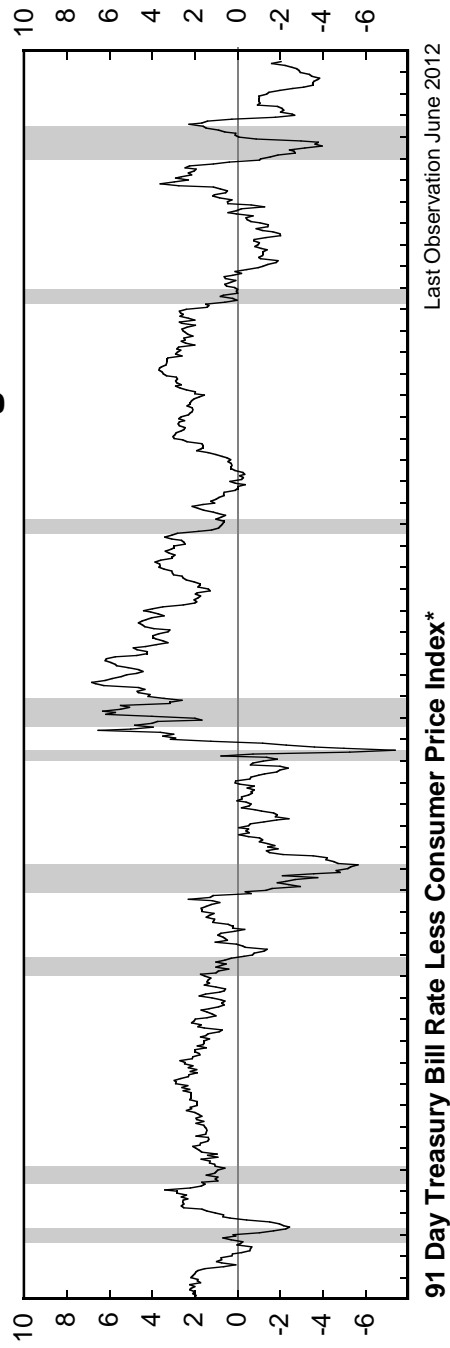


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Shaded areas represent recessionary periods. Sources: Moody's Investors Service • Copyright © 2012 Crandall, Pierce & Company • All rights reserved.

## Real Interest Rates: Short & Long Term



\*CPI data for June is preliminary.

Consumer Price Index = CPI Annual Growth Rate

Shaded areas represent recessionary periods.

Sources: Federal Reserve Board; Bureau of Labor Statistics • Copyright © 2012 Crandall, Pierce & Company • All rights reserved.



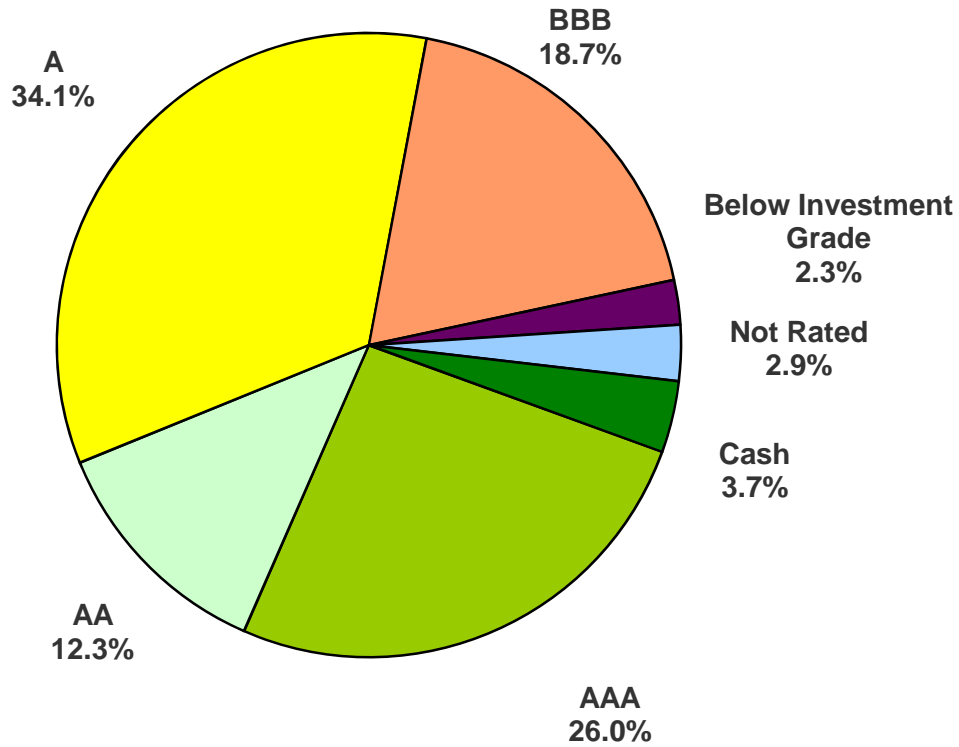


# SMRS

## Fixed Income By Rating

Total U.S. Government and Corporate Holdings

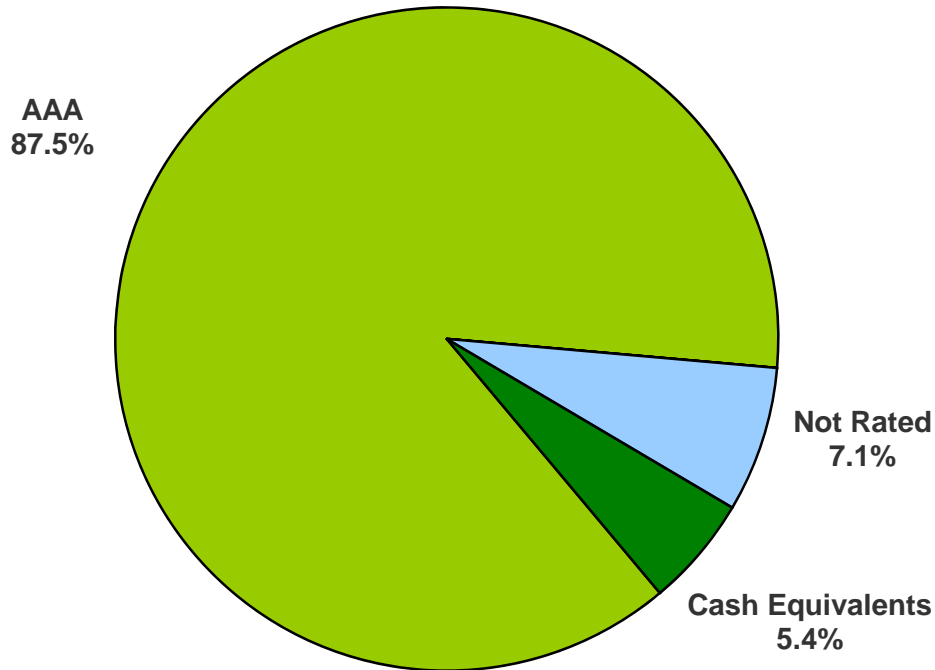
6/30/12



Market Value in Millions				
	6/30/2012		3/31/2012	
AAA	\$1,710	26.0%	\$1,765	27.0%
AA	810	12.3%	832	12.7%
A	2,245	34.1%	2,266	34.7%
BBB	1,236	18.7%	1,205	18.5%
Not Rated	190	2.9%	85	1.3%
Below Investment Grade	152	2.3%	112	1.7%
Cash Equivalents	247	3.7%	271	4.1%
<b>Total Investments</b>	<b>\$6,590</b>	<b>100.0%</b>	<b>\$6,536</b>	<b>100.0%</b>



**SMRS**  
**Fixed Income**  
 U.S. Government Internal Holdings  
 6/30/12



Market Value in Millions				
	6/30/2012		3/31/2012	
AAA	\$1,194	87.5%	\$1,269	90.9%
AA	0	0.0%	0	0.0%
Not Rated	97	7.1%	2	0.1%
Cash Equivalents	73	5.4%	125	9.0%
<b>Total</b>	<b>\$1,364</b>	<b>100.0%</b>	<b>\$1,396</b>	<b>100.0%</b>

