

# INVESTMENT ADVISORY COMMITTEE MEETING

June 14, 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

June 14, 2012

## Agenda



- 9:30 a.m. Call to Order and Opening Remarks
- 9:40 a.m. Approval of Minutes of March 1, 2012, Meeting
- 9:45 a.m. Performance for Periods Ending March 31, 2012
- 10:00 a.m. Current Asset Allocation Review
- 10:10 a.m. Capital Markets Overview
- Discussion of Infrastructure:
- 10:25 a.m. GUEST: R.V. Kuhns – *Rebecca Gratsinger & Dan Krivinskas*
- 10:45 a.m. GUEST: Citi Capital Advisors – *Felicity Gates*
- Economic and Market Review and Outlook – *File*
- 11:05 a.m. Review of Investment Reports
- Infrastructure
  - Active Domestic Equity
  - Alternative Investments – *File*
  - Absolute and Real Return/Oppportunistic – *File*
  - International Equity – *File*
  - Indexed Domestic Equity – *File*
  - Fixed Income – *File*
  - Real Estate – *File*
- 11:40 a.m. Basket Clause – *File*
- 11:40 a.m. Adjournment

### 2012 Meeting Schedule

Thursday, September 6, 2012  
Thursday, December 6, 2012

All meetings start at 9:30 a.m.



## INVESTMENT ADVISORY COMMITTEE

The Investment Advisory Committee held its quarterly meeting on Thursday, March 1, 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  
John E. Nixon, DTMB

In attendance from the Department of Treasury: State Treasurer Andy Dillon, Jon M. Braeutigam, Gregory J. Parker, Karen Stout, Brian Liikala, Richard Holcomb, Peter Woodford, Paul Nelson, Jack Behar, Jim Elkins, Giles Feldpausch, Kevin Fedewa, Amanda Ellis, Marybeth Gienapp, Marge McPhee, and Emma Khavari.

Others in attendance: Becky Gratsinger, Jim Voytko, Molly Jason, June Morse, and Jason Diotte.

### **Call to Order and Opening Remarks**

State Treasurer Andy Dillon asked Acting Chairman Steven H. Hilfinger to call the meeting to order. Acting Chairman Hilfinger called the March 1, 2012, meeting to order at 9:31 a.m. A motion was made by Mr. James B. Nicholson to nominate Mr. Nick A. Khouri as Chairman of the Investment Advisory Committee Board. Mr. John E. Nixon seconded the motion. All were in favor. Acting Chairman Hilfinger relinquished his position to newly elected Chairman Khouri.

Chairman Khouri noted that it was an honor to be a part of the Investment Advisory Committee. He mentioned that because of the diversity of all the members of the Board, there will be many different perspectives and viewpoints. He discussed some of the objectives of the Board and that the focus should be on what is learned, what is going to be done differently because of what is learned, and the major issues with which the staff might be struggling. Chairman Khouri encouraged the Board members to ask questions and to learn more details of investing.

Chairman Khouri turned the meeting over to State Treasurer Dillon. Treasurer Dillon welcomed the new Board members. He also noted that it has been a pleasure to work with the BOI team over the past year and that they are a very talented team. Treasurer Dillon asked each Board member to provide a brief background so that the BOI team understands the powerful resources that are available to them.

Mr. John E. Nixon is the State Budget Director and is the head of the Department of Technology, Management and Budget. Formerly he was the State Budget Director of Utah under Governors Huntsman and Herbert. Mr. Nixon worked his way through college as a stock broker. He accepted the position with the State of Michigan for the opportunity to make a difference.

Mr. L. Erik Lundberg has been the Chief Investment Officer at the University of Michigan for approximately the last twelve years. He oversees approximately \$8 billion in an endowment fund and another couple of billion dollars in other investment funds. Prior to his position at the University of Michigan, he managed a large corporate pension fund in Chicago giving him experience in the investment processes.

Chairman Naif 'Nick' A. Khouri has been the Treasurer of DTE Energy for the last ten years. Previously, he worked in federal and state government including the Michigan Senate Fiscal Agency and the Michigan Department of Treasury, as Chief Deputy Treasurer. He began his career in a congressional budget office in macro-economic forecasting.

Mr. James B. Nicholson is in the chemical business and his experience in the markets is with investing his own funds. Previously, he worked at the First National Bank of Chicago, (which became Bank One and then Bank One became Chase). His education was at Stanford University as an undergraduate; the University of Chicago; and a year at the London School of Economics reading and studying economics where he received his Master's Degree.

Mr. Steven H. Hilfinger is the Chief Regulatory Officer for the State of Michigan and is the head of the Department of Licensing and Regulatory Affairs. He is a lawyer and previously worked in private practice for a law firm in Detroit. His focus was on corporate M&A, restructuring, and private finance.

**Resolution for former Chairman David Sowerby** - Chairman Khoury noted that there is a Resolution honoring former Chairman David Sowerby for his dedicated years of service to the Investment Advisory Committee Board. Chairman Khoury asked for a motion to support the Resolution – Mr. Nicholson moved that the Resolution be accepted and Mr. Hilfinger supported. All were in favor.

### **Approval of Minutes of December 1, 2011**

Chairman Khoury asked for a motion to approve the December 1, 2011, minutes. A motion was made to accept the minutes by Mr. James B. Nicholson and seconded by Mr. John E. Nixon, with a minor correction noted by Mr. Steven H. Hilfinger. The minutes were approved.

**Presentation by R.V. Kuhns & Associates** – Ms. Rebecca Gratsinger, CEO and Principal; and Mr. James Voytko, President, COO, and Director of Research

Ms. Rebecca (Becky) Gratsinger began the presentation by providing a brief review of R.V. Kuhns and Associates and the services that are provided to the Bureau of Investments. She also noted, for the benefit of the new Board Members, the organizational structure, the team and consulting philosophy, and a snap-shot of the firm. She also provided a representative client list, an overview of their consulting services, and the uniqueness of R.V. Kuhns and Associates.

There were a few questions from the Board members about the number of partners the firm has and if they allow inactive partners. A brief history of the R.V. Kuhns and Associates was provided in response to some of these questions. Ms. Gratsinger then turned the presentation over to Mr. Voytko to give a brief review of the Michigan Public School Employees' Retirement System (MPERS) asset liability study.

Mr. Jim Voytko began his portion of the presentation with some background of an asset liability study, which is a large undertaking and typically results in a 100+ page deliverable. He selected several bullet points for topics of discussion from the last MPERS Liability Study which was completed in June 2011. He noted that the Asset Liability Study is like the ultimate report card for a pension plan, which brings together all of the major factors that bear on the financial health of the plan. He noted that large defined benefit plans change at a glacial pace, so patience and long-term thinking are mandatory. The Plan is starting out in a deep financial hole with insufficient assets and a large unfunded actuarial liability, along with the cost of the recent early retirement program, and the dominance of the higher cost old Plan members versus those in the new Plan; these are all major financial challenges. He discussed the contribution policy and the benefit policy.

Mr. Voytko discussed the asset mix, the returns, and the new assumed rate, which is 7% for the new Public School Employees. Mr. Voytko noted these factors are challenging, that the assumed rate is not a reflection of investments but is a tool for setting the contribution policy. This is a way of leaning toward contribution and away from dependence on investment income alone. Several questions were asked by the Board members which led to a lengthy and informative discussion regarding the factors that have an influence on the rates of return and the asset allocation mix. He continued with a discussion of the changes to the Plan coupled with its actuarially calculated Annual Required Contribution (ARC) policy. These factors appear to place the Plan on a more conservative path for pension funding and long-term pension health.

Mr. Voytko discussed the deterministic analysis results and noted the projected market funded ratio if certain criteria are met each and every year. He noted that the central part of the asset liability study is where five or six significantly different approaches are taken which express different asset allocations and then match them against the liabilities and note the potential consequences on a stochastic basis because each of the asset allocation has dramatically different volatilities associated with it and distributions. Mr. Voytko concluded his presentation with a discussion about the problems that public plans are facing as they mature and how their demographics are changing. He noted that almost all public defined benefit plans have too many retirees and not enough

contributing workers. Mr. Voytko and Ms. Gratsinger answered many questions from Board members and provided a very informative and enlightening discussion.

### **Prefunding of Health Care**

Mr. Jon M. Braeutigam provided a brief history of the State of Michigan Comprehensive Financial Report which is produced annually by the Office of Financial Services with assistance from the Office of Retirement Services and the Bureau of Investments, with regard to health care. He gave an overview of recent law changes and contribution rates to retiree health care. He noted that there will have to be some accounting changes that will be worked out with several different State of Michigan agencies. He also discussed and solicited thoughts and ideas from the Board members of how and where the funds will be invested. There were many ideas discussed and questions asked by the Board Members to be better informed of the situation. The Board's desire was to invest similar to pension assets.

### **Performance**

Mr. Braeutigam reported on the performance of the SMRS' portfolio for the time period ending December 31, 2011. He noted the S&P 500, which was flat in 2011, but as of February 29, 2012, it was up 8.6% year-to-date, which gives a sense of the volatility in the markets. He also discussed the foreign markets, which were down last year and the allocations of International versus the target and peers. Mr. Braeutigam explained the index to emerging and the currency issues, being 20% hedged with regards to the Euro, the Pound, and the Yen. Over the past decade the International portfolio performance has been challenging versus peers because the portfolio was hedged and the peers are completely unhedged. There was a lengthy discussion with several questions regarding hedged versus unhedged investments. Treasurer Dillon also suggested that the Board members read a book called *The Currency Wars*.

Mr. Braeutigam reviewed the time-weighted rates-of-return for the period ending December 31, 2011. He responded to several questions regarding the reasons for the difference between the 3.3% fund return rate and the 1.8% rate for the one-year peer return on the total plan. Mr. Braeutigam discussed private equity and real estate, noting that they both had a good year. He also discussed hedge funds, absolute return, correlation and diversity of the funds, and fund-to-funds strategy. There was a discussion about infrastructure and how it is a difficult asset class because there are several different types of assets with different characteristics. The desire is to have a bond-like return. It is a very slow process to allocate more to infrastructure from real estate and will take some time for this to be accomplished.

Mr. Braeutigam discussed, at the request of the State Treasurer, the chart of the Annual Total Returns of Key Asset Classes from the Performance section. This chart shows the different asset classes and how they performed over the years from 1992 to 2011. He pointed out that this chart shows why it is important to diversify your portfolio and studying the chart can be very helpful for the future. Mr. Braeutigam concluded his



Performance presentation noting that small and mid-cap stocks had a great run in the early 2000s and the SMRS exposure in small and mid-cap stocks did not begin until 2005.

### **Asset Allocation**

Mr. Braeutigam reported on the SMRS' asset allocation. The SMRS portfolio for the time period ending December 31, 2011, had a market value of \$48.123 billion. He noted that the short-term cash at the end of December was \$2.2 billion. There was a brief discussion on the amount of cash being held and the reasons for holding cash. Mr. Braeutigam concluded his Asset Allocation presentation noting his major concern is the problem in Iran and Israel, and his other concern is Europe.

### **Capital Markets Overview**

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

### **Economic and Market Review and Outlook**

In the spirit of time the Economic and Market Review and Outlook was received and filed.

### **Investment Reports**

**Active Domestic Equity** – Mr. Jack Behar reported on the SMRS' active domestic equity investments. The market value for the active domestic equity holdings as of December 31, 2011, was \$14,583 million. He discussed how the Stock Analysis Division functions, how the Division fits into the big picture, and how they think. He explained the three internal funds which are supported by seven industry analysts who lend their opinions and insights across funds. He noted that there are two smaller funds, one is an all-cap strategy and the second is a high-dividend yield, low-volatility strategy. Mr. Behar explained that there are 23 external managers across the large-cap, mid-cap, and small-cap spaces led by a team of four individuals in the Division. The team works very closely with R.V. Kuhns and Associates in the external manager space.

Mr. Behar responded to questions regarding the size of the internal and external portfolios and also the mix within the portfolios. He noted that the split between the active and passive is currently 60/40 and this is in the process of being changed to a 50/50 split. There was a discussion regarding the decrease in exposure in the small-cap and mid-cap space and the way that this decrease is being accomplished without terminating relationships with managers. Mr. Behar noted the overweight in financials, health care, and information technology. There was a discussion regarding the European banks and their balance sheets and the U.S. large-cap banks, which are more solid than they have been.

**Alternative Investments** – The total market value of the alternative investments portfolio as of December 31, 2011, was \$10,487 million. In the spirit of time the alternative investments report was received and filed.

**Absolute Return, Real Return and Opportunistic** – The market value of the absolute, real return and opportunistic portfolio as of December 31, 2011, was \$3,189 million. In the spirit of time the absolute, real return and opportunistic report was received and filed.

**Real Estate and Infrastructure** – The market value for the real estate and infrastructure portfolio as of December 31, 2011, was \$5,047 million. In the spirit of time the real estate and infrastructure report was received and filed.

**International Equity** – The market value of the international equity exposure as of December 31, 2011, was \$6,146 million. In the spirit of time the international equity report was received and filed.

**Indexed Domestic Equity** – The market value of the indexed domestic equity portfolio as of December 31, 2011, was \$5,923 million. In the spirit of time the indexed domestic equity report was received and filed.