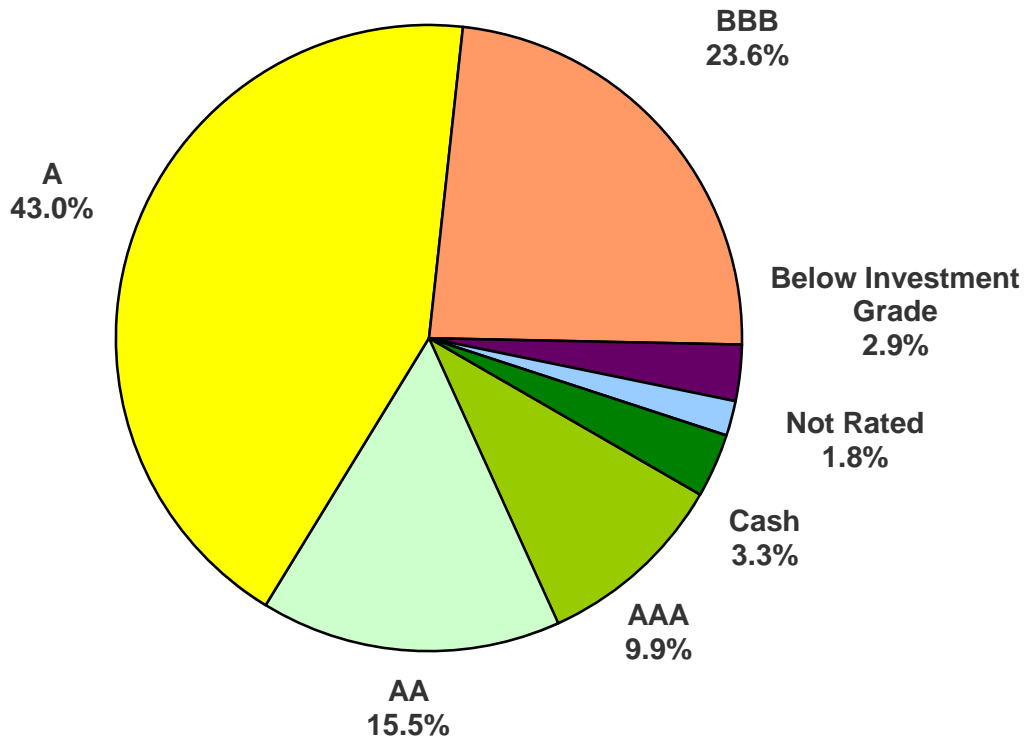


# SMRS

## Fixed Income By Rating

### Corporate Holdings By Rating

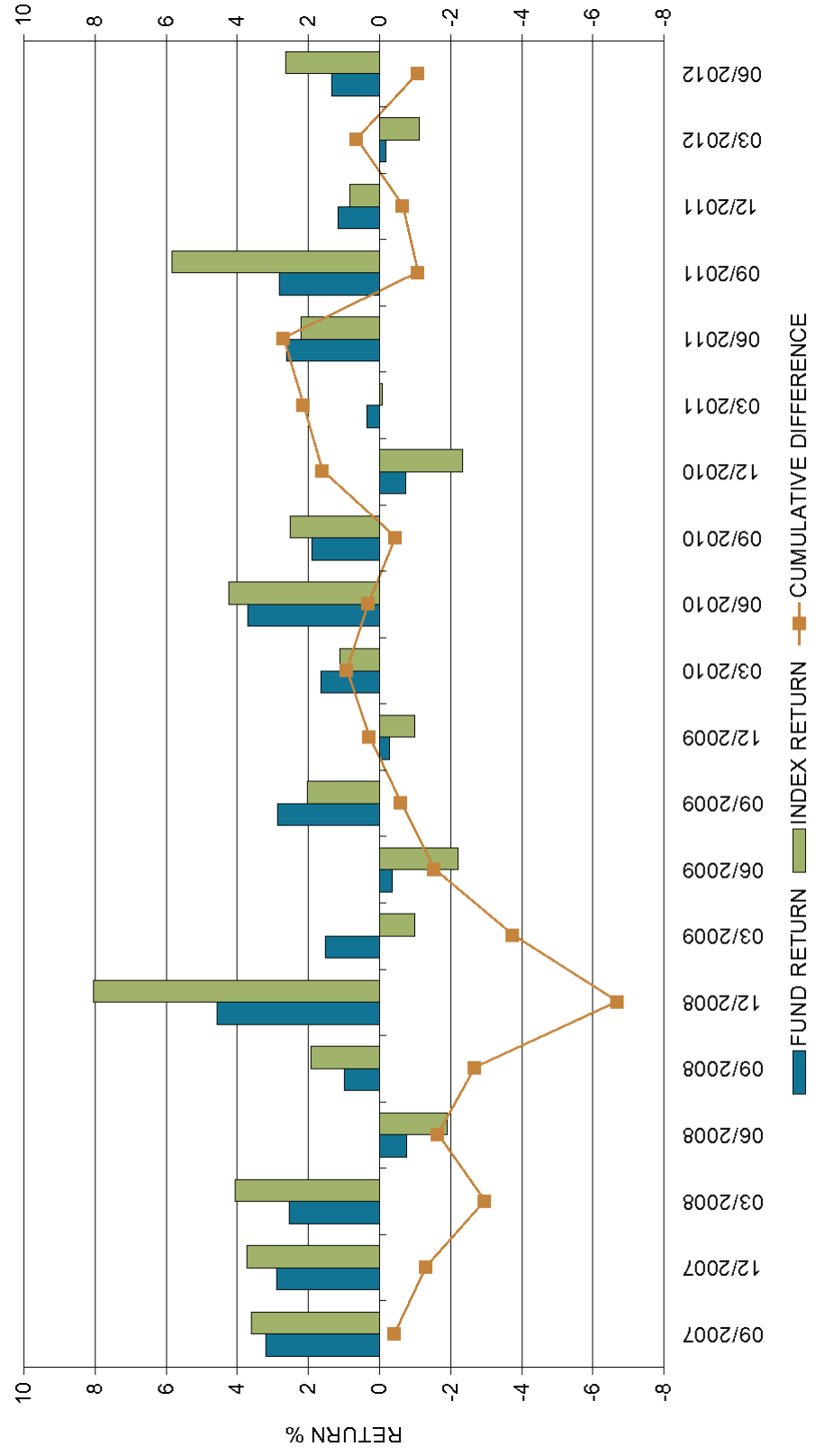
6/30/12



Market Value in Millions					
	6/30/2012		3/31/2012		
AAA	\$516	9.9%	\$496	9.7%	
AA	810	15.5%	832	16.2%	
A	2,245	43.0%	2,266	44.1%	
BBB	1,236	23.6%	1,205	23.4%	
Not Rated	93	1.8%	83	1.6%	
Below Investment Grade	152	2.9%	112	2.2%	
Cash Equivalents	174	3.3%	146	2.8%	
<b>Total Investments</b>	<b>\$5,226</b>	<b>100.0%</b>	<b>\$5,140</b>	<b>100.0%</b>	

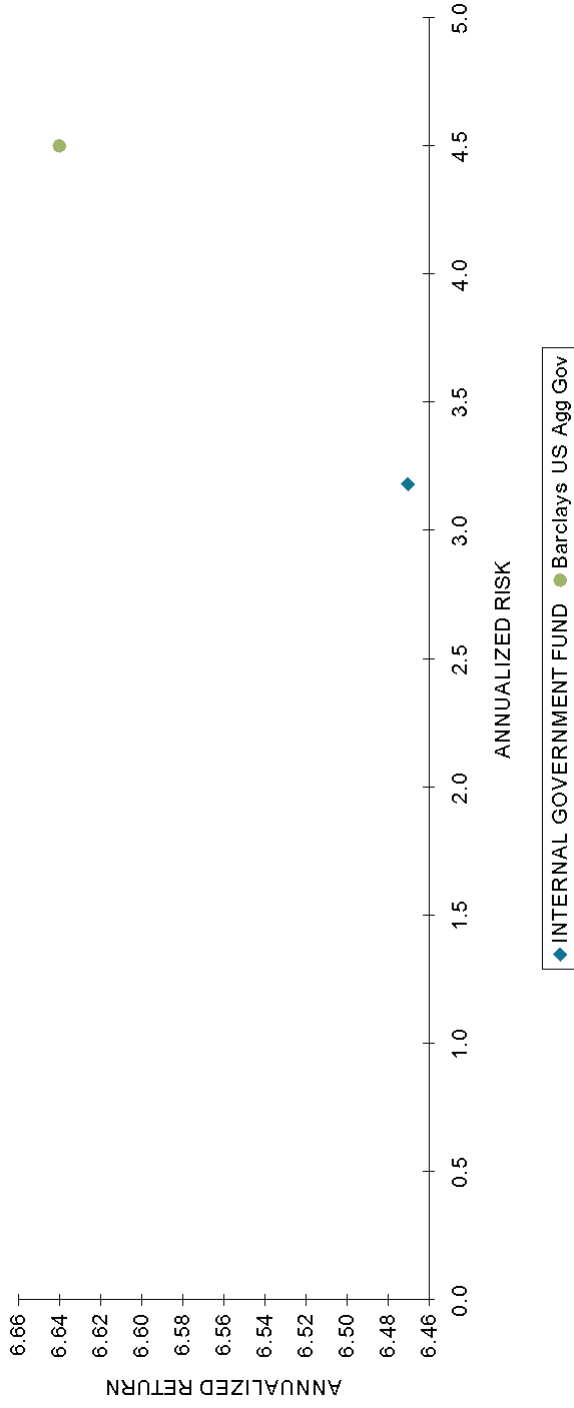
Michigan State Treasury - Supersponsor  
 INTERNAL GOVERNMENT FUND  
 Index: Barclays US Agg Gov  
 PERIODS: June 30, 2007 - June 30, 2012

CUMULATIVE PERFORMANCE REPORT



**Michigan State Treasury - Supersponsor  
INTERNAL GOVERNMENT FUND  
Benchmark: Barclays US Agg Gov  
PERIODS: June 30, 2007 - June 30, 2012**

**RISK VS. RETURN**



**RISK INFORMATION**

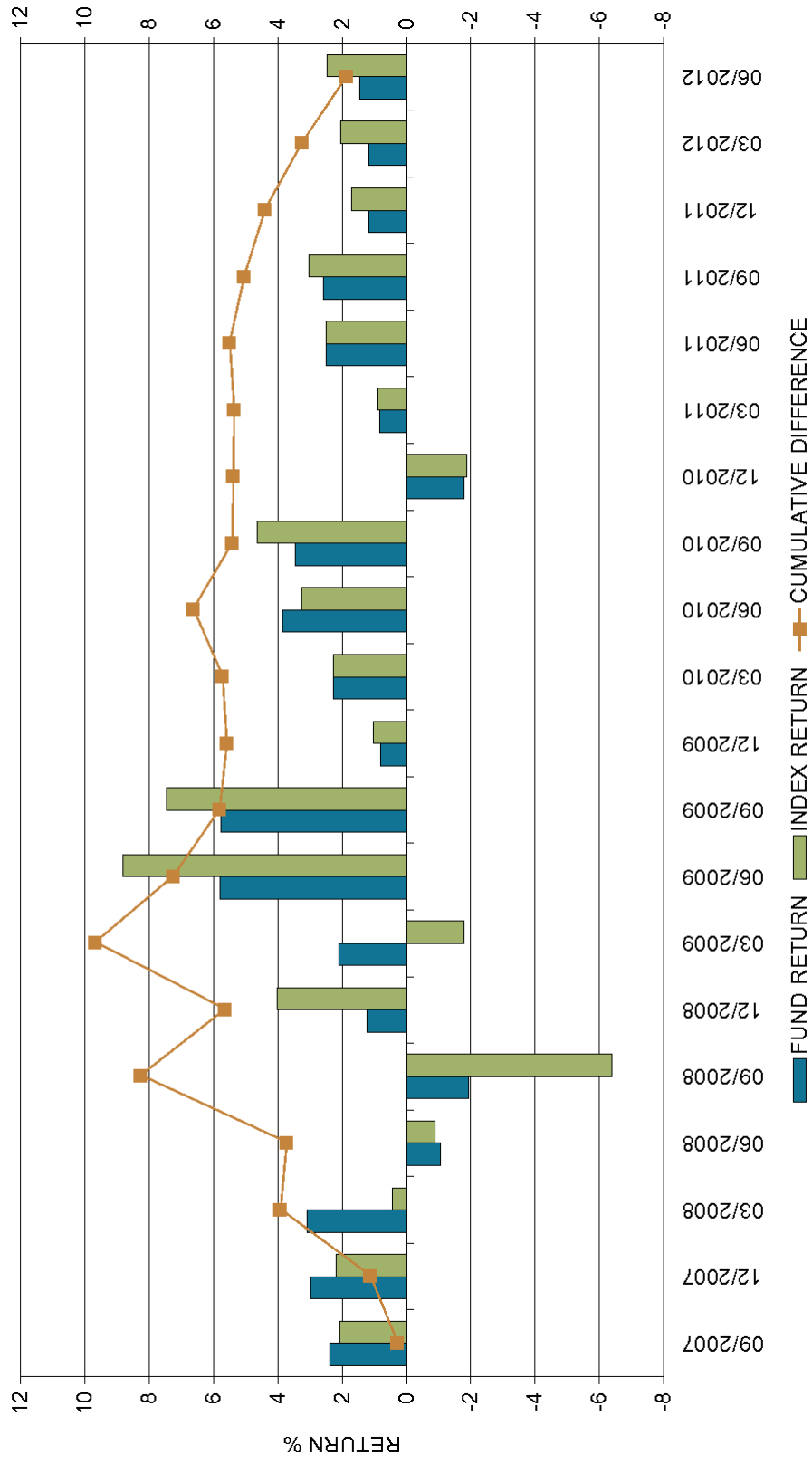
Portfolio Return	6.47
Benchmark Return	6.64
Return Differences	-0.17
Portfolio Standard Deviation	3.18
Benchmark Standard	4.50
Tracking Error	2.18

**RISK STATISTICS**

Historic Beta	0.63
R-squared	0.79
Jensen's Alpha	1.95
Sharpe Ratio	1.73
Treynor Ratio	8.77
Information Ratio	-0.08

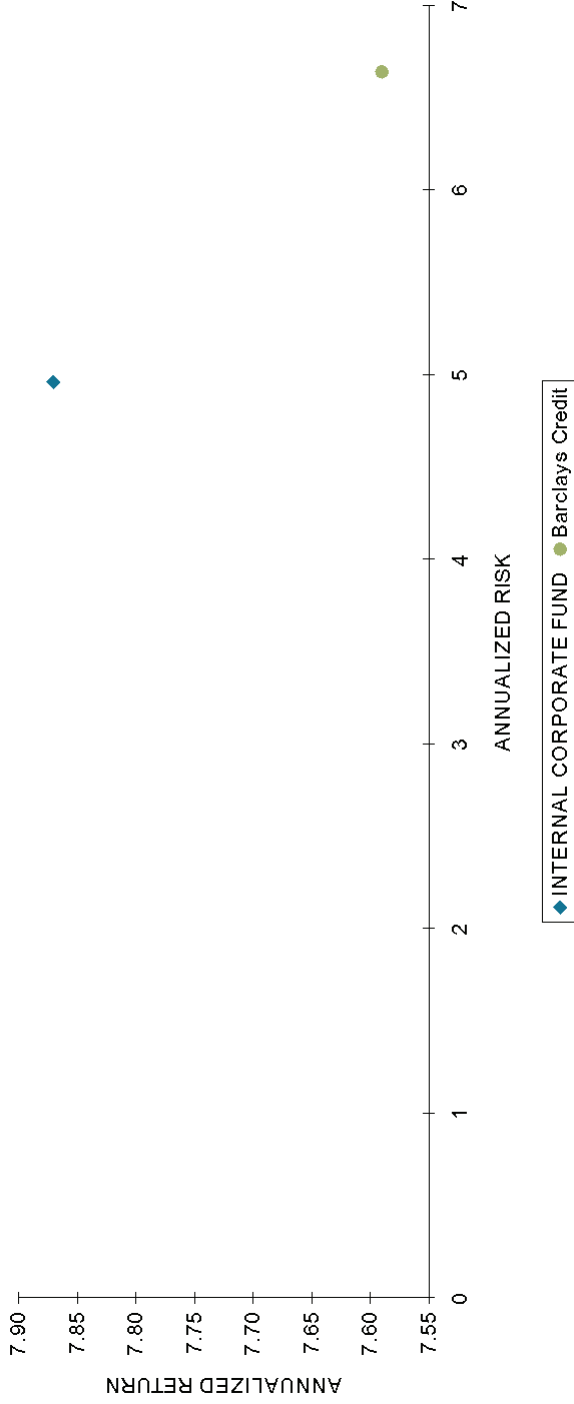
**Michigan State Treasury - Supersponsor  
INTERNAL CORPORATE FUND  
Index: Barclays CREDIT  
PERIODS: June 30, 2007 - June 30, 2012**

**CUMULATIVE PERFORMANCE REPORT**



**Michigan State Treasury - Supersponsor  
INTERNAL CORPORATE FUND  
Benchmark: Barclays Credit  
PERIODS: June 30, 2007 - June 30, 2012**

**RISK VS. RETURN**



**RISK INFORMATION**

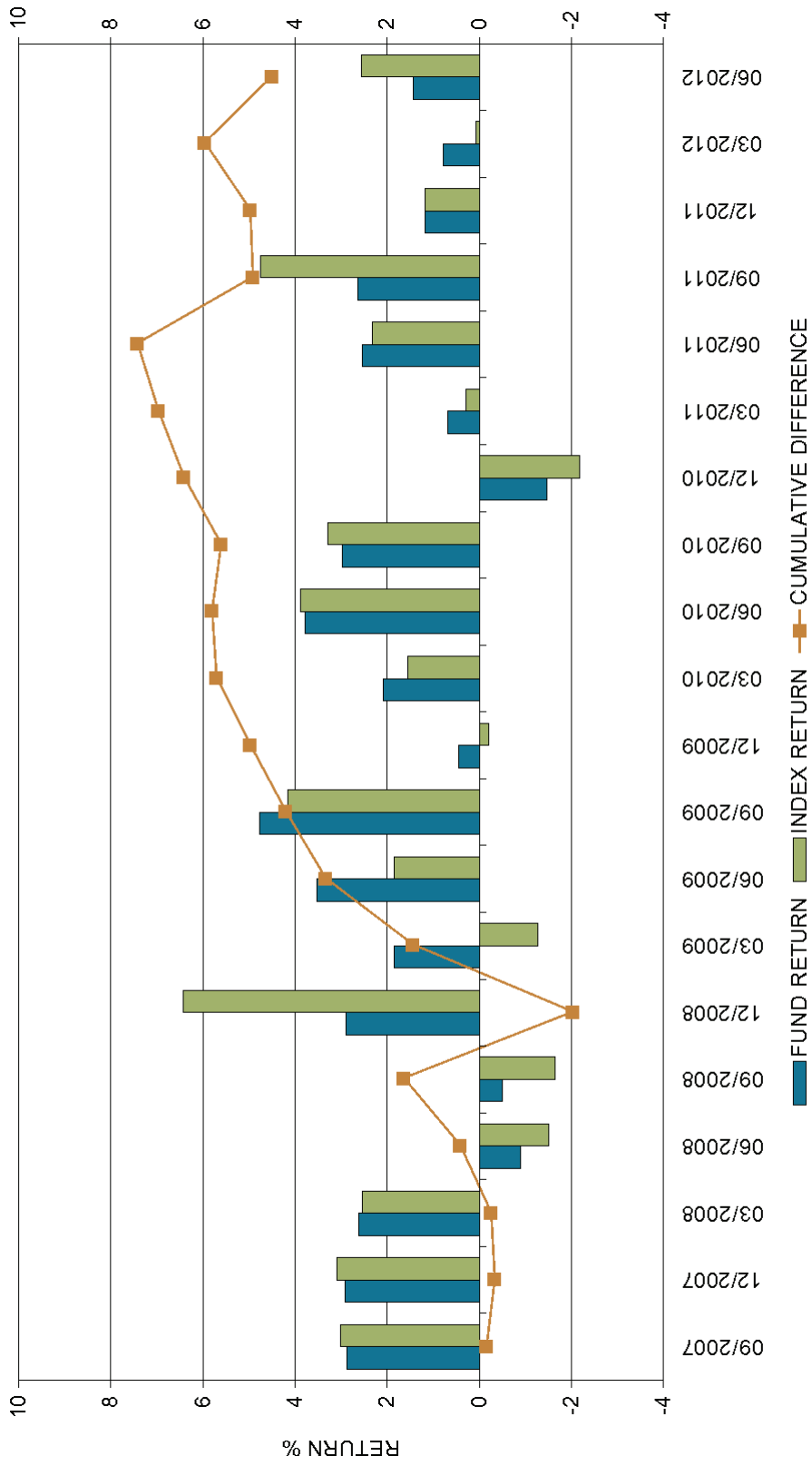
Portfolio Return	7.87
Benchmark Return	7.59
Return Differences	0.28
Portfolio Standard Deviation	4.96
Benchmark Standard	6.64
Tracking Error	3.45

**RISK STATISTICS**

Historic Beta	0.64
R-squared	0.76
Jensen's Alpha	2.64
Sharpe Ratio	1.39
Treynor Ratio	10.72
Information Ratio	0.08

**Michigan State Treasury - Supersponsor  
DOMESTIC FIXED INCOME AGGREGATE**  
Index: Barclays Gov/Credit  
PERIODS: June 30, 2007 - June 30, 2012