**Fixed Income** – The market value of the fixed income portfolio as of December 31, 2011, was \$6,458 million. In the spirit of time the fixed income report was received and filed.

**Basket Clause** – The fair market value of the basket clause investments as of December 30, 2011, was \$2,829 million or 5.878% of the total portfolio market value of \$48.123 billion. In the spirit of time the basket clause report was received and filed.

**Next Meeting Date and Adjournment**

Chairman Khouri adjourned the meeting at 11:50 a.m.

Approved:

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Nick Khouri, Chairman

# EXECUTIVE SUMMARY

March 31, 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	5.0%	14.3%	2.8%	5.6%
Rank Vs. Peers	32	71	56	74
Domestic Equity Ranks	29	47	34	77
International Equity Ranks	47	20	69	77

## Asset Allocation

*A few minor changes over the past year with some de-risking due to the run-up in stock prices. Infrastructure added as a new separate asset class with a 3% allocation.*

- Over the past 12 months, the plan's allocation to **domestic equity has been reduced by 6.5%** to represent 28.6% of the total. The allocation to **short-term cash was increased by 4%** to 5.9% 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 plan more flexibility for opportunistic investments, and to increase the liquidity of the plan to ensure the benefit payments and capital commitments continue without disruption to the investments.
- Real estate, real return/opportunistic, and absolute return strategies all increased by about 1% over the past year. Fixed Income was a source of funds due to the low interest rates.
- New Investment Policy Statements for the four retirement plans were executed by the State Treasurer. Infrastructure was added at an initial target weight of 3% funded by a 3% reduction in the target weight for real estate. Absolute return strategies, long-term fixed income, and domestic equity targets were reduced a percent or two, while cash, real return/opportunistic strategies, and private equity targets were increased a percent or two.

## Capital Markets

*U.S. stocks did better than foreign and some back-up in rates. Europe is on everyone's mind.*

- U.S. stocks continue to show strength off the March 2009 bottom. **U.S. stocks were making new 3-year highs**, returning just over 24% annualized over the past 3 years.
- Foreign stocks remain under pressure. **The MSCI ACWI ex-U.S. index peaked in May 2011**, but at the end of March it was more than 14% off the highs.
- Interest rates in the U.S. remain extremely low. The 10-year Treasury rate ended March at 2.2% and the Fed Funds rate was approximately 0.13%.
- The rate curve is somewhat elevated and credit spreads are normally priced. **Inflation is moderating**; the year-over-year change in the CPI was 2.7%, down from 2.9% at the last reading. Demonstrating its volatility, the Dow Jones UBS Commodity index is down 19.1% from its June 9<sup>th</sup> 52-week high.
- Interest **rates in troubled European countries such as Spain and Italy began to rise quickly in March**. This fact is troubling because the massive LTRO program adopted in 2011 was implemented to keep rates low. This may lead to a major restructuring of the European Union.

## Economic Backdrop

*A pause in growth is no recession. Geopolitical and U.S. fiscal worries. Strong corporate profits.*

- The U.S. economy continues to grow, but slowly. At the end of March, the latest reading of GDP growth was 3%. The unemployment rate is at an elevated level at 8.3% and the recent drops in the rate are mainly due to people exiting the labor market rather than improvements in the economy. Many measures of current economic health show mixed results, indicating that the **economy is currently neither rapidly expanding nor contracting**.
- **The poor financial condition of European countries looms large.** Austerity measures are very unpopular in affected nations and civil unrest is the result. Additional government changes through elections, demonstrations and riots are expected.
- The tensions between Iran and Israel are still very high. Most experts readily admit that even they have very little ability to predict an outcome. However, best guess is the **odds of a 2012 strike on Iran by Israel are about 50/50**.
- U.S. corporations are very healthy fiscally. Annualized profits, after taxes, are at an all-time high at over \$1.5 trillion. Profit margins are at an all-time high as well, registering 10.3%. In theory, high profit margins should be cautionary for future profit growth. High margins should entice competition, and more competition would mean lower overall profits. Historically, there has been a strong inverse correlation between high profit margins and profit growth. This relationship has broken down in recent years, as companies have actually been more profitable than the historical trends would suggest. The question is why? One explanation is the growth in profits from outside the U.S. due to globalization. As stock prices generally follow profits, **it is important to understand the sustainability of historically high corporate profit margins**. Another possible explanation is technology.
- The 2013 scheduled tax increases and spending cuts are now being referred to as the impending "Fiscal Cliff". Next year the Bush era tax cuts are scheduled to expire, which includes the 2010-11 payroll tax cuts and the emergency unemployment benefits. Automatic cuts in government spending that were agreed upon during the budget crisis of 2011 are also scheduled to begin. New taxes due to the 2010 Affordable Care Act are to begin next year as well. Estimates vary widely, however the hit to GDP is expected to be a reduction between 3% and 5%. Fed Chairman Ben Bernanke warned "**If no action is taken by fiscal authorities, the size of the fiscal cliff is so large that the Fed would have no ability to offset that effect on the recovery.**" The 2012 presidential election will likely determine how the fiscal cliff is managed. However, market volatility is expected to increase as the issues are discussed throughout the remainder of 2012.

## Highlighted Asset Class – Infrastructure

*An introduction to the asset class.*

- Infrastructure recently has been adopted as a separate asset class. A few appealing characteristics of the asset class are the potential for inflation participation, relative stability of the cash flows and asset prices, and the diversification versus other alternatives. The asset class is not without risks. It is less mature as an asset class, and therefore less defined. Because of this fact, there is no effective recognized benchmark.
- R.V. Kuhns will give a high-level overview touching on the different sub-categories of the asset class. Citi Capital Advisors will give an overview of their experiences with some actual investments giving a real-time update on deal prices and flows. Staff will discuss the investment strategy designed to achieve the goals of the infrastructure asset class talking directly to the due diligence process and selection criteria. Staff will also give an update on their experiences thus far.

**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**PERFORMANCE**

**FOR PERIODS ENDING  
MARCH 31, 2012**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**JUNE 14, 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

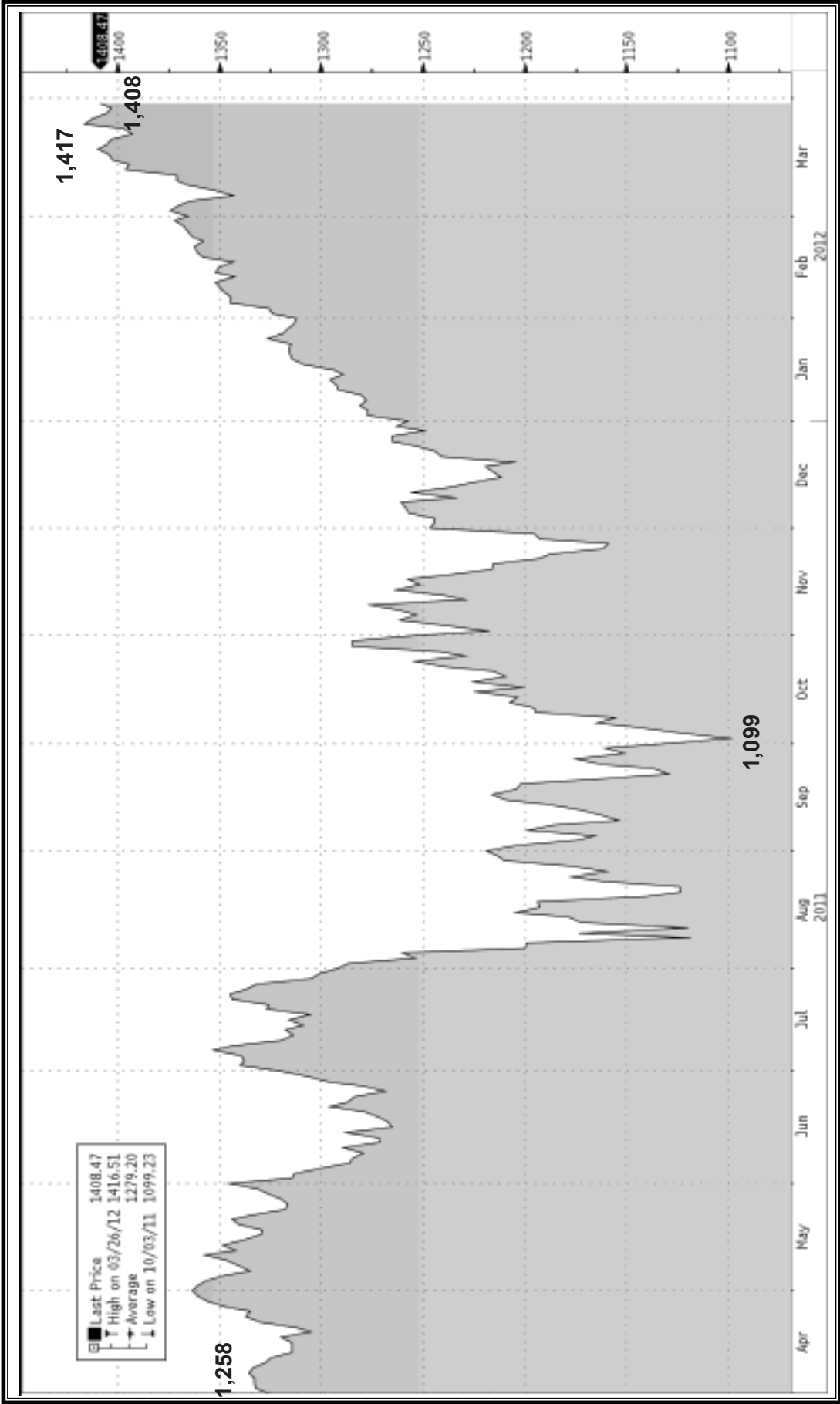
	<u>12/31/11</u>	<u>2011 Price Change</u>	<u>3/31/12</u>	<u>YTD Price Change</u>
DJIA	12,218	+5.53%	13,212	+8.14%
S&P 500	1,258	0%	1,408	+12.00%
NASDAQ	2,605	-1.80%	3,092	+18.67%
BMI-EPAC (Local)	161.3	-14.91%	177.4	+10.03%
BMI-EPAC (USD)	206.2	-14.91%	228.2	+10.67%
	<u>12/31/11</u>	<u>2011 bp Change</u>	<u>3/31/12</u>	<u>YTD bp Change</u>
30-Year Treas.	2.90%	-144 bp	3.34%	+44 bp
10-Year Treas.	1.88%	-142 bp	2.21%	+33 bp
5-Year Treas.	0.83%	-118 bp	1.04%	+21 bp
2-Year Treas.	0.24%	-36 bp	0.33%	+9 bp
26-Week T. Bill	0.06%	-13 bp	0.14%	+8 bp
13-Week T. Bill	0.02%	-11 bp	0.07%	+5 bp
Fed Funds	0.25%	0 bp	0.25%	0 bp
Prime Rate	3.25%	0 bp	3.25%	0 bp