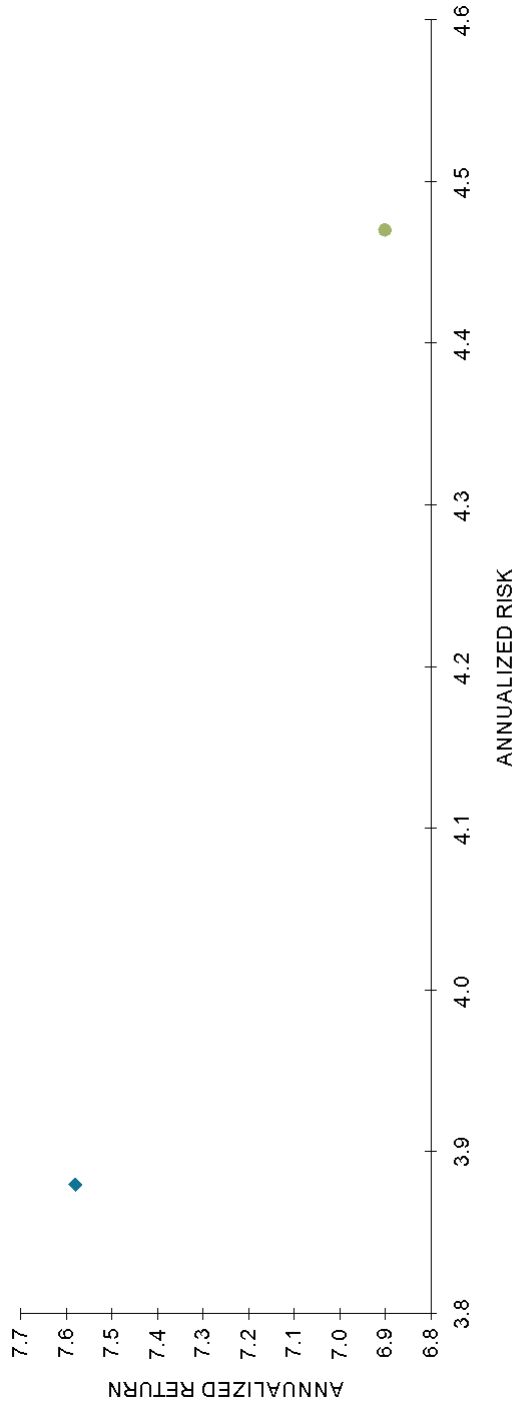
**CUMULATIVE PERFORMANCE REPORT**





**Michigan State Treasury - Supersponsor  
DOMESTIC FIXED INCOME AGGREGATE  
Benchmark: Barclays Gov/Credit  
PERIODS: June 30, 2007 - June 30, 2012**

**RISK VS. RETURN**



◆ DOMESTIC FIXED INCOME AGGREGATE ● Barclays Gov/Credit

**RISK INFORMATION**

Portfolio Return	7.58
Benchmark Return	6.90
Return Differences	0.68
Portfolio Standard Deviation	3.88
Benchmark Standard	4.47
Tracking Error	1.95

**RISK STATISTICS**

Historic Beta	0.78
R-squared	0.81
Jensen's Alpha	1.98
Sharpe Ratio	1.70
Treynor Ratio	8.46
Information Ratio	0.35

State of Michigan Retirement Systems  
Corporate Fixed Income Internal Holdings

Portfolio Characteristics

**Benchmark: Barclays Capital U.S. Credit**

June 30, 2012 March 31, 2012

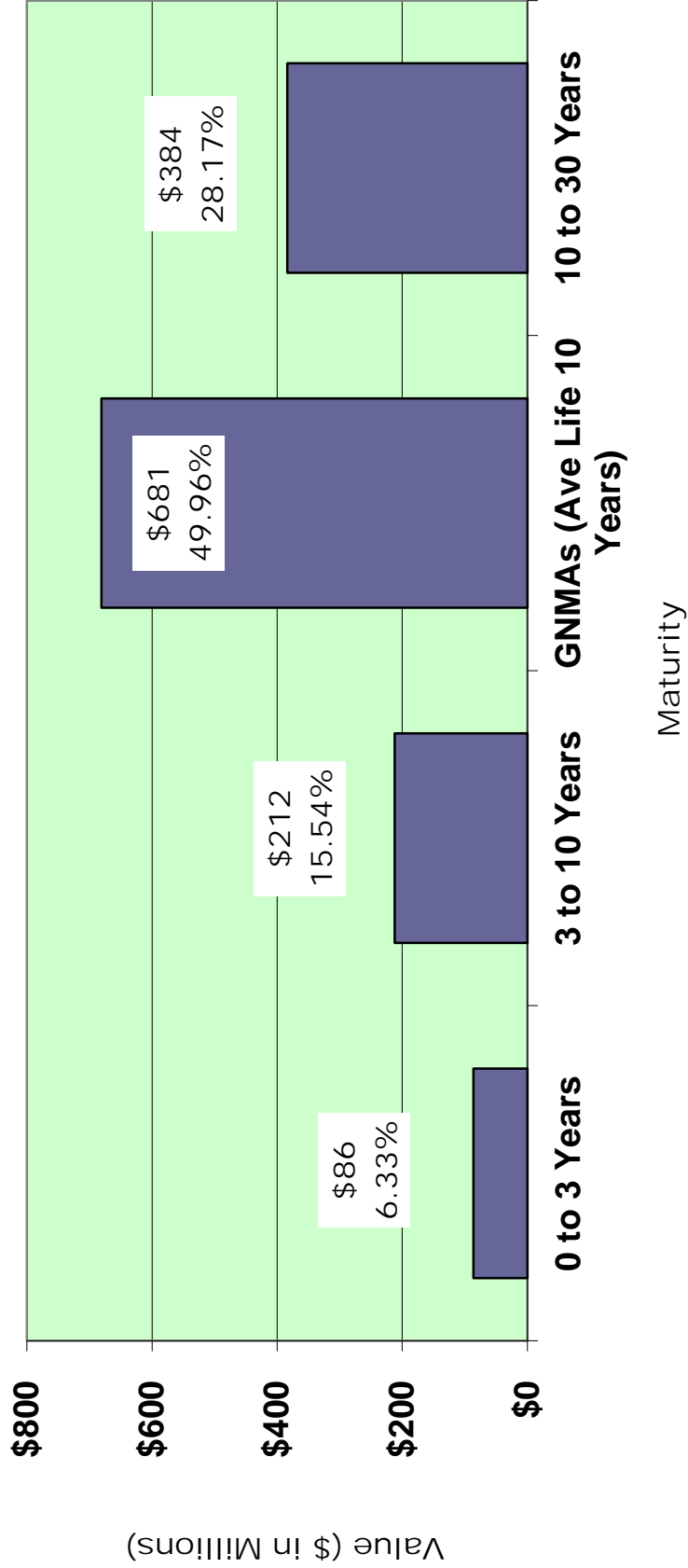
<i>Characteristic</i>	June 30, 2012			March 31, 2012		
	<i>Portfolio</i>	<i>Benchmark</i>	<i>Relative (%)</i>	<i>Portfolio</i>	<i>Benchmark</i>	<i>Relative (%)</i>
Maturity (Yrs)	4.4	10.8	40.7	4.5	10.5	42.9
Maturity (Yrs) w/Cash Equiv.	4.3	10.8	39.8	4.4	10.5	41.9
Duration (Yrs)	3.7	6.7	55.2	3.9	6.8	57.4
Duration (Yrs) w/Cash Equiv.	3.6	6.7	53.7	3.8	6.8	55.9
Coupon (%)	4.8	5.3	90.6	4.7	5.3	88.7
Yield to Maturity (%)	1.9	3.1	61.3	2.0	3.3	60.6
Moody's Quality	A-3	A-3		A-3	A-3	
S&P Quality	A	A-		A	A-	



# Fixed Income Internal Portfolio Government Portfolio Maturity Distribution

As of June 30, 2012

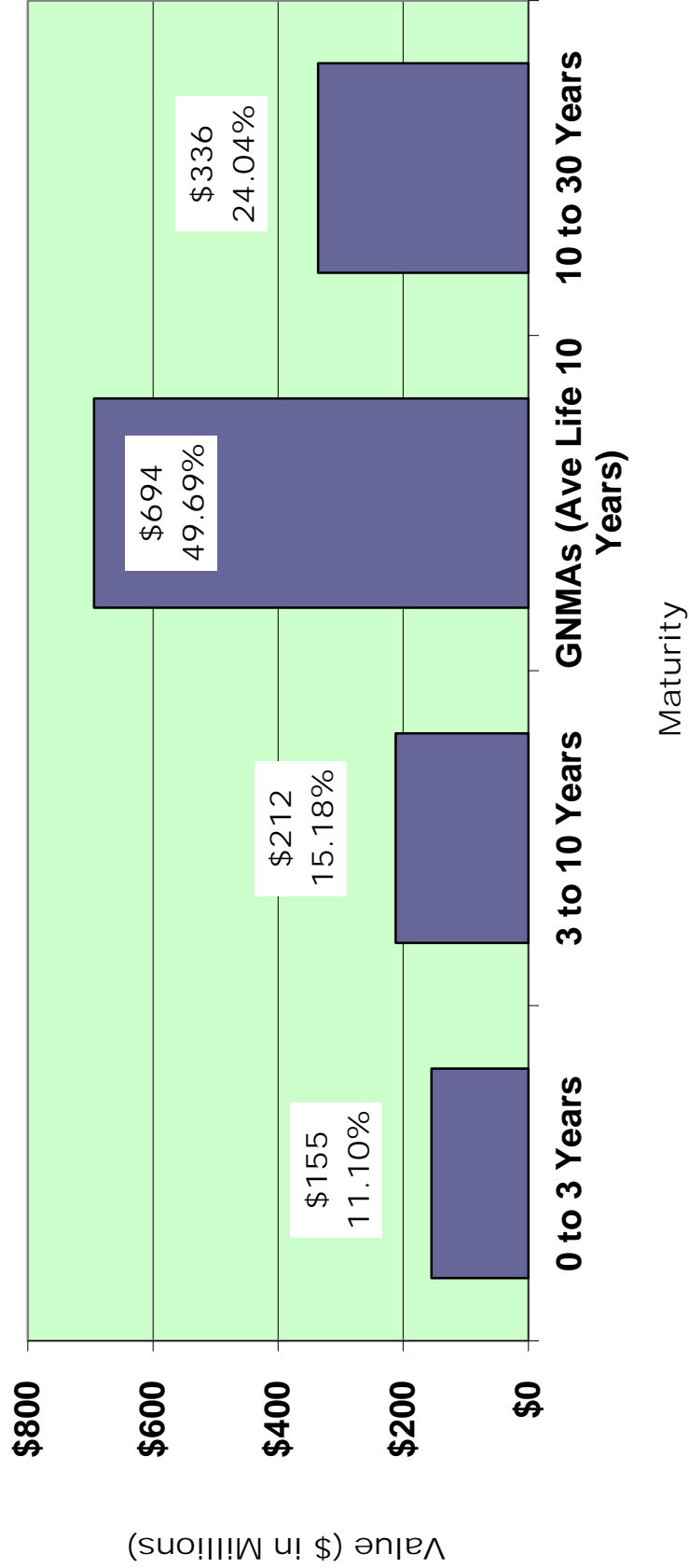
Average Maturity of August 2023  
Total Market Value \$1,363 Million



Fixed Income Internal Portfolio  
 Government Portfolio Maturity Distribution

As of March 31, 2012

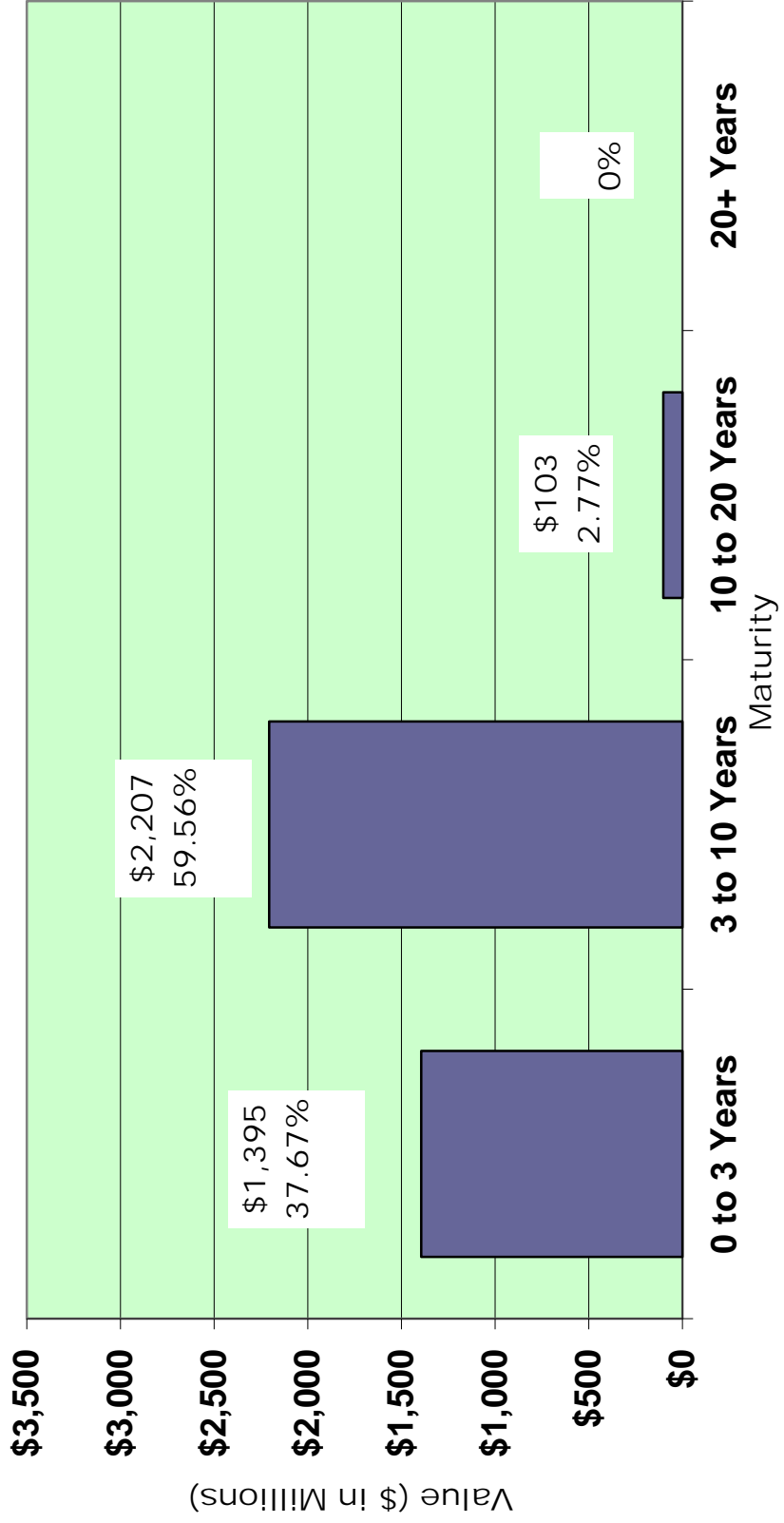
Average Maturity of March 2012  
 Total Market Value \$1,396 Million



# Fixed Income Internal Portfolio Corporate Portfolio Maturity Distribution

As of June 30, 2012

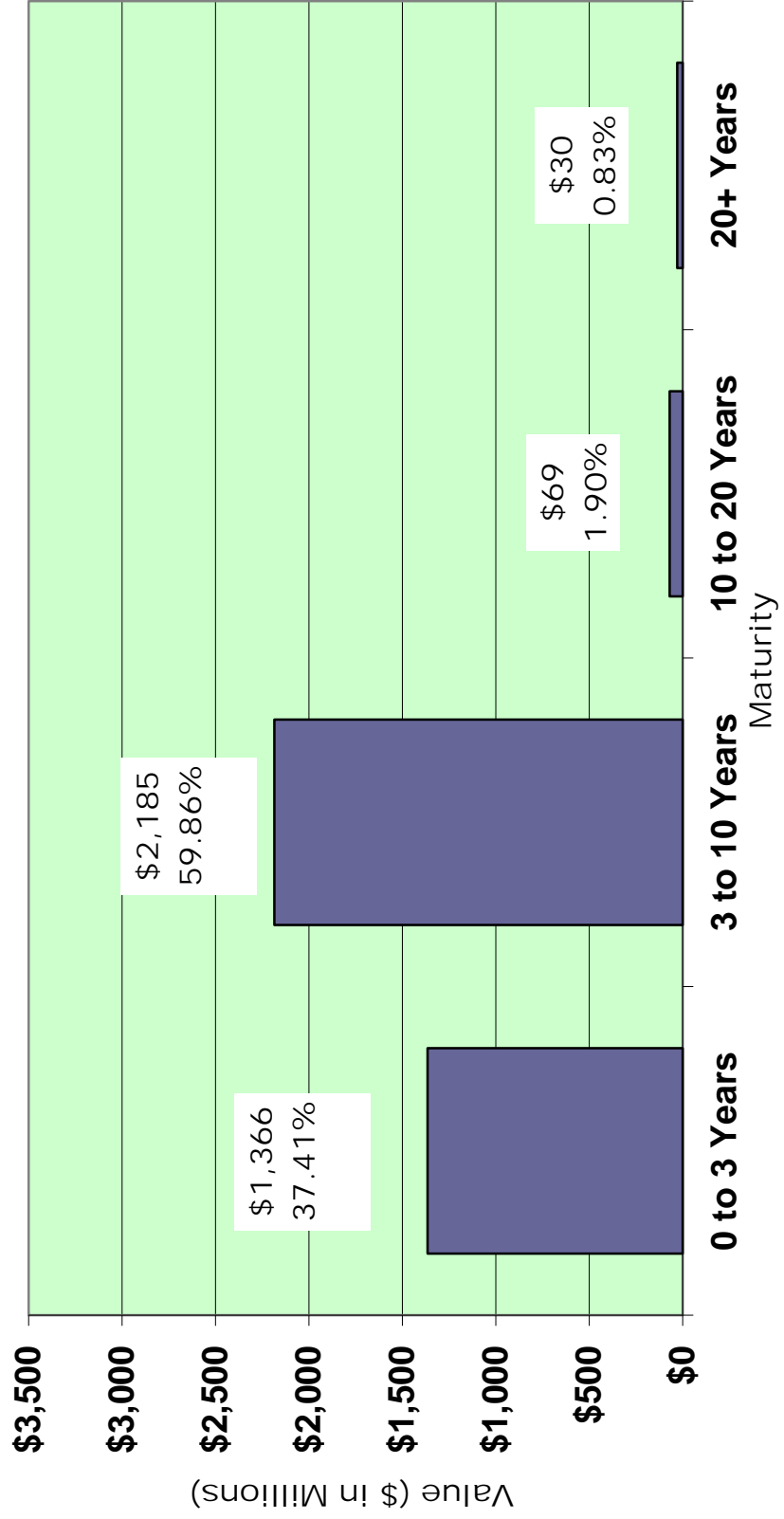
Average Maturity of October 2016  
Total Market Value \$3,705 Million



# Fixed Income Internal Portfolio Corporate Portfolio Maturity Distribution

As of March 31, 2012

Average Maturity of September 2016  
Total Market Value \$3,651 Million



## Fixed Income Internal Portfolio Top Ten Corporate Holdings

As of June 30, 2012				
Name	<u>Par Value</u>	<u>Market Value</u>	<u>Rating*</u>	<u>% of Total Portfolio</u>
General Electric Capital Corp.	\$181,675,000	\$181,797,056	A1/AA+	3.59%
DTE Energy Co.	\$70,750,000	\$81,432,483	A2/A	1.61%
E.I. Du Pont de Nemours & Co.	\$70,000,000	\$78,797,024	A2/A	1.55%
Target Corp.	\$60,000,000	\$71,542,624	A2/A+	1.41%
The Dow Chemical Co.	\$60,757,000	\$71,527,193	Baa3/BBB	1.41%
Emerson Electric	\$60,470,000	\$69,835,168	A2/A	1.38%
American Honda Finance Corp.	\$56,000,000	\$58,258,812	A1/A+	1.15%
Consumers Energy Co.	\$45,905,000	\$56,550,338	A3/BBB+	1.12%
Abbott Laboratories	\$49,969,000	\$56,515,337	A1/AA	1.12%
Merck & Co.	\$50,000,000	\$56,018,470	Aa3/AA	1.11%
<b>TOTAL</b>	<b><u>\$705,526,000</u></b>	<b><u>\$782,274,505</u></b>		<b>15.44%</b>