## Economic Environment

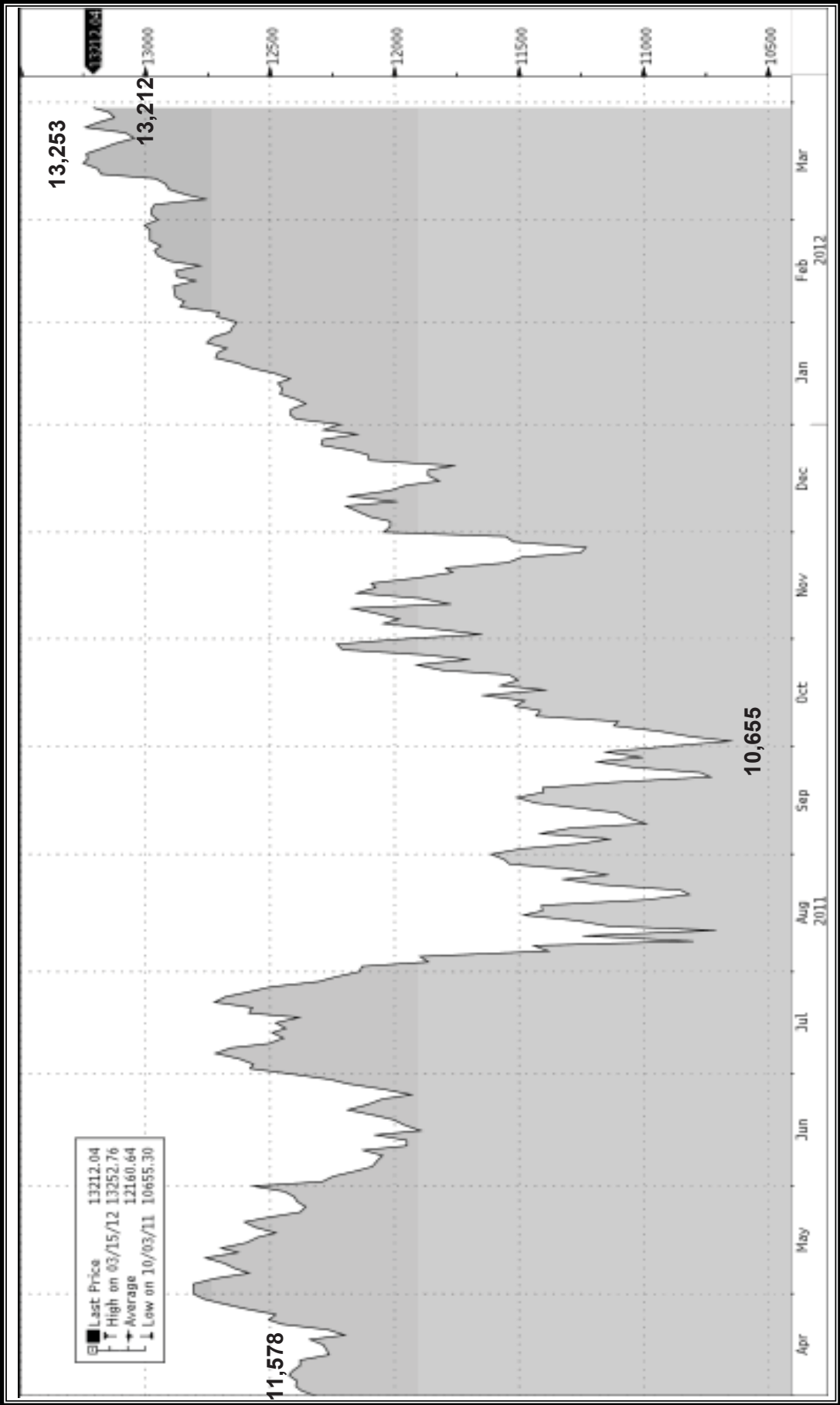
- First quarter real GDP increased by 2.2%. The fourth quarter of 2011 came in at 3.0%.
- Core inflation was up 2.2%, and CPI was up 2.7%. Ten-year breakeven tips yield was at 2.34%.
- Housing starts averaged 687,000, up from an average of 670,000 in the fourth quarter. Retail sales were up 6.8% year-over-year.
- Unemployment was 8.2%, down from 8.7% in the fourth quarter. Initial claims for unemployment averaged 371,000 versus 391,000 in the fourth quarter.
- S&P 500 rose 12% from fourth quarter levels; while at \$103 per barrel, oil was unchanged.
- U.S. budget deficit as a percent of GDP fell to 8.1% from 8.6%.
- Effective Fed Funds rate rose to 13 basis points.

# S & P 500 INDEX

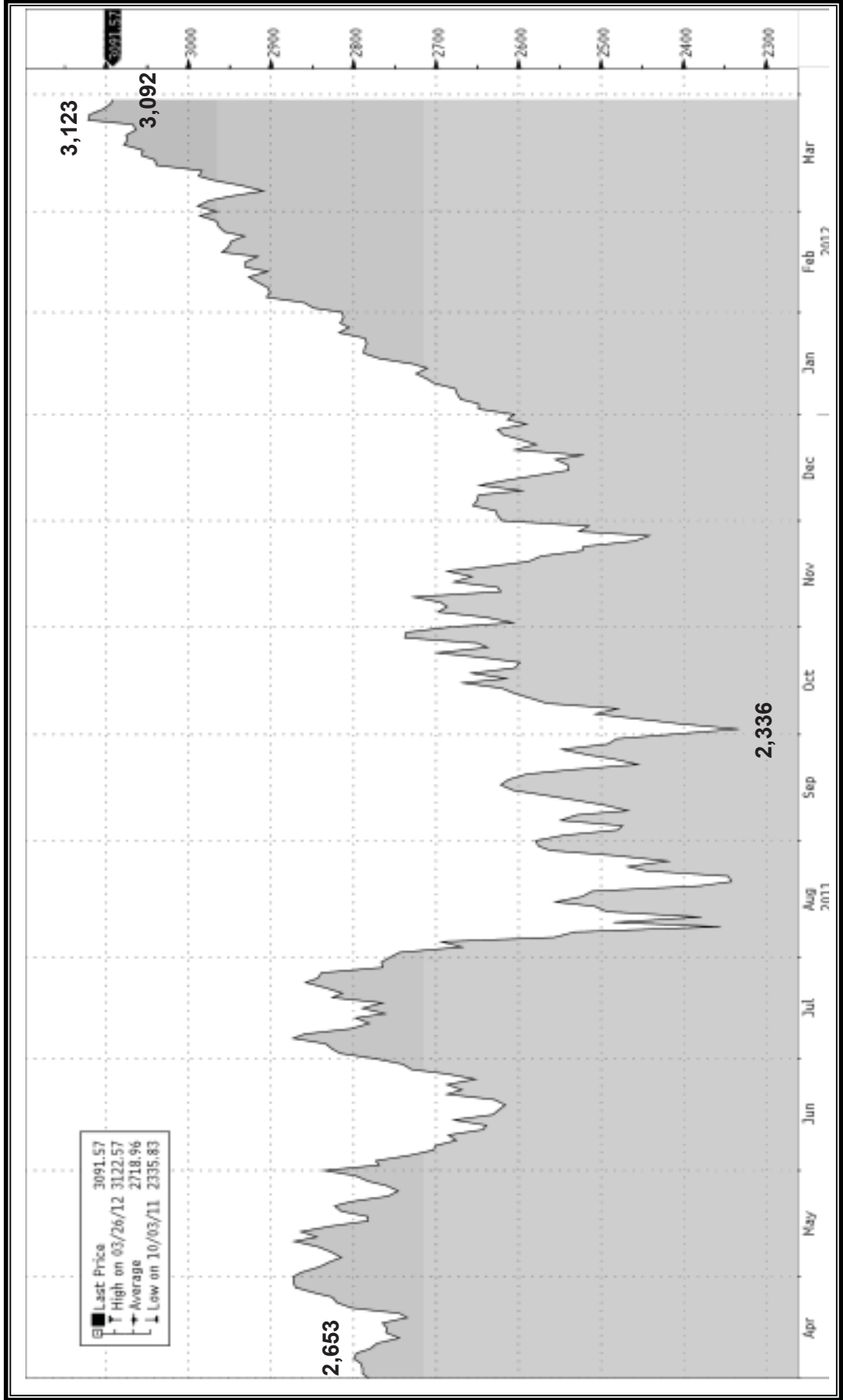
## ONE YEAR ENDING MARCH 31, 2012



# DOW JONES INDUSTRIAL AVERAGE ONE YEAR ENDING MARCH 31, 2012

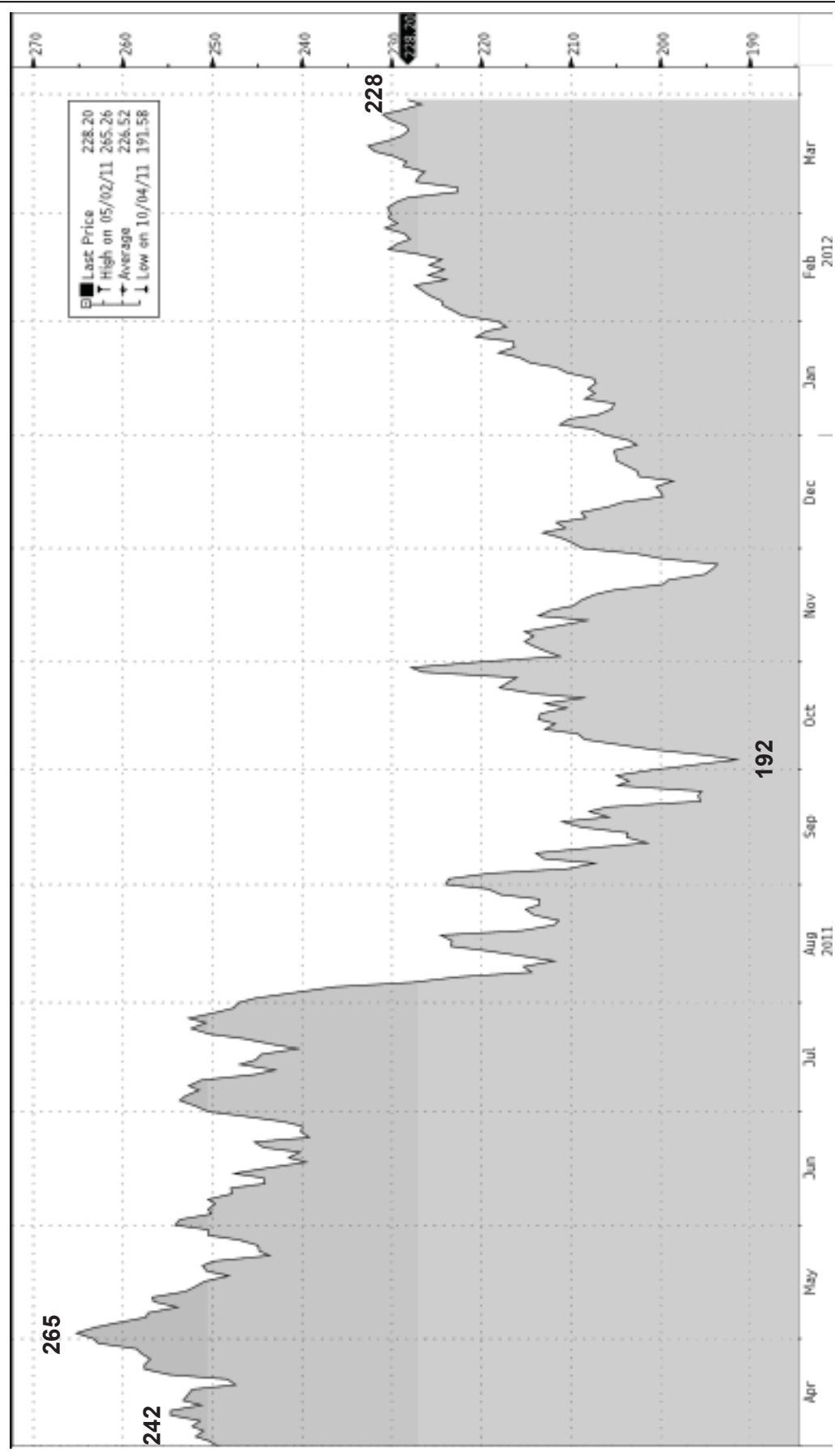


# NASDAQ ONE YEAR ENDING MARCH 31, 2012



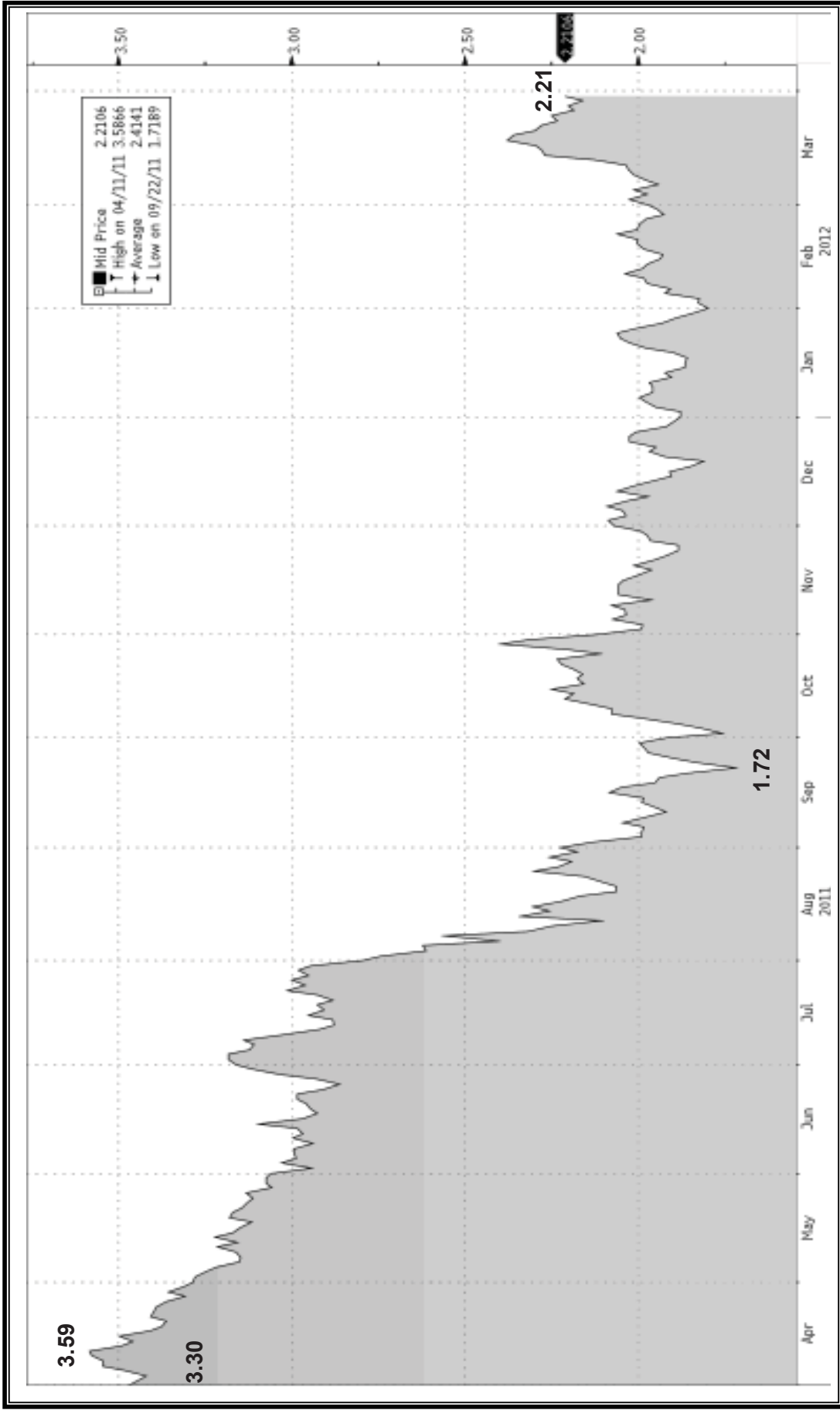
# INTERNATIONAL — S&P/CITIGROUP BMI EPAC (USD)