As of March 31, 2012				
Name	<u>Par Value</u>	<u>Market Value</u>	<u>Rating*</u>	<u>% of Total Portfolio</u>
General Electric Capital Corp.	\$181,675,000	\$181,322,256	Aa2/AA+	3.59%
E.I. Du Pont de Nemours & Co.	\$70,000,000	\$78,756,628	A2/A	1.56%
DTE Energy Co.	\$66,750,000	\$76,431,357	A2/A	1.51%
Target Corp.	\$60,000,000	\$72,035,721	A2/A+	1.43%
The Dow Chemical Co.	\$60,757,000	\$71,624,908	Baa3/BBB	1.42%
American Honda Finance Corp.	\$56,000,000	\$58,560,534	A1/A+	1.16%
Abbott Laboratories	\$49,969,000	\$56,780,295	A1/AA	1.12%
Merck & Co.	\$50,000,000	\$55,771,320	Aa3/AA	1.10%
Allergan, Inc.	\$49,000,000	\$55,014,475	A3/A+	1.09%
Consumers Energy Co.	\$45,905,000	\$54,820,035	A3/BBB+	1.09%
<b>TOTAL</b>	<b><u>\$690,056,000</u></b>	<b><u>\$761,117,529</u></b>		<b>15.08%</b>

\*Moody's/Standard & Poor's



# Fixed Income Internal Portfolio (Purchases) / Sales

April 1, 2012 - June 30, 2012

GOVERNMENT PORTFOLIO	
<i>Purchases</i>	<i>Market Value</i>
U.S. Agencies	(\$81,473,230)
Gov Guar	0
GNMA'S	<u>(50,406,313)</u>
Total Purchases	(131,879,543)
 <i>Sales/Calls/Maturities</i>	
U.S. Agencies	\$48,816,500
U.S. Guaranteed	0
GNMA's	0
Total Sales/Calls/Maturities	<u>\$48,816,500</u>
 NET PURCHASES	 <u><u>(\$83,063,043)</u></u>

CORPORATE PORTFOLIO	
<i>Purchases/Transfers</i>	<i>Market Value</i>
AA	(\$39,755,500)
A	(87,426,780)
BBB	(31,785,610)
Total Purchases/Transfers	(\$158,967,890)
 <i>Sales/Calls/Maturities</i>	
AAA	0
AA	41,877,060
A	43,147,610
BBB	<u>62,730,000</u>
Total Sales/Calls/Maturities	\$147,754,670
 NET PURCHASES	 <u><u>(\$11,213,220)</u></u>

**LONG TERM FIXED INCOME**  
**June 30, 2012**

	Amount	% of Total
<b>Government</b>		
Internal US Govt Related	\$1,363,356	
<b>Sub Total</b>	<b>\$1,363,356</b>	20.7%
<b>Core</b>		
Ambassador Capital Management	\$54,557	
Dodge & Cox	222,182	
Pyramis	246,663	
Metropolitan West	<u>239,443</u>	
<b>Sub Total</b>	<b>\$762,845</b>	11.6%
<b>Credit</b>		
Internal Investment Grade Corporates Credit	\$3,704,475	
Alliance Bernstein	190,917	
Prudential	<u>386,875</u>	
<b>Sub Total</b>	<b>\$4,282,267</b>	65.0%
<b>Securitized Debt</b>		
Principal Global	<b>\$181,164</b>	
<b>Sub Total</b>	<b>\$181,164</b>	2.7%

**TOTAL** **\$6,589,632** 100.0%

**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**REAL ESTATE AND  
INFRASTRUCTURE REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**SEPTEMBER 6, 2012**



**Brian C. Liikala, Administrator  
Real Estate & Infrastructure Division**



## REAL ESTATE EXECUTIVE SUMMARY

- Total real estate market value ended the second quarter at \$5.1 billion with a total return of 2.24%; its ninth straight positive quarterly return. This return is in spite of an economy that continues to be impacted by the European debt crisis.
- Valuations were mixed this quarter for the various property types and regions. U.S. apartments and hotel property values continued to rise due to operating revenue increases.
- The real estate portfolio leverage ratio was reduced to 49.5%. REID's goal is to continue to deleverage the portfolio.
- Unfunded capital commitments for real estate totaled \$330 million. The REID is executing sales of non-strategic office buildings and hotel properties in secondary markets with limited upside potential at attractive prices.
- In the commercial mortgage-backed securities (CMBS) market, spreads for AAA-rated securities increased 10 basis points. CMBS delinquencies stood at 8.6% (60-day delinquent) but were offset by increasing loan resolutions. New issuance for CMBS in 2012 is projected to be \$35 billion.
- Expect market transaction activity to be modest, except for the major coastal markets, where demand for high quality core properties remains strong. Our real estate managers are being very selective, taking advantage of distressed opportunities from owners and lenders in markets that have potential for growth and long-term liquidity.
- Opportunities for investors lie in the ability to develop apartments in major urban markets, recapitalize troubled portfolios, consistently communicate with lenders for distressed assets, sell properties to REITs flush with capital, and exhibit patience in order to find properties in markets that will be first to recover.
- The NPI and Open-End Diversified Core Equity (ODCE) quarterly returns graph is attached.

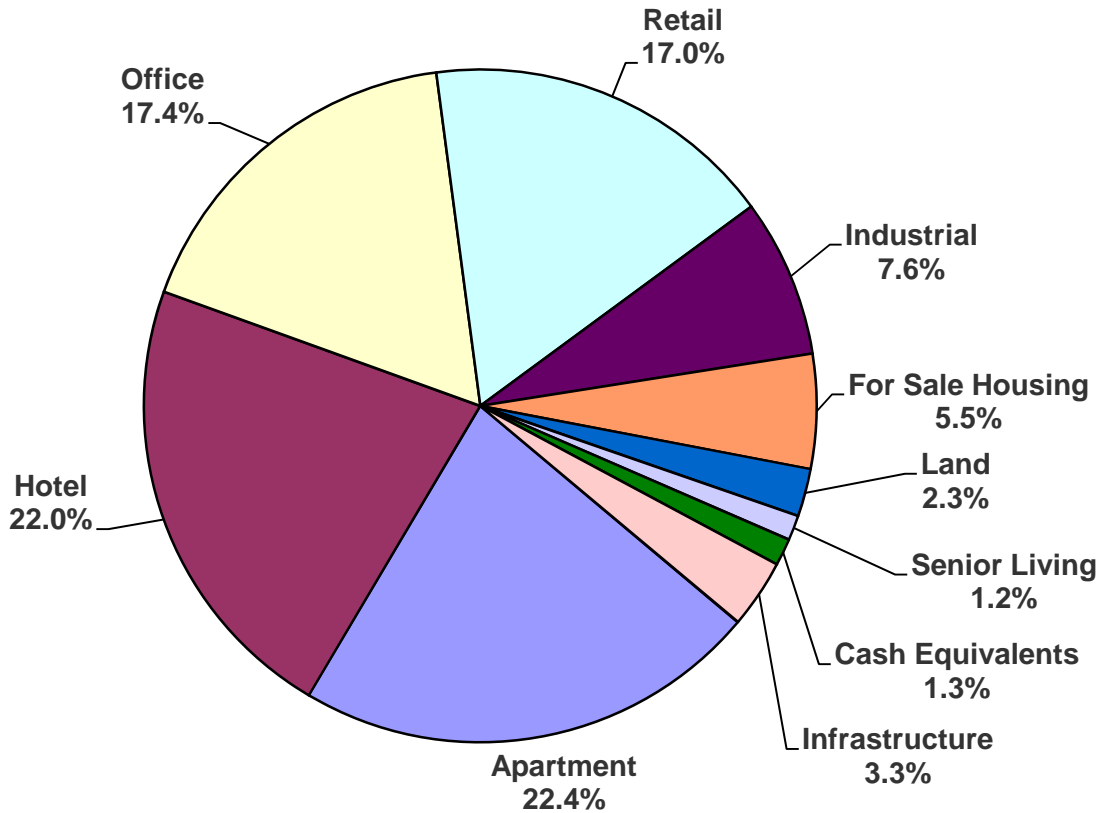
## INFRASTRUCTURE EXECUTIVE SUMMARY

- The objective for this asset class is to provide an attractive risk/return profile, low correlation with other asset classes, a predictable and defensible cash flow return, and a total return that exceeds the benchmark. Target investments for the asset class will also contain CPI enhancers to provide some degree of protection from inflation.
- REID will seek investment managers that are experienced in infrastructure with a strategy that will satisfy the objectives of the fund. The managers will possess a commitment to long-term ownership, responsible and proven service delivery, access to institutional quality investments, and provide alignment of interest.
- There exists a vast need for capital to fund major projects throughout the developed and emerging markets. Governments are trying to encourage investment by amending laws, providing tax incentives, and creating public-to-private partnerships. Opportunities for investors lie in specific sub-asset classes, where the need for improvement supports the necessary goals and objectives of the country both economically and financially. Private institutional capital for infrastructure is in high demand and, therefore, return thresholds can be satisfied to meet the investor's goals. Risks associated with such investments can be minimized by managers experienced in structuring agreements that insulate the investor and provide financial protection from cyclical economies.
- REID made two infrastructure commitments in the second quarter of 2012. The first is a \$75 million commitment to a commingled fund investing in global core investments primarily in developed countries. The second is a \$45 million commitment to a separate account that has invested in a modern London hospital that is part of the Private Finance Initiative (PFI) program administered by the United Kingdom government.
- REID is reviewing core and multi-strategy infrastructure investment opportunities and actively meeting with major infrastructure managers in the industry. Total commitments to date are \$290 million; additional commitments will be made over the next several years.