ONE YEAR ENDING MARCH 31, 2012

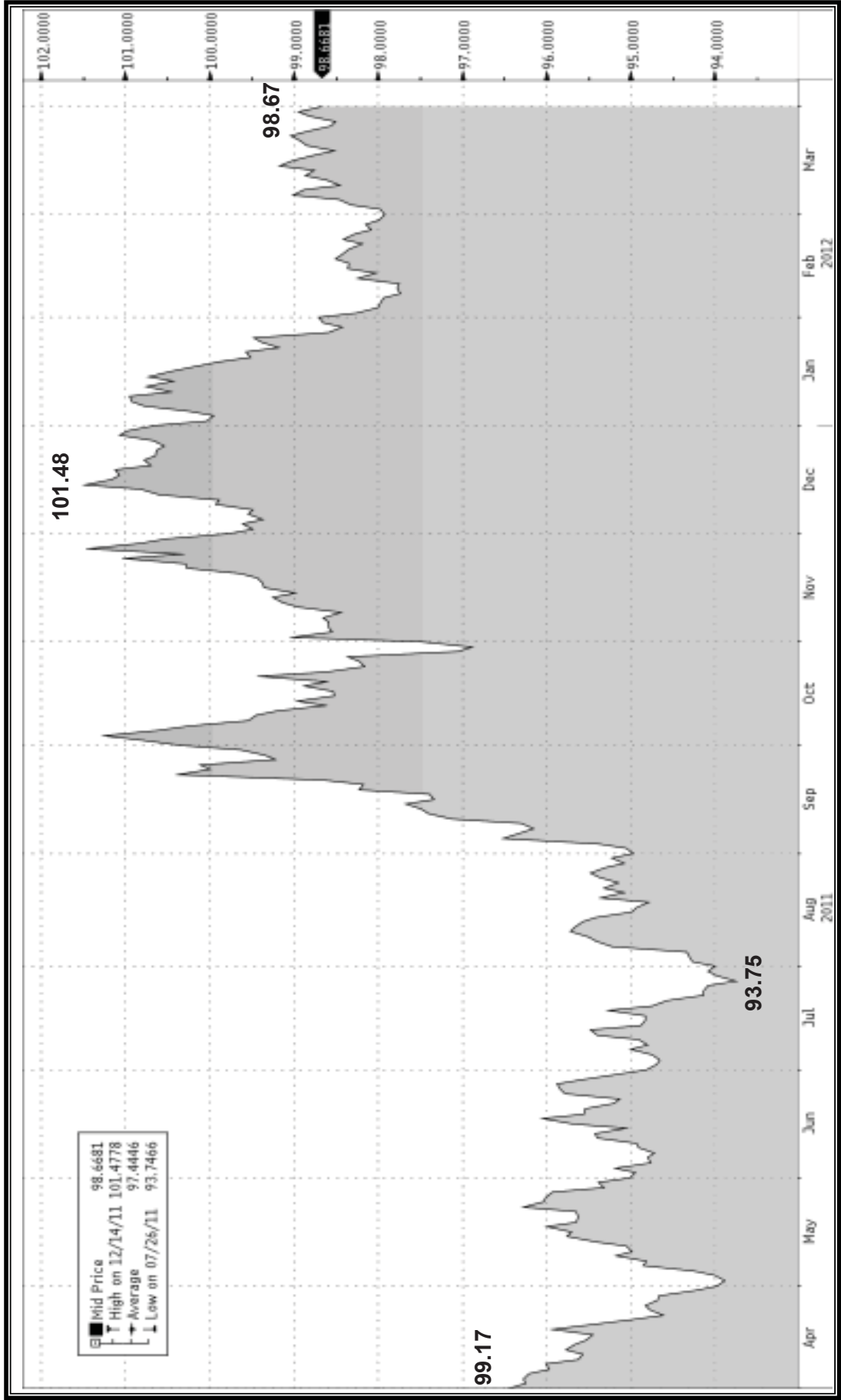


# TEN-YEAR U.S. TREASURY NOTE YIELDS

ONE YEAR ENDING MARCH 31, 2012



# U.S. DOLLAR TRADE-WEIGHTED INDEX ONE YEAR ENDING MARCH 31, 2012



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

<u>FUND</u>	<i>SECOND</i> <u>QTR. 2011</u>	<i>THIRD</i> <u>QTR. 2011</u>	<i>FOURTH</i> <u>QTR. 2011</u>	<i>FIRST</i> <u>QTR. 2012</u>
MPSERS	1.98 %	-6.15 %	2.94 %	6.60 %
MSERS	1.95 %	-6.25 %	2.96 %	6.56 %
MSPRS	2.00 %	-6.16 %	2.89 %	6.52 %
MJRS	1.75 %	-6.55 %	3.41 %	6.66 %
<b>Large Cap Core</b>	<b>-0.73 %</b>	<b>-15.93 %</b>	<b>11.95 %</b>	<b>13.05 %</b>
<b>Large Cap Growth:</b>				
<b>Large Cap Growth</b>	<b>-0.12 %</b>	<b>-9.85 %</b>	<b>7.08 %</b>	<b>17.63 %</b>
<b>Aletheia</b>	<b>-3.25 %</b>	<b>-12.03 %</b>	<b>10.60 %</b>	<b>12.05 %</b>
<b>Edgewood</b>	<b>0.66 %</b>	<b>-10.66 %</b>	<b>8.53 %</b>	<b>15.98 %</b>
<b>Large Cap Value:</b>				
<b>Large Cap Value</b>	<b>-0.69 %</b>	<b>-13.39 %</b>	<b>12.78 %</b>	<b>8.90 %</b>
<b>LSV</b>	<b>-1.13 %</b>	<b>-18.25 %</b>	<b>14.66 %</b>	<b>12.15 %</b>
<b>Wasatch</b>	<b>-1.54 %</b>	<b>-16.75 %</b>	<b>11.54 %</b>	<b>8.85 %</b>
<b>Epoch</b>	<b>0.81 %</b>	<b>-16.09 %</b>	<b>11.59 %</b>	<b>12.51 %</b>
<b>Diamond Hill</b>	<b>0.80 %</b>	<b>-14.56 %</b>	<b>14.03 %</b>	<b>9.56 %</b>
<b>Mid Cap Value:</b>				
<b>Artisan</b>	<b>0.37 %</b>	<b>-14.38 %</b>	<b>13.49 %</b>	<b>9.81 %</b>
<b>Cramer Rosenthal</b>	<b>1.49 %</b>	<b>-22.30 %</b>	<b>15.20 %</b>	<b>14.94 %</b>
<b>Mid Cap Growth:</b>				
<b>Rainier Investment</b>	<b>0.38 %</b>	<b>-21.46 %</b>	<b>15.90 %</b>	<b>16.38 %</b>
<b>Wellington</b>	<b>-0.85 %</b>	<b>-26.08 %</b>	<b>16.64 %</b>	<b>15.20 %</b>
<b>Mid Cap Core:</b>				
<b>L.A. Capital</b>	<b>-1.36 %</b>	<b>-18.30 %</b>	<b>13.15 %</b>	<b>12.43 %</b>
<b>Champlain</b>	<b>1.49 %</b>	<b>-16.68 %</b>	<b>11.95 %</b>	<b>11.60 %</b>
<b>Munder</b>	<b>1.61 %</b>	<b>-17.69 %</b>	<b>10.02 %</b>	<b>13.49 %</b>
<b>Small Cap Growth:</b>				
<b>Pier Capital</b>	<b>-1.28 %</b>	<b>-25.85 %</b>	<b>12.46 %</b>	<b>12.78 %</b>
<b>Small Cap Value:</b>				
<b>Fisher</b>	<b>-3.38 %</b>	<b>-25.17 %</b>	<b>18.27 %</b>	<b>16.42 %</b>
<b>GW Capital</b>	<b>-0.33 %</b>	<b>-28.08 %</b>	<b>18.31 %</b>	<b>8.01 %</b>
<b>Donald Smith</b>	<b>-1.99 %</b>	<b>-17.66 %</b>	<b>11.45 %</b>	<b>9.03 %</b>
<b>Opus Capital</b>	<b>-4.26 %</b>	<b>-18.19 %</b>	<b>16.86 %</b>	<b>10.02 %</b>
<b>Small Cap Core:</b>				
<b>Champlain</b>	<b>0.63 %</b>	<b>-15.69 %</b>	<b>13.89 %</b>	<b>9.55 %</b>
<b>NorthPointe</b>	<b>-0.89 %</b>	<b>-26.67 %</b>	<b>14.44 %</b>	<b>15.44 %</b>
<b>Multicap:</b>				
<b>All Cap GARP</b>	<b>-1.81 %</b>	<b>-20.50 %</b>	<b>11.18 %</b>	<b>16.59 %</b>
<b>Attucks</b>	<b>-0.41 %</b>	<b>-15.38 %</b>	<b>11.58 %</b>	<b>13.72 %</b>
<b>Bivium</b>	<b>0.65 %</b>	<b>-16.60 %</b>	<b>11.43 %</b>	<b>14.38 %</b>
<b>Leading Edge</b>	<b>0.34 %</b>	<b>-17.08 %</b>	<b>11.73 %</b>	<b>12.36 %</b>
<b>Seizert</b>	<b>2.73 %</b>	<b>-19.18 %</b>	<b>11.83 %</b>	<b>14.58 %</b>



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

<u>FUND</u>	<i>SECOND</i> <i>QTR. 2011</i>	<i>THIRD</i> <i>QTR. 2011</i>	<i>FOURTH</i> <i>QTR. 2011</i>	<i>FIRST</i> <i>QTR. 2012</i>
<b>Absolute Return Income Fund</b>	<b>1.01 %</b>	<b>-7.09 %</b>	<b>10.15 %</b>	<b>8.08 %</b>
<b>SAD Tactical Allocation</b>	<b>- %</b>	<b>-46.50 %</b>	<b>6.02 %</b>	<b>88.81 %</b>
<b>S&amp;P 500 Index</b>	<b>0.20 %</b>	<b>-13.68 %</b>	<b>11.86 %</b>	<b>12.72 %</b>
<b>S&amp;P Mid-Cap Index</b>	<b>-0.45 %</b>	<b>-19.28 %</b>	<b>13.19 %</b>	<b>13.71 %</b>
<b>International:</b>				
<b>International Equity</b>	<b>0.97 %</b>	<b>-18.45 %</b>	<b>3.40 %</b>	<b>11.11 %</b>
<b>Global Dividend Fund</b>	<b>1.73 %</b>	<b>-7.17 %</b>	<b>11.62 %</b>	<b>6.73 %</b>
<b>Wellington Intl</b>	<b>2.40 %</b>	<b>-19.50 %</b>	<b>3.45 %</b>	<b>12.74 %</b>
<b>SSGA Intl Alpha</b>	<b>1.20 %</b>	<b>-22.72 %</b>	<b>5.07 %</b>	<b>11.07 %</b>
<b>SSGA Intl Small Cap Alpha</b>	<b>2.85 %</b>	<b>-20.60 %</b>	<b>2.36 %</b>	<b>15.41 %</b>
<b>PIMCO Intl Stock Plus</b>	<b>2.92 %</b>	<b>-21.71 %</b>	<b>6.50 %</b>	<b>12.77 %</b>
<b>Emerging Markets:</b>				
<b>Vanguard Emerging Markets</b>	<b>-0.93 %</b>	<b>-23.94 %</b>	<b>6.01 %</b>	<b>13.96 %</b>
<b>LA Capital Emerging Markets</b>	<b>0.29 %</b>	<b>-19.16 %</b>	<b>5.70 %</b>	<b>13.03 %</b>
<b>PIMCO EM Fund Index Plus</b>	<b>0.17 %</b>	<b>-25.76 %</b>	<b>7.84 %</b>	<b>16.13 %</b>
<b>Wellington Emerging Markets</b>	<b>- %</b>	<b>- %</b>	<b>- %</b>	<b>14.93 %</b>
<b>Alternative Investments</b>	<b>6.60 %</b>	<b>6.14 %</b>	<b>-5.22 %</b>	<b>2.85 %</b>
<b>Alternatives Equity</b>	<b>6.57 %</b>	<b>6.33 %</b>	<b>-5.36 %</b>	<b>2.92 %</b>
<b>Alternatives Fixed Income</b>	<b>7.38 %</b>	<b>1.55 %</b>	<b>-1.80 %</b>	<b>1.06 %</b>
<b>Real Estate</b>	<b>3.83 %</b>	<b>3.62 %</b>	<b>0.73 %</b>	<b>2.34 %</b>
<b>Infrastructure Investments</b>	<b>- %</b>	<b>- %</b>	<b>- %</b>	<b>4.18 %</b>
<b>Government Bonds</b>	<b>2.61 %</b>	<b>2.81 %</b>	<b>1.18 %</b>	<b>-0.18 %</b>
<b>Corporate Bonds</b>	<b>2.51 %</b>	<b>2.57 %</b>	<b>1.18 %</b>	<b>1.16 %</b>
<b>Fixed Income Core:</b>				
<b>Dodge &amp; Cox</b>	<b>2.01 %</b>	<b>0.94 %</b>	<b>1.05 %</b>	<b>2.59 %</b>
<b>Pyramis Global</b>	<b>2.24 %</b>	<b>3.21 %</b>	<b>1.51 %</b>	<b>0.90 %</b>
<b>Metropolitan West</b>	<b>1.91 %</b>	<b>2.11 %</b>	<b>1.27 %</b>	<b>2.23 %</b>
<b>Ambassador Capital</b>	<b>- %</b>	<b>4.33 %</b>	<b>1.62 %</b>	<b>0.50 %</b>
<b>Fixed Income Managers:</b>				
<b>Alliance Bernstein</b>	<b>2.26 %</b>	<b>2.36 %</b>	<b>1.50 %</b>	<b>1.67 %</b>
<b>Prudential Investment</b>	<b>2.43 %</b>	<b>2.54 %</b>	<b>2.14 %</b>	<b>2.52 %</b>
<b>CMBS Investment</b>	<b>-2.12 %</b>	<b>-10.59 %</b>	<b>0.88 %</b>	<b>8.68 %</b>
<b>Absolute Return Strategies</b>	<b>0.13 %</b>	<b>-3.33 %</b>	<b>-1.06 %</b>	<b>3.47 %</b>
<b>Commodity Investments</b>	<b>-5.40 %</b>	<b>-10.70 %</b>	<b>0.19 %</b>	<b>1.12 %</b>
<b>Opportunistic Investments</b>	<b>0.09 %</b>	<b>0.06 %</b>	<b>2.44 %</b>	<b>1.26 %</b>
<b>Cash Equivalents</b>	<b>0.01 %</b>	<b>0.00 %</b>	<b>0.01 %</b>	<b>0.01 %</b>
<b>Short Term Fixed Income</b>	<b>0.08 %</b>	<b>0.05 %</b>	<b>0.04 %</b>	<b>0.07 %</b>

# MPSERS

Time-Weighted Rates of Return  
Periods Ending March 31, 2012

Assets % of Portfolio 03/31/12	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>5.6</b>	<b>74</b>	<b>5.8</b>	<b>63</b>	<b>2.8</b>	<b>56</b>	<b>14.3</b>	<b>71</b>	<b>5.0</b>	<b>32</b>	<b>6.6</b>	<b>92</b>
Median - Greater than \$10 Billion <sup>2</sup>	6.0		5.8		2.9		15.7		4.5		7.6	
MPSERS Total Plan Policy	5.6		5.6		2.9		17.0		5.0		8.1	
<b>DOMESTIC EQUITIES</b>	<b>4.3</b>	<b>77</b>	<b>5.0</b>	<b>49</b>	<b>2.2</b>	<b>34</b>	<b>23.4</b>	<b>47</b>	<b>6.5</b>	<b>29</b>	<b>13.2</b>	<b>28</b>
Median <sup>2</sup>	4.8		4.9		1.8		23.1		5.6		12.3	
S&P 1500 Index	4.5		5.0		2.3		24.0		7.8		12.6	
<b>Stock-Active</b>	<b>4.0</b>		<b>4.9</b>		<b>2.2</b>		<b>23.1</b>		<b>6.4</b>		<b>13.5</b>	
S&P 500 Index/ S&P 1500 Blended Index <sup>3</sup>	4.3		4.9		2.3		24.0		7.8		12.6	
<b>Stock - Large Cap Active</b>	<b>3.8</b>		<b>4.4</b>		<b>1.7</b>		<b>22.2</b>		<b>7.5</b>		<b>13.1</b>	
S&P 500 Index	4.1		4.7		2.0		23.4		8.5		12.6	
<b>Stock - Mid Cap Active</b>					<b>4.1</b>		<b>27.1</b>		<b>4.6</b>		<b>13.0</b>	
S&P 400 Mid Cap Index					4.8		28.6		2.0		13.5	
<b>Stock - Small Cap Active</b>	<b>7.0</b>		<b>8.3</b>		<b>5.5</b>		<b>27.8</b>		<b>-2.6</b>		<b>12.2</b>	
S&P 600 Small Cap Index	7.6		6.6		3.6		29.2		5.0		12.0	
<b>Stock - Multicap Active</b>							<b>24.6</b>		<b>6.3</b>		<b>14.5</b>	
S&P 1500 Index							24.0		7.8		12.6	
<b>Stock-Passive US Equities</b>	<b>4.8</b>		<b>5.4</b>		<b>2.7</b>		<b>24.5</b>		<b>8.5</b>		<b>12.8</b>	
S&P 900 Blend <sup>5</sup>	4.5		5.0		2.2		23.8		7.9		12.7	
<b>Passive S&amp;P 500</b>	<b>4.4</b>		<b>5.0</b>		<b>2.4</b>		<b>23.9</b>		<b>9.1</b>		<b>12.7</b>	
S&P 500 Index	4.1		4.7		2.0		23.4		8.5		12.6	
<b>Passive S&amp;P Mid-Cap</b>	<b>8.3</b>		<b>8.4</b>		<b>5.9</b>		<b>29.5</b>		<b>3.4</b>		<b>13.7</b>	
S&P 400 Mid Cap Index	7.7		7.6		4.8		28.6		2.0		13.5	
<b>INTERNATIONAL EQUITIES</b>	<b>5.1</b>	<b>77</b>	<b>3.8</b>	<b>70</b>	<b>-2.8</b>	<b>69</b>	<b>21.4</b>	<b>20</b>	<b>-5.4</b>	<b>47</b>	<b>11.8</b>	<b>52</b>
Median <sup>2</sup>	6.4		4.9		-1.6		19.8		-5.5		11.9	
International Blended Benchmark <sup>8</sup>	4.7		3.4		-3.7		16.0		-6.8		11.3	
<b>Passive International Equities</b>	<b>5.2</b>		<b>3.9</b>		<b>-2.5</b>		<b>22.3</b>		<b>-4.5</b>		<b>10.8</b>	
S&P Developed BMI-EPAC net 75/25 blend <sup>9</sup>	4.8		3.5		-3.5		16.3		-5.4		11.3	
<b>Active International Equities</b>					<b>-3.3</b>		<b>18.7</b>		<b>-5.7</b>		<b>12.2</b>	
S&P Developed BMI Ex U.S. net					-2.5		19.0		-6.8		10.9	
<b>Emerging Markets Equities</b>									<b>-8.3</b>		<b>14.5</b>	
MSCI Emerging Markets Net									-8.8		14.1	

# MPSERS

Time-Weighted Rates of Return  
Periods Ending March 31, 2012

Assets % of Portfolio 03/31/12	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>	20.9											
Median <sup>2</sup>	11.1	14	13.0	5	9.1	13	13.3	16	10.3	17	2.9	46
Alternative Blended Benchmark <sup>6</sup>	7.4		9.8		5.5		9.2		5.9		2.6	
<b>REAL ESTATE</b>	9.6											
Median <sup>2</sup>	4.9	61	3.3	53	-1.8	44	-2.9	71	10.9	65	2.3	54
NCREIF - Property Blended Index <sup>7</sup>	5.5		3.5		-2.2		0.1		12.5		2.5	
NCREIF Open Fund Index Net	7.0		5.8		1.6		4.6		12.0		2.3	
NCREIF Open Fund Index Net	5.4		3.7		-1.3		3.2		13.6		2.6	
<b>INFRASTRUCTURE INVESTMENTS</b>	0.2											
Median <sup>2</sup>	6.2	74	6.5	57	7.2	43	9.0	79	7.3	63	1.2	74
Barclays Govt/Credit	6.9		6.6		7.0		11.1		7.5		2.1	
Barclays Govt/Credit	5.9		5.7		6.3		7.1		8.5		0.1	
<b>Government</b>	2.7		5.8		6.2		5.2		6.6		-0.2	
Barclays Government	5.5		5.4		6.0		4.0		7.9		-1.1	
<b>Corporate</b>	7.2		6.6		7.6		9.7		7.6		1.2	
Barclays Credit	6.6		6.2		6.9		12.3		9.6		2.0	
<b>Fixed Income External</b>	2.9				6.6		11.0		8.3		2.0	
Barclays Aggregate			6.3		6.3		6.8		7.7		0.3	
<b>ABSOLUTE RETURN</b>	3.4						11.4		-0.9		3.5	
HFRI FOF Cons 1 mth lagged							4.0		-2.9		1.8	
<b>COMMODITY INVESTMENTS</b>	0.8								-14.4		1.1	
DJ-UBS Commodity Index TR									-16.3		0.9	
<b>REAL RETURN AND OPPORTUNISTIC</b>	3.0								3.1		1.3	
50% (CPI +500bp) + 50% (8% accrual rate)									7.9		2.4	
<b>CASH EQUIVALENTS</b>	6.9		2.0		0.9		1.2		0.2		0.1	
1 Month T-Bill	1.7		1.9		1.0		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.

Ending market value weighted blend of 10 yr yield + 300 BP and SP 500 + 300 3 month lagged 9/30/09 to present.

<sup>7</sup> NCREIF - Property Blended Index is NPI minus 75 basis points prior to October 2005, NPI minus 130 basis points current.

<sup>8</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.

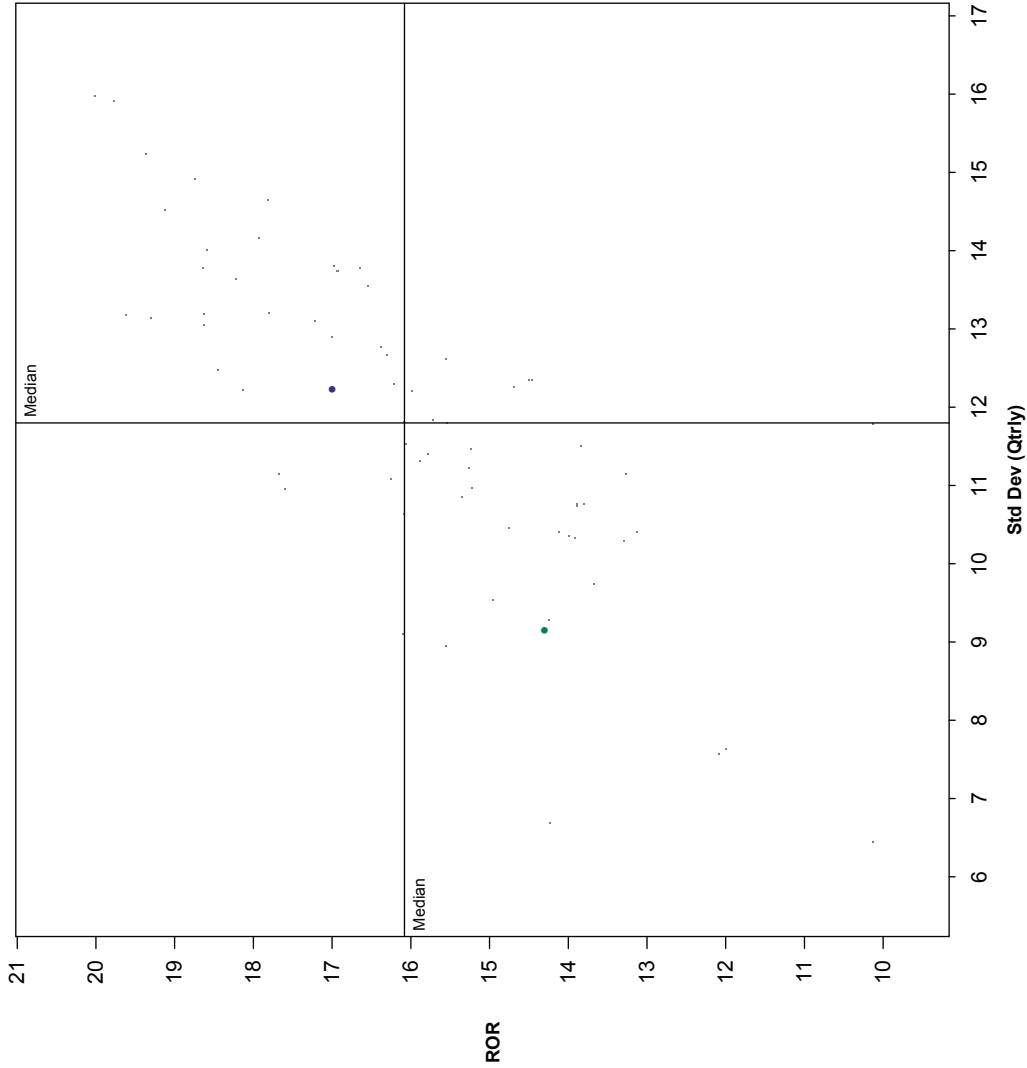
MSCI ACWI Ex U.S. Gross 10/1/2010 to present.