# SMRS

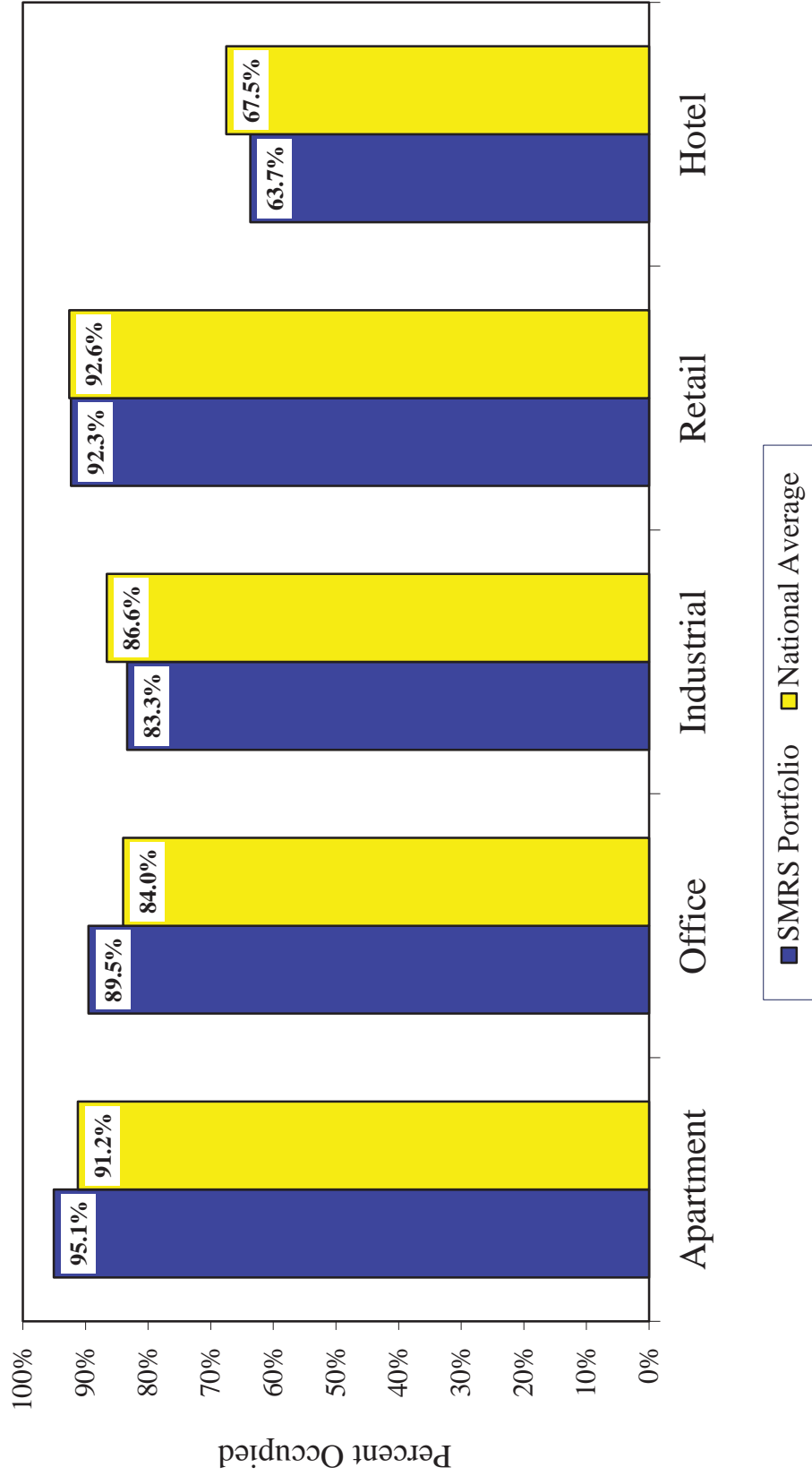
## Real Estate and Infrastructure Holdings By Property Type 6/30/12



Market Value in Millions				
	<u>6/30/2012</u>		<u>3/31/2012</u>	
Apartment	\$1,177	22.4%	\$1,168	23.2%
Hotel	1,157	22.0%	1,072	21.3%
Office	913	17.4%	916	18.2%
Retail	893	17.0%	844	16.8%
Industrial	400	7.6%	401	7.9%
For Sale Housing	290	5.5%	287	5.7%
Land	122	2.3%	121	2.4%
Senior Living	63	1.2%	52	1.0%
<b>Total Investments</b>	<b>\$5,015</b>	<b>95.4%</b>	<b>\$4,861</b>	<b>96.5%</b>
Infrastructure	170	3.3%	114	2.3%
Cash Equivalents	66	1.3%	60	1.2%
<b>Total</b>	<b>\$5,251</b>	<b>100.0%</b>	<b>\$5,035</b>	<b>100.0%</b>

# REAL ESTATE

## Occupancy by Property Type June 30, 2012



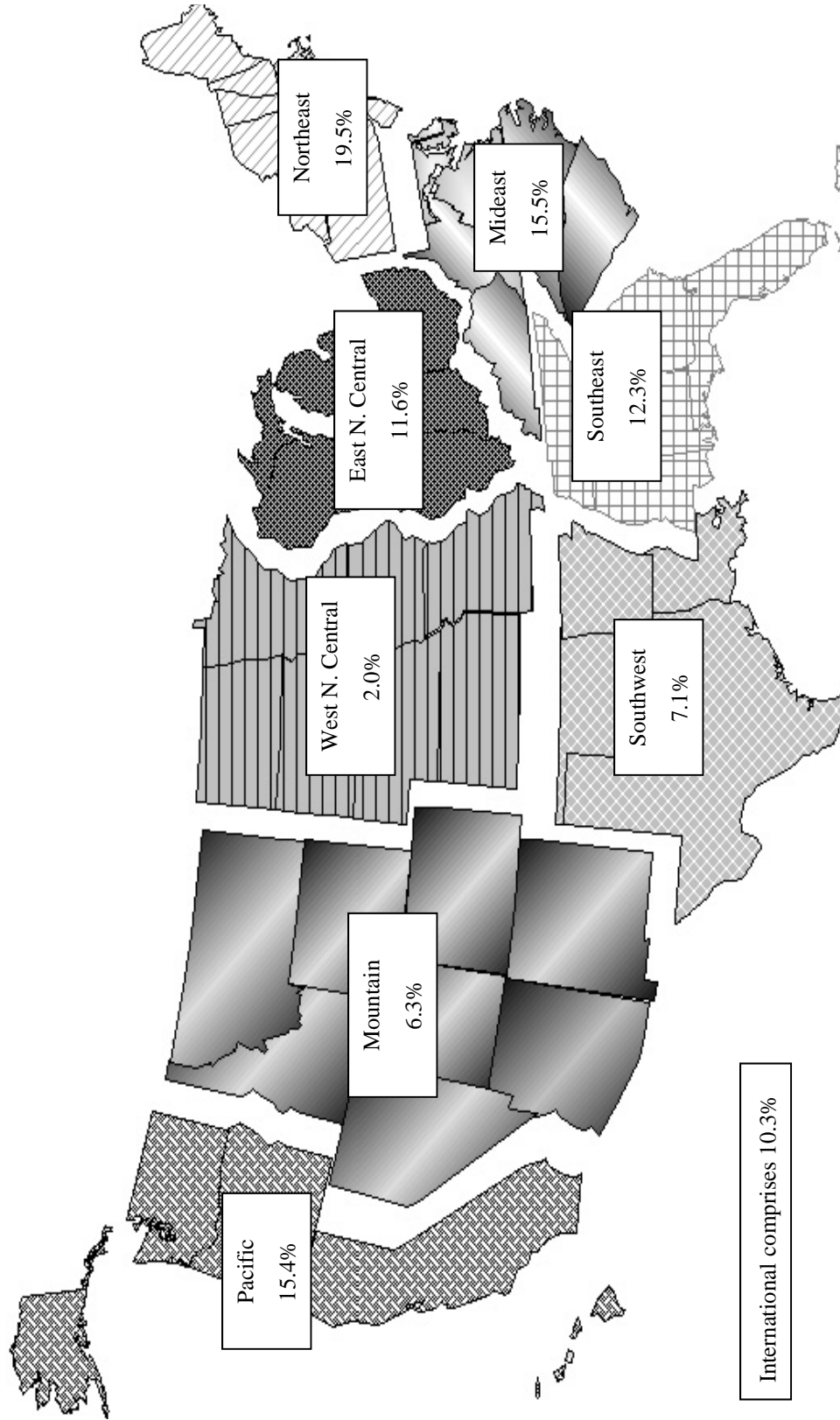
National Average Source: U.S. Census Bureau (Apartment), CB Richard Ellis (Office & Industrial), Property & Portfolio Research (Retail), Smith Travel Research (Hotel)  
*Excludes International Real Estate Investments*



# Real Estate by Region

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

June 30, 2012



Geographic regions defined by NCREIF, whose property index composition is: Pacific 28.3%, Mountain 5.9%, West N. Central 1.9%, Southwest 10.1%, East N. Central 8.2%, Southeast 11.2%, Northeast 19.6%, Midwest 14.8%

# REAL ESTATE

June 30, 2012

## Portfolio Leverage Summary

<u>Gross Market Value</u>	<u>Existing Debt *</u>	<u>Loan to Value %</u>
\$ 10,068,683,233	\$ 4,987,932,749	49.5%

## Top Ten Advisors or Companies

<u>Advisor or Company</u>	<u>Net Market Value</u>
Clarion Partners (formerly ING Clarion)	\$ 945,593,325
MWT Holdings, LLC **	718,643,830
Edens & Avant Investments, LP	591,944,879
KBS Realty Advisors, Inc.	312,277,849
Principal Real Estate Investors	263,189,422
Kensington Realty Advisors, Inc.	251,062,761
Five Star Realty Partners, LLC	213,992,965
CIM Group, Inc.	157,263,520
Winnington Capital Ltd.	149,501,293
Blackstone Real Estate Advisors	142,800,952
	<u>\$ 3,746,270,796</u>

### Footnotes:

\* Existing debt is comprised of property level debt.