<sup>9</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

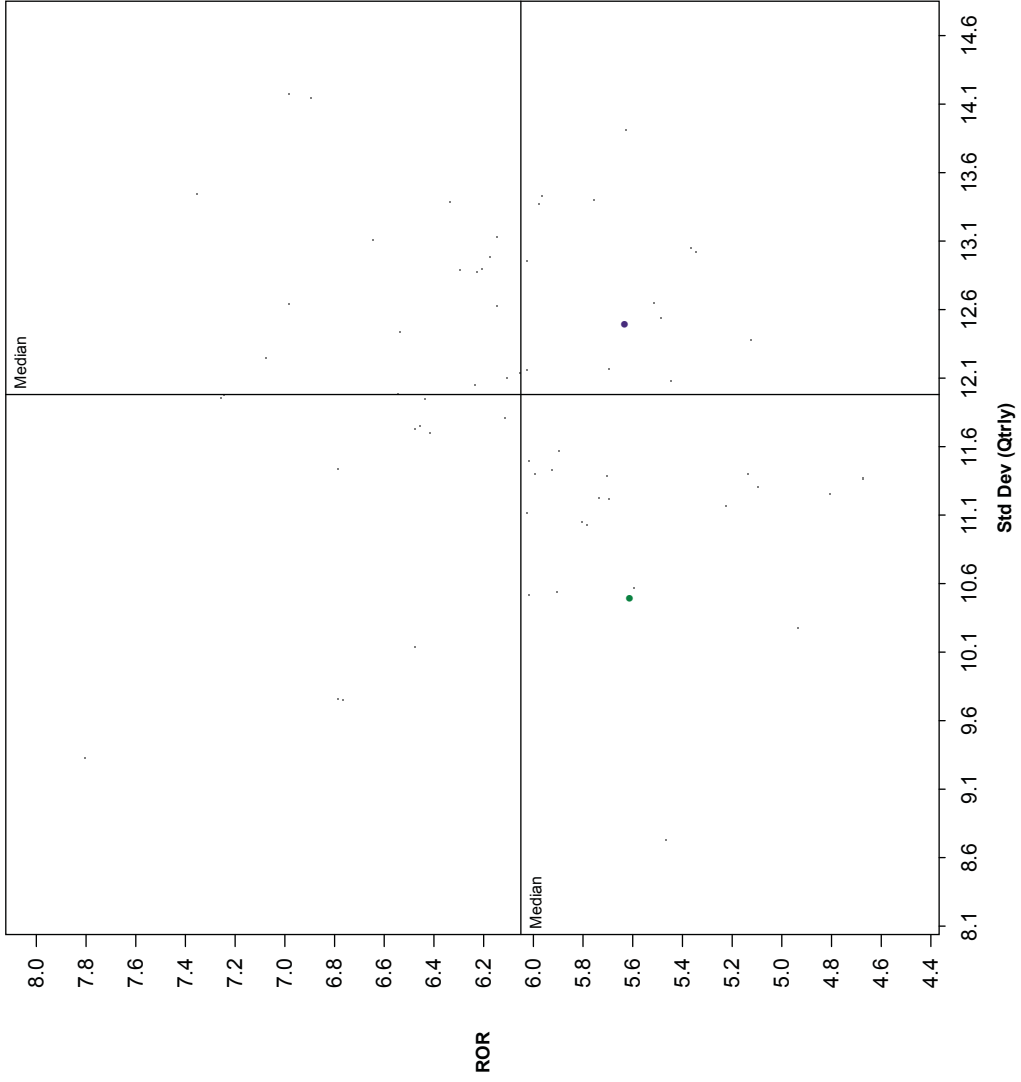
Public Funds (DB) > \$1 Billion (SSE) - Risk vs. Return 3 Years  
 Period Ending March 31, 2012



NAME	Std Dev (Qtrly) 3 Yrs	ROR 3 Yrs
5th Percentile	7.56	19.63
25th Percentile	10.67	17.82
50th Percentile	11.80	16.08
75th Percentile	13.17	14.26
95th Percentile	14.90	12.10
No. of Obs	66	66
TOTAL PUBLIC SCHOOL	9.27	14.26
MPRSERS TOTAL PLAN POLICY	12.35	16.96

# MPSERS TOTAL PLAN UNIVERSE REPORT

Public Funds (DB) > \$1 Billion (SSE) - Risk vs. Return 10 Years  
 Period Ending March 31, 2012



NAME	Std Dev (Qtrly) 10 Yrs	10 Yrs
5th Percentile	9.74	7.26
25th Percentile	11.25	6.48
50th Percentile	11.98	6.05
75th Percentile	12.88	5.70
95th Percentile	13.67	5.02
No. of Obs	64	65
TOTAL PUBLIC SCHOOL	10.56	14
MPSERS TOTAL PLAN POLICY	12.56	67

# MPSERS

## Time-Weighted Rates of Return Public Plan Universe Comparison\* Periods Ending March 31, 2012

	<u>Quarter</u>	<u>One Year</u>	<u>Three Year</u>	<u>Five Year</u>	<u>Ten Year</u>
MPSERS	6.60	5.03	14.26	2.79	5.60 %
<b>Rank</b>	<b>78</b>	<b>17</b>	<b>75</b>	<b>56</b>	<b>79</b>
<b>bp Difference - Median</b>	<b>-91</b>	<b>+77</b>	<b>-182</b>	<b>-12</b>	<b>-45</b>
<b>5th Percentile</b>	<b>10.03</b>	<b>6.13</b>	<b>19.63</b>	<b>4.04</b>	<b>7.26 %</b>
<b>25th Percentile</b>	<b>8.12</b>	<b>4.82</b>	<b>17.82</b>	<b>3.32</b>	<b>6.48 %</b>
Median	7.51	4.26	16.08	2.91	6.05 %
<b>75th Percentile</b>	<b>6.69</b>	<b>3.74</b>	<b>14.26</b>	<b>2.15</b>	<b>5.70 %</b>
<b>95th Percentile</b>	<b>5.36</b>	<b>2.91</b>	<b>12.10</b>	<b>0.68</b>	<b>5.02 %</b>

### Five-Year Smoothing

	<u>2003-2008</u>	<u>2004-2009</u>	<u>2005-2010</u>	<u>2006-2011</u>	<u>2007-2012</u>
MPSERS	<b>12.26 %</b>	<b>1.32 %</b>	<b>4.28 %</b>	<b>4.14 %</b>	<b>2.79 %</b>
<b>Median</b>	<b>12.15 %</b>	<b>0.07 %</b>	<b>4.26 %</b>	<b>4.32 %</b>	<b>2.91 %</b>

### Return vs. Risk

	<i>ANNUALIZED RETURNS</i>		<i>STD. DEVIATIONS</i>	
	<u>Value</u>	<u>Rank</u>	<u>Value</u>	<u>Rank</u>
	<u>Five Years</u>		<u>Five Years</u>	
MPSERS	<b>2.79 %</b>	<b>56</b>	<b>12.37 %</b>	<b>14</b>
<b>Median</b>	<b>2.91 %</b>		<b>14.13 %</b>	
	<u>Ten Years</u>		<u>Ten Years</u>	
MPSERS	<b>5.60 %</b>	<b>79</b>	<b>10.56 %</b>	<b>14</b>
<b>Median</b>	<b>6.05 %</b>		<b>11.98 %</b>	

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

**MPSERS**  
Cumulative and Consecutive  
Total Fund Returns

*Cumulative For Years Ending 3/31/2012*

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
<b>MPSERS</b>	5.03	9.53	14.26	2.68	2.79	4.29	5.75	5.99	7.90	5.60
<b>Public Plan - Median (&gt; \$1 billion)*</b>	4.26	9.18	16.08	3.41	2.91	4.32	5.69	5.93	8.20	6.05
<b>Rank</b>	17	37	75	78	56	55	44	43	63	79
<b>bp Difference - Median</b>	+77	+35	-182	-73	-12	-3	+6	+6	-30	-45

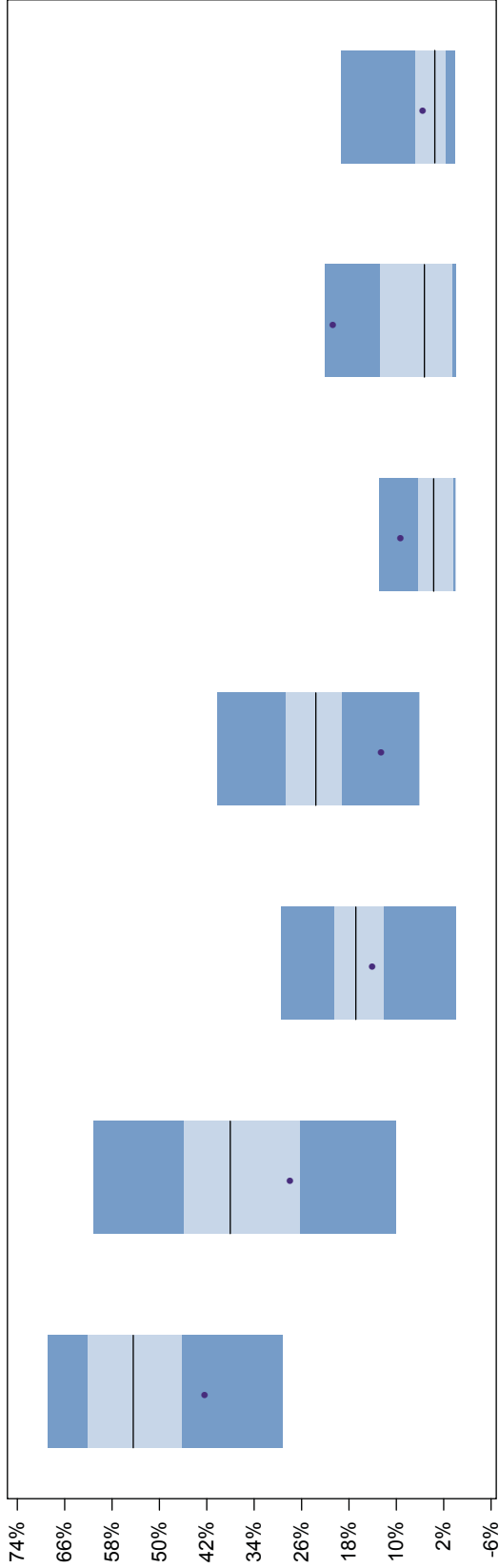
*Consecutive For Years Ending*

	03/12	03/11	03/10	03/09	03/08	03/07	03/06	03/05	03/04	03/03
<b>MPSERS</b>	5.03	14.22	24.34	-25.48	3.26	12.11	14.97	7.65	24.45	-13.00
<b>Public Plan - Median (&gt; \$1 billion)*</b>	4.26	14.12	31.35	-27.55	0.98	11.76	14.26	7.23	29.07	-11.00
<b>Rank</b>	17	47	91	27	12	29	27	41	91	81
<b>bp Difference - Median</b>	+77	+10	-701	+207	+228	+35	+71	+42	-462	-200

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

# MPERS TOTAL PLAN UNIVERSE REPORT

Public Funds (DB) > \$1 Billion (SSE) - Allocation  
 Period Ending March 31, 2012

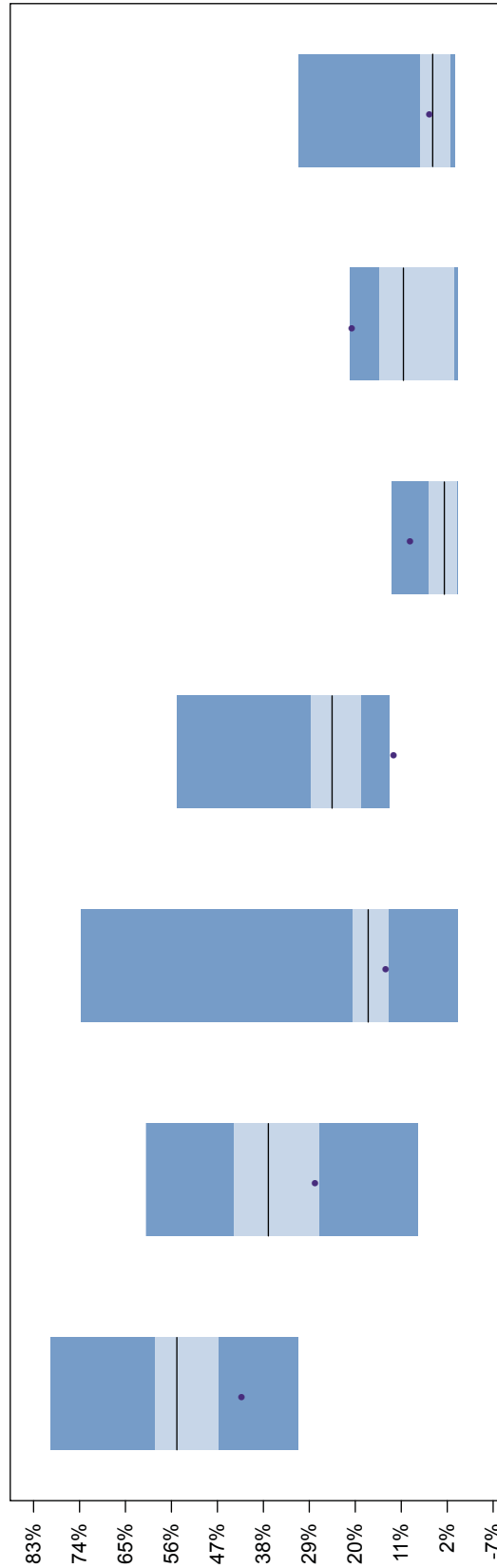


	Equities %	Equities Domestic %	Equities Foreign %	Fixed Income %	Real Estate %	Private Equity %	Cash Equiv %
5th Percentile	68.79	61.09	29.47	40.27	12.89	22.00	19.32
25th Percentile	62.09	45.85	20.59	28.79	6.33	12.70	6.80
50th Percentile	54.42	38.03	16.83	23.58	3.70	5.26	3.50
75th Percentile	46.12	26.24	12.13	19.06	0.29	0.58	1.55
95th Percentile	29.23	10.06	0.00	6.13	0.00	0.00	0.04
No. of Obs	68	68	68	68	68	68	68
<b>1 TOTAL PUBLIC SCHOOL</b>	<b>42.69</b>	<b>28.28</b>	<b>14.41</b>	<b>12.91</b>	<b>9.65</b>	<b>21.06</b>	<b>5.87</b>
	<b>81</b>	<b>68</b>	<b>61</b>	<b>93</b>	<b>12</b>	<b>7</b>	<b>36</b>