\*\* SMRS owns approximately 50% of Simpson Housing through MWT Holdings LLC

**REAL ESTATE**  
**Net Market Values by Ownership Entity**  
June 30, 2012

	Net Market Value	Unfunded Commitment
801 Grand Avenue Capital, LLC	\$ 113,044,911	\$ 0
AGL Annuity Contract GVA 0016	308,659,181	0
Avanath Affordable Housing I, LLC	5,203,579	19,796,421
Beacon Capital Strategic Partners IV, LP	22,635,089	0
Beacon Capital Strategic Partners V, LP	20,393,090	6,500,000
BlackRock Retail Opportunity Fund, LLC	11,274,507	6,000,000
Blackstone Real Estate Partners V, LP	55,348,618	2,208,906
Blackstone Real Estate Partners VI, LP	87,452,331	8,123,746
Capri Select Income II	6,620,047	0
Capri Urban Investors, LLC	15,003,567	4,424,070
CIM Fund III, LP	76,116,727	14,362,845
CIM Urban REIT, LLC	80,186,767	0
CIM VI (Urban REIT), LLC	960,027	23,849,155
City Lights Investments, LLC	113,278,671	6,500,000
Cobalt Industrial REIT	51,947,723	0
Cobalt Industrial REIT II	71,532,467	0
Coolidge Investment Partners, LP	95,394,000	0
CPI Capital Partners N.A., LP	11,553,260	0
Devon Real Estate Conversion Fund, LP	6,140,178	0
Domain Hotel Properties, LLC	701,078,753	0
Dynamic Retail Trust	54,095,492	0
Edens & Avant Investments, LP	537,849,387	25,000,000
Federal Street, LLC	13,205,744	0
Gateway Capital R/E Fund II, LP	92,841,139	1,276,875
Great Lakes Property Group Trust	240,753,990	0
Invesco Mortgage Recovery Feeder Fund	26,729,031	15,922,329
JBC Opportunity Fund III, LP	17,257,505	0
KBS/SM Fund III, LP	218,284,600	0
L & B Medical Properties Partners, LP	2,953,012	2,384,389
Landmark Real Estate Partners V, LP	36,024,625	4,973,727
LaSalle Asia Opportunity Fund II, LP	11,589,492	0
LaSalle Asia Opportunity Fund III, LP	45,945,349	15,000,000
Lion Industrial Trust	107,307,970	0
Lion Mexico Fund, LP	41,812,602	2,216,029
Lowe Hospitality Investment Partners	2,868,298	0
MERS Acquisitions, Ltd.	134,121,939	0
Morgan Stanley R/E Fund V - International	14,091,515	0
Morgan Stanley R/E Fund VI - International	39,022,497	0
Morgan Stanley R/E Fund V - U.S.	8,000,956	0
MSRE Mezzanine Partners LP	331,841	0
Morgan Stanley R/E Special Situations Fund III	69,572,198	0
MWT Holdings, LLC	718,643,830	37,950,000
Northpark-Land Associates, LLLP	25,513,743	0
Paladin Realty Brazil Investors III (USA), LP	25,870,252	9,914,733
Principal Separate Account	150,144,511	0
Rialto Real Estate Fund, LP	43,027,026	12,728,609
SM Brell II, LP	93,993,249	0
SM MGRA I, LLC	3,561,083	16,524,952
Stockbridge Real Estate Fund II-C, LP	25,100,773	2,737,500
Strategic LP	126,428,165	53,610,494
SWA Acquisitions, Ltd.	1,556,610	0
Trophy Property Development LP	149,501,293	11,250,000
True North High Yield Investment Fund II	30,787,984	18,659,597
Venture Center, LLC	37,980,240	0
Western National Realty Fund II, LP	14,481,869	8,268,137
	\$ 5,015,073,303	-
<b>Short-Term Investments and Other</b>	<b>65,677,182</b>	<b>-</b>
<b>Total Real Estate Investments</b>	<b>\$ 5,080,750,485</b>	<b>\$ 330,182,514</b>

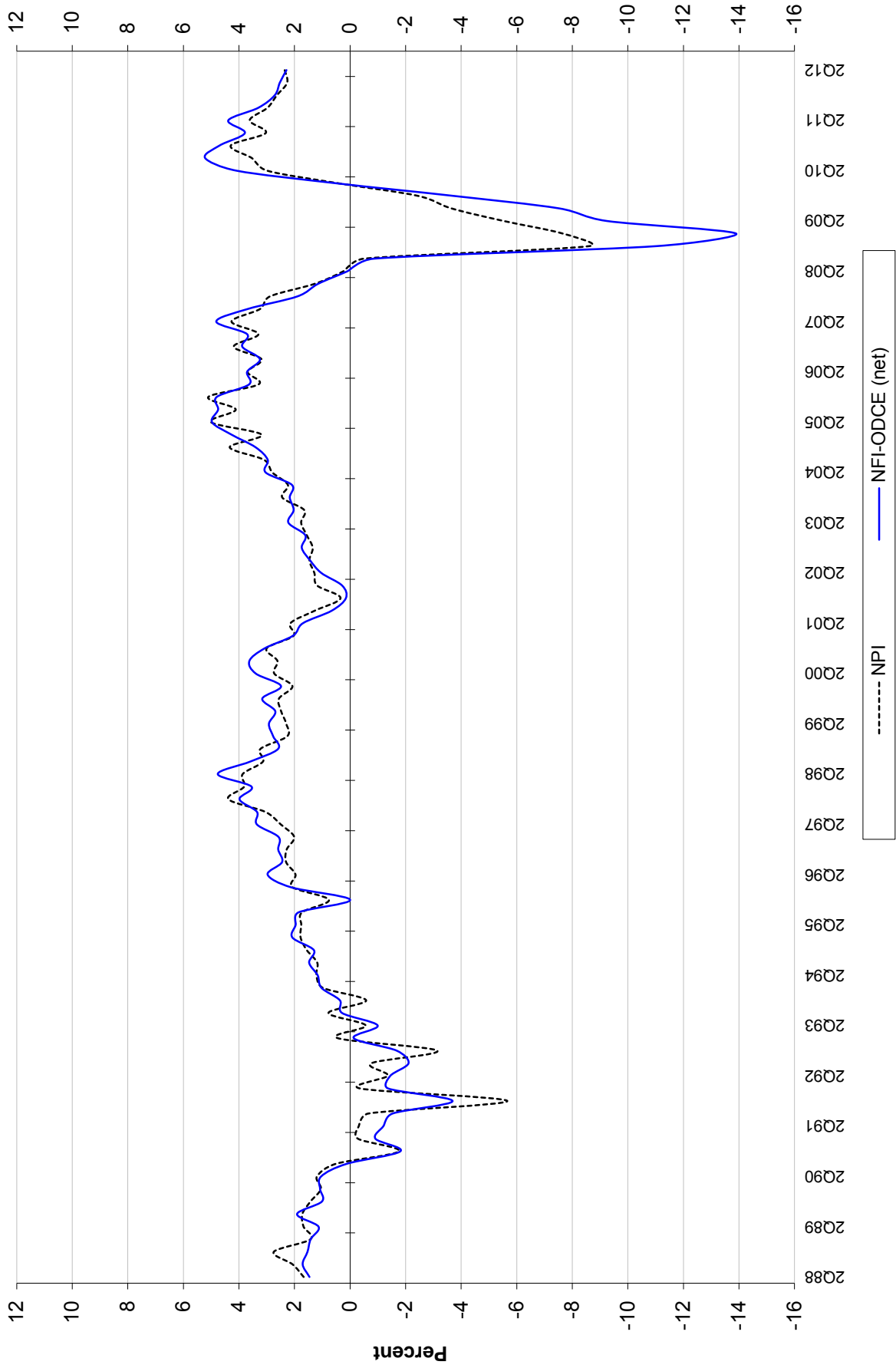
## INFRASTRUCTURE INVESTMENTS

### Net Market Values by Ownership Entity

June 30, 2012

	<u>Net Market Value</u>	<u>Unfunded Commitment</u>
<b>CSG Infrastructure Investment Program, LP</b>	\$ <b>0</b>	\$ <b>45,000,000</b>
Customized Infrastructure Strategies, LP	47,555,307	58,245,102
JPMorgan AIRRO India Sidecar Fund US, LLC	59,248,058	7,322,300
<b>KKR Global Infrastructure Investors, LP</b>	<u><b>3,296,000</b></u>	<u><b>71,704,000</b></u>
	\$ 110,099,365	-
<b>Short-Term Investments and Other</b>	<u>59,901,617</u>	<u>-</u>
<b>Total Infrastructure Investments</b>	\$ <b>170,000,982</b>	\$ <b>182,271,402</b>

### NCREIF Quarterly Returns NPI and NFI-ODCE



Source: National Council of Real Estate Investment Fiduciaries (NCREIF).  
 NPI = NCREIF Property Index  
 NFI-ODCE = NCREIF Fund Index Open-end Diversified Core Equity



**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**BASKET CLAUSE REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**SEPTEMBER 6, 2012**



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





## BASKET CLAUSE INVESTMENTS

The basket clause investments at June 30, 2012, were \$3,569 million fair market value ("FMV") or 7.197% of the total portfolio market value of \$50.565 billion.

		<u>June 30, 2012</u>	
Total Absolute and Real Return	(FMV)	\$3,383,234,504	6.824%
Total International Equity	(FMV)	<u>\$ 185,292,904</u>	0.373%
<b>Total investments to date</b>	<b>(FMV)</b>	<b>\$3,568,527,408</b>	<b>7.197%</b>

**STATE OF MICHIGAN RETIREMENT SYSTEMS**  
**Section 20D Investment Holding - 6/30/2012**

COMPANY NAME	FAIR MARKET VALUE
<b>ABSOLUTE AND REAL RETURN</b>	
Abernathy Fund	68,715,646
Absolute Return Capital	51,047,581
Apollo European Principal Finance Fund	13,427,486
Brevan Howard Multi-Strategy Fund	100,000,000
Elliott International Limited	9,825,000
Emerald Performance Materials	43,665,795
Energy Recap and Restructuring	17,038,036
Entrust White Pine	249,259,083
Fairfield Settlement Partners	62,748,493
FrontPoint Michigan Strategic Partnership Fund	6,151,962
Galaxie Avenue, LLC	104,117,700
Global Maritime Investment Fund	2,204,618
Hopen Life Sciences Fund II	1,574,592
HPS Senior Loan Fund II	164,737,218
KKR Lending Partners	45,699,631
Lakewater LLC	107,222,120
PSAM - Spartan Fund	29,295,475
Renaissance Venture Cap Fund II	750,000
Sand Hill, LLC	1,022,505,608
SJC Direct Lending Fund	138,983,326
Social Network Holdings, LLC	463,439,379
Stone Tower Capital Credit Fund	117,363,779

<b>COMPANY NAME</b>	<b>FAIR MARKET VALUE</b>
Stone Tower Capital Credit Strategies	260,308,657
Structured Credit Recovery Fund II	35,000,000
Tahquamenon LP	268,153,320
<b>TOTAL ABSOLUTE AND REAL RETURN</b>	<b><u>\$3,383,234,505</u></b>
<b>INTERNATIONAL EQUITY</b>	
LACM Emerging Markets Fund	185,292,904
<b>TOTAL INTERNATIONAL EQUITY</b>	<b><u>\$185,292,904</u></b>
<b>GRAND TOTAL</b>	<b><u><u>\$3,568,527,409</u></u></b>
<b>TOTAL 20D INVESTMENTS</b>	
as % of <b>TOTAL PORTFOLIO (MKT)</b>	7.197%
\$49,581 million	



# 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.**