# MPERS TOTAL PLAN UNIVERSE REPORT

Public Funds (GT) > \$10 Billion (SSE) - Allocation  
 Period Ending March 31, 2012



	Equities %	Equities Domestic %	Equities Foreign %	Fixed Income %	Real Estate %	Private Equity %	Cash Equiv %
5th Percentile	79.60	60.99	73.69	54.95	12.89	21.06	31.11
25th Percentile	59.30	43.90	20.59	28.79	5.70	15.36	7.45
50th Percentile	46.68	37.03	17.48	24.55	2.55	10.58	4.85
75th Percentile	31.13	27.06	13.43	18.90	0.10	0.61	1.36
95th Percentile	20	7.74	0.00	13.33	0.00	0.00	0.55
No. of Obs	20	20	20	20	20	20	20
<b>1 TOTAL PUBLIC SCHOOL</b>	42.69	28.28	14.41	12.91	9.65	21.06	5.87
	87	73	63	100	15	6	44

# MSERS

## Time-Weighted Rates of Return Public Plan Universe Comparison\* Periods Ending March 31, 2012

	<u>Quarter</u>	<u>One Year</u>	<u>Three Year</u>	<u>Five Year</u>	<u>Ten Year</u>
MSERS	6.56	4.86	14.08	2.62	5.52 %
<b>Rank</b>	<b>84</b>	<b>25</b>	<b>79</b>	<b>68</b>	<b>82</b>
<b>bp Difference - Median</b>	<b>-95</b>	<b>+60</b>	<b>-200</b>	<b>-29</b>	<b>-53</b>
<b>5th Percentile</b>	<b>10.03</b>	<b>6.13</b>	<b>19.63</b>	<b>4.04</b>	<b>7.26 %</b>
<b>25th Percentile</b>	<b>8.12</b>	<b>4.82</b>	<b>17.82</b>	<b>3.32</b>	<b>6.48 %</b>
Median	7.51	4.26	16.08	2.91	6.05 %
<b>75th Percentile</b>	<b>6.69</b>	<b>3.74</b>	<b>14.26</b>	<b>2.15</b>	<b>5.70 %</b>
<b>95th Percentile</b>	<b>5.36</b>	<b>2.91</b>	<b>12.10</b>	<b>0.68</b>	<b>5.02 %</b>

### Five-Year Smoothing

	<u>2003-2008</u>	<u>2004-2009</u>	<u>2005-2010</u>	<u>2006-2011</u>	<u>2007-2012</u>
MSERS	<b>12.19 %</b>	<b>1.24 %</b>	<b>4.16 %</b>	<b>4.01 %</b>	<b>2.62 %</b>
Median	<b>12.15 %</b>	<b>0.07 %</b>	<b>4.26 %</b>	<b>4.32 %</b>	<b>2.91 %</b>

### Return vs. Risk

	<i>ANNUALIZED RETURNS</i>		<i>STD. DEVIATIONS</i>	
	<u>Value</u>	<u>Rank</u>	<u>Value</u>	<u>Rank</u>
	<u>Five Years</u>		<u>Five Years</u>	
MSERS	<b>2.62 %</b>	<b>68</b>	<b>12.42 %</b>	<b>16</b>
Median	<b>2.91 %</b>		<b>14.13 %</b>	
	<u>Ten Years</u>		<u>Ten Years</u>	
MSERS	<b>5.52 %</b>	<b>82</b>	<b>10.55 %</b>	<b>13</b>
Median	<b>6.05 %</b>		<b>11.98 %</b>	

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

**MSERS**  
Cumulative and Consecutive  
Total Fund Returns

*Cumulative For Years Ending 3/31/2012*

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
<b>MSERS</b>	4.86	9.40	14.08	2.50	2.62	4.15	5.63	5.88	7.78	5.52
<b>Public Plan - Median (&gt; \$1 billion)*</b>	4.26	9.18	16.08	3.41	2.91	4.32	5.69	5.93	8.20	6.05
<b>Rank</b>	25	39	79	81	68	62	55	52	69	82
<b>bp Difference - Median</b>	+60	+22	-200	-91	-29	-17	-6	-5	-42	-53

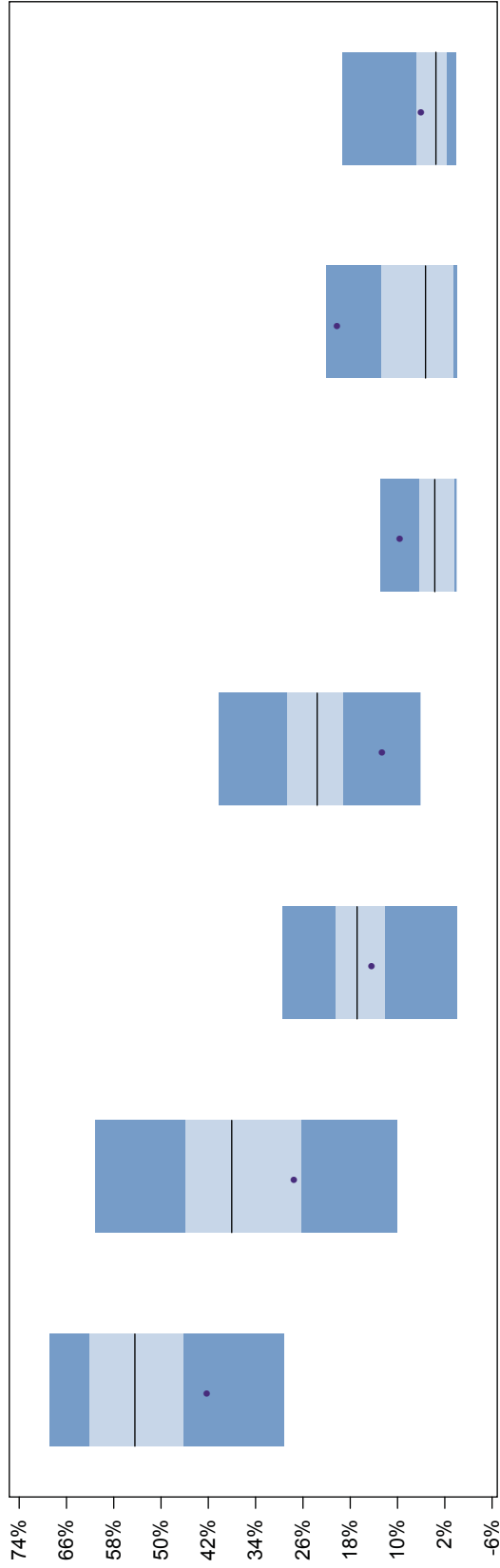
*Consecutive For Years Ending*

	03/12	03/11	03/10	03/09	03/08	03/07	03/06	03/05	03/04	03/03
<b>MSERS</b>	4.86	14.13	24.07	-25.65	3.11	12.11	14.98	7.64	24.22	-12.79
<b>Public Plan - Median (&gt; \$1 billion)*</b>	4.26	14.12	31.35	-27.55	0.98	11.76	14.26	7.23	29.07	-11.00
<b>Rank</b>	25	50	93	30	12	29	27	42	92	77
<b>bp Difference - Median</b>	+60	+1	-728	+190	+213	+35	+72	+41	-485	-179

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

# MSEERS TOTAL PLAN UNIVERSE REPORT

Public Funds (DB) > \$1 Billion (SSE) - Allocation  
 Period Ending March 31, 2012



	Equities %	Equities Domestic %	Equities Foreign %	Fixed Income %	Real Estate %	Private Equity %	Cash Equiv %
5th Percentile	68.79	61.09	29.47	40.27	12.89	22.00	19.32
25th Percentile	62.09	45.85	20.59	28.79	6.33	12.70	6.80
50th Percentile	54.42	38.03	16.83	23.58	3.70	5.26	3.50
75th Percentile	46.12	26.24	12.13	19.06	0.29	0.58	1.55
95th Percentile	29.23	10.06	0.00	6.13	0.00	0.00	0.04
No. of Obs	68	68	68	68	68	68	68
<b>• 1 TOTAL EMPLOYEES</b>	42.59	27.88	14.71	12.95	9.97	20.56	6.34
	81	70	58	92	10	8	29

# MSPRS

## Time-Weighted Rates of Return Public Plan Universe Comparison\* Periods Ending March 31, 2012

	<u>Quarter</u>	<u>One Year</u>	<u>Three Year</u>	<u>Five Year</u>	<u>Ten Year</u>
MSPRS	6.53	4.91	14.01	2.69	5.55 %
<b>Rank</b>	<b>84</b>	<b>23</b>	<b>80</b>	<b>65</b>	<b>81</b>
<b>bp Difference - Median</b>	<b>-98</b>	<b>+65</b>	<b>-207</b>	<b>-22</b>	<b>-50</b>
<b>5th Percentile</b>	<b>10.03</b>	<b>6.13</b>	<b>19.63</b>	<b>4.04</b>	<b>7.26 %</b>
<b>25th Percentile</b>	<b>8.12</b>	<b>4.82</b>	<b>17.82</b>	<b>3.32</b>	<b>6.48 %</b>
Median	7.51	4.26	16.08	2.91	6.05 %
<b>75th Percentile</b>	<b>6.69</b>	<b>3.74</b>	<b>14.26</b>	<b>2.15</b>	<b>5.70 %</b>
<b>95th Percentile</b>	<b>5.36</b>	<b>2.91</b>	<b>12.10</b>	<b>0.68</b>	<b>5.02 %</b>

### 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>12.28 %</b>	<b>1.37 %</b>	<b>4.21 %</b>	<b>4.07 %</b>	<b>2.69 %</b>
<b>Median</b>	<b>12.15 %</b>	<b>0.07 %</b>	<b>4.26 %</b>	<b>4.32 %</b>	<b>2.91 %</b>

### Return vs. Risk

	<i>ANNUALIZED RETURNS</i>		<i>STD. DEVIATIONS</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>2.69 %</b>	<b>65</b>	<b>12.32 %</b>	<b>13</b>
<b>Median</b>	<b>2.91 %</b>		<b>14.13 %</b>	
	<u>Ten Years</u>		<u>Ten Years</u>	
<b>MSPRS</b>	<b>5.55 %</b>	<b>81</b>	<b>10.51 %</b>	<b>11</b>
<b>Median</b>	<b>6.05 %</b>		<b>11.98 %</b>	

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

**MSPRS**  
Cumulative and Consecutive  
Total Fund Returns

*Cumulative For Years Ending 3/31/2012*

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
<b>MSPRS</b>	4.91	9.49	14.01	2.51	2.69	4.21	5.69	5.94	7.83	5.55
<b>Public Plan - Median (&gt; \$1 billion)*</b>	4.26	9.18	16.08	3.41	2.91	4.32	5.69	5.93	8.20	6.05
<b>Rank</b>	23	38	80	81	65	58	50	50	66	81
<b>bp Difference - Median</b>	+65	+31	-207	-90	-22	-11	0	+1	-37	-50

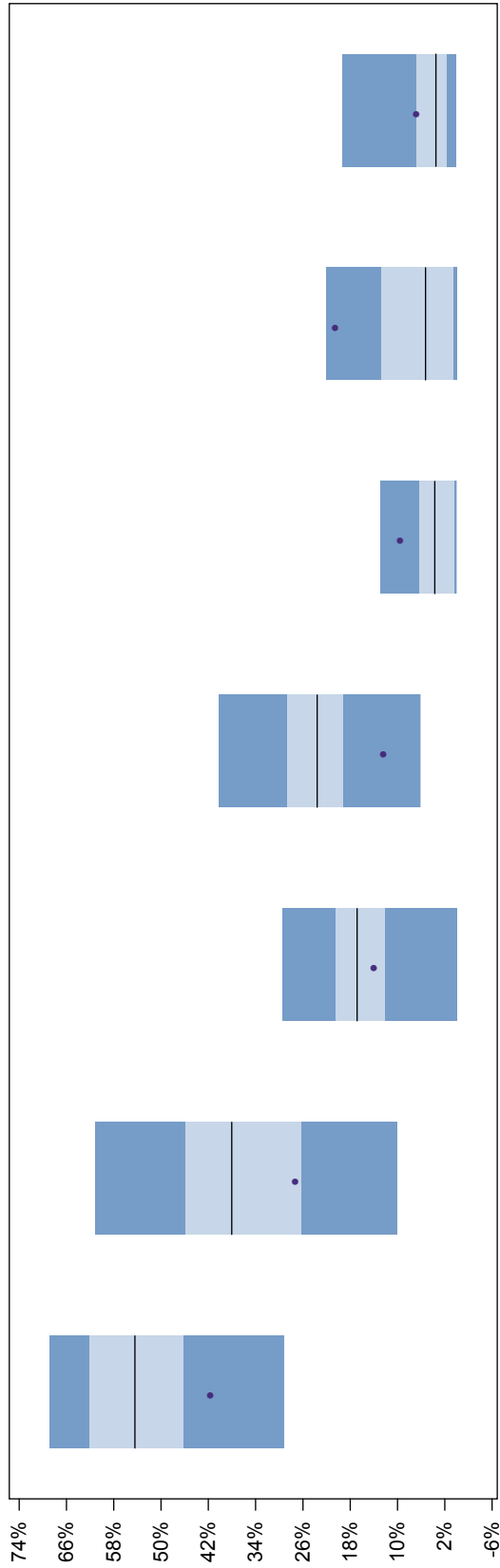
*Consecutive For Years Ending*

	03/12	03/11	03/10	03/09	03/08	03/07	03/06	03/05	03/04	03/03
<b>MSPRS</b>	4.91	14.27	23.63	-25.50	3.40	12.19	15.04	7.65	24.21	-12.86
<b>Public Plan - Median (&gt; \$1 billion)*</b>	4.26	14.12	31.35	-27.55	0.98	11.76	14.26	7.23	29.07	-11.00
<b>Rank</b>	23	47	93	28	9	29	27	41	92	78
<b>bp Difference - Median</b>	+65	+15	-772	+205	+242	+43	+78	+42	-486	-186

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

# MSPRS TOTAL PLAN UNIVERSE REPORT

Public Funds (DB) > \$1 Billion (SSE) - Allocation  
 Period Ending March 31, 2012



	Equities %	Equities Domestic %	Equities Foreign %	Fixed Income %	Real Estate %	Private Equity %	Cash Equiv %
5th Percentile	68.79	61.09	29.47	40.27	12.89	22.00	19.32
25th Percentile	62.09	45.85	20.59	28.79	6.33	12.70	6.80
50th Percentile	54.42	38.03	16.83	23.58	3.70	5.26	3.50
75th Percentile	46.12	26.24	12.13	19.06	0.29	0.58	1.55
95th Percentile	29.23	10.06	0.00	6.13	0.00	0.00	0.04
No. of Obs	68	68	68	68	68	68	68
<b>1 TOTAL POLICE</b>	42.01	27.65	14.35	12.73	9.90	20.91	7.19
	83	70	61	93	11	7	23

# MJRS

## Time-Weighted Rates of Return Public Plan Universe Comparison\* Periods Ending March 31, 2012

	<u>Quarter</u>	<u>One Year</u>	<u>Three Year</u>	<u>Five Year</u>	<u>Ten Year</u>
MJRS	6.66	4.88	13.37	2.49	5.32 %
<b>Rank</b>	<b>77</b>	<b>24</b>	<b>90</b>	<b>70</b>	<b>89</b>
<b>bp Difference - Median</b>	<b>-85</b>	<b>+62</b>	<b>-271</b>	<b>-42</b>	<b>-73</b>
<b>5th Percentile</b>	<b>10.03</b>	<b>6.13</b>	<b>19.63</b>	<b>4.04</b>	<b>7.26 %</b>
<b>25th Percentile</b>	<b>8.12</b>	<b>4.82</b>	<b>17.82</b>	<b>3.32</b>	<b>6.48 %</b>
Median	7.51	4.26	16.08	2.91	6.05 %
<b>75th Percentile</b>	<b>6.69</b>	<b>3.74</b>	<b>14.26</b>	<b>2.15</b>	<b>5.70 %</b>
<b>95th Percentile</b>	<b>5.36</b>	<b>2.91</b>	<b>12.10</b>	<b>0.68</b>	<b>5.02 %</b>

### 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>11.82 %</b>	<b>1.29 %</b>	<b>3.89 %</b>	<b>3.85 %</b>	<b>2.49 %</b>
<b>Median</b>	<b>12.15 %</b>	<b>0.07 %</b>	<b>4.26 %</b>	<b>4.32 %</b>	<b>2.91 %</b>

### Return vs. Risk

	<i>ANNUALIZED RETURNS</i>		<i>STD. DEVIATIONS</i>	
	<u>Value</u>	<u>Rank</u>	<u>Value</u>	<u>Rank</u>
	<u>Five Years</u>		<u>Five Years</u>	
<b>MJRS</b>	<b>2.49 %</b>	<b>70</b>	<b>12.22 %</b>	<b>11</b>
<b>Median</b>	<b>2.91 %</b>		<b>14.13 %</b>	
	<u>Ten Years</u>		<u>Ten Years</u>	
<b>MJRS</b>	<b>5.32 %</b>	<b>89</b>	<b>10.36 %</b>	<b>10</b>
<b>Median</b>	<b>6.05 %</b>		<b>11.98 %</b>	

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



**MJRS**  
Cumulative and Consecutive  
Total Fund Returns

*Cumulative For Years Ending 3/31/2012*

	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
<b>MJRS</b>	4.88	9.44	13.37	2.27	2.49	4.02	5.45	5.66	7.47	5.32
<b>Public Plan - Median (&gt; \$1 billion)*</b>	4.26	9.18	16.08	3.41	2.91	4.32	5.69	5.93	8.20	6.05
<b>Rank</b>	24	38	90	84	70	65	62	65	87	89
<b>bp Difference - Median</b>	+62	+26	-271	-114	-42	-30	-24	-27	-73	-73

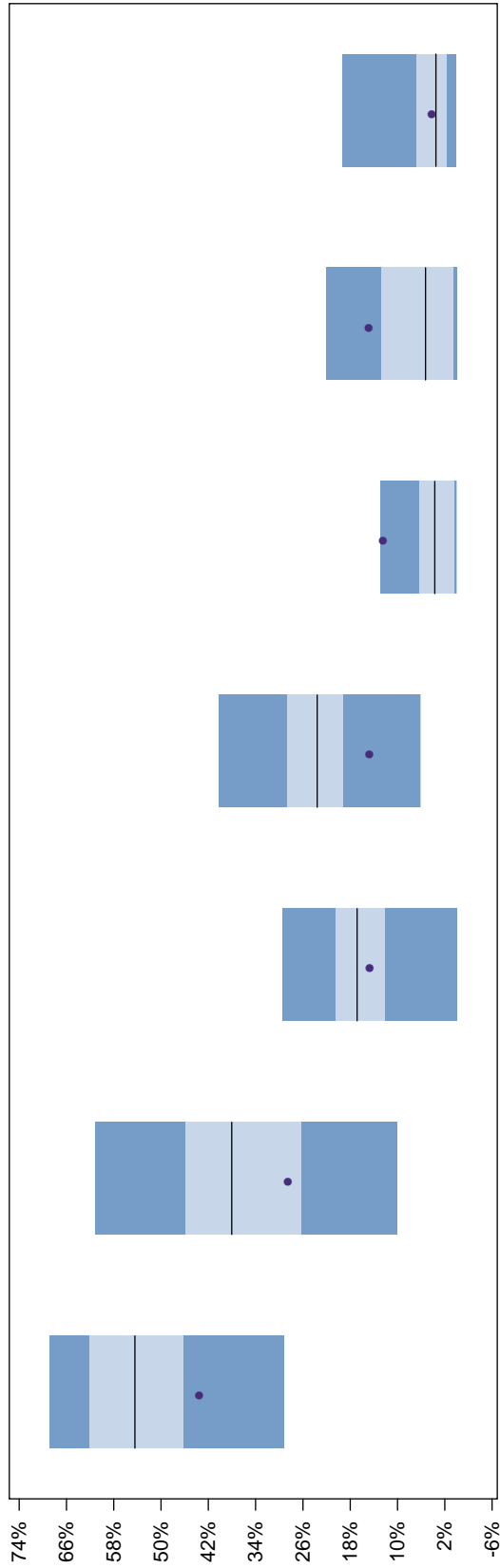
*Consecutive For Years Ending*

	03/12	03/11	03/10	03/09	03/08	03/07	03/06	03/05	03/04	03/03
<b>MJRS</b>	4.88	14.21	21.66	-24.94	3.39	12.01	14.44	7.17	23.08	-12.13
<b>Public Plan - Median (&gt; \$1 billion)*</b>	4.26	14.12	31.35	-27.55	0.98	11.76	14.26	7.23	29.07	-11.00
<b>Rank</b>	24	49	95	21	9	32	42	55	94	73
<b>bp Difference - Median</b>	+62	+9	-969	+261	+241	+25	+18	-6	-599	-113

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

# MJRS TOTAL PLAN UNIVERSE REPORT

Public Funds (DB) > \$1 Billion (SSE) - Allocation  
 Period Ending March 31, 2012



	Equities %	Equities Domestic %	Equities Foreign %	Fixed Income %	Real Estate %	Private Equity %	Cash Equiv %
5th Percentile	68.79	61.09	29.47	40.27	12.89	22.00	19.32
25th Percentile	62.09	45.85	20.59	28.79	6.33	12.70	6.80
50th Percentile	54.42	38.03	16.83	23.58	3.70	5.26	3.50
75th Percentile	46.12	26.24	12.13	19.06	0.29	0.58	1.55
95th Percentile	29.23	10.06	0.00	6.13	0.00	0.00	0.04
No. of Obs	68	68	68	68	68	68	68
• 1 TOTAL JUDGES	43.89	28.86	15.03	15.10	12.80	15.22	4.58
	77	64	58	89	6	16	45

**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 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

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

\*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 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 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.







**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**ASSET ALLOCATION REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**JUNE 14, 2012**



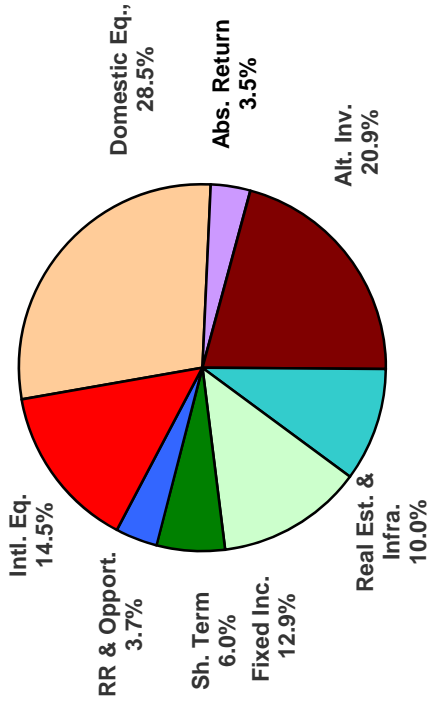
**Jon M. Braeutigam  
Chief Investment Officer  
Bureau of Investments**



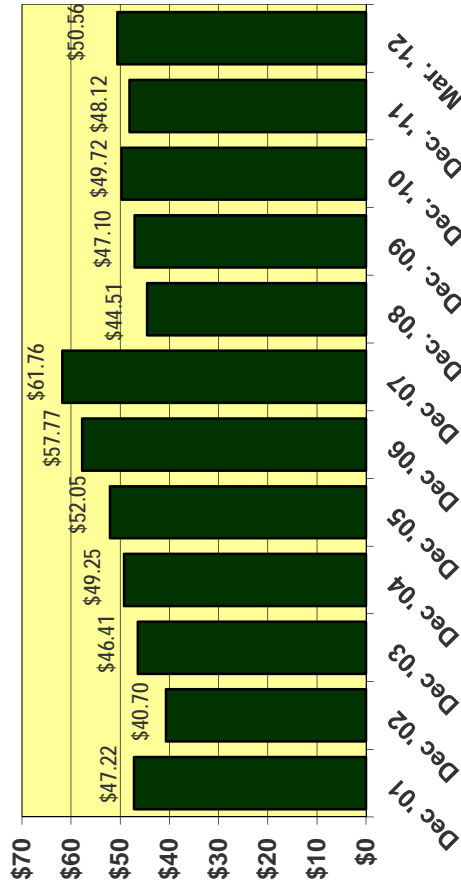


# STATE OF MICHIGAN RETIREMENT SYSTEMS PROFILE - MARCH 2012

## Asset Allocation 3/31/12



## Market Value\* 12/01 - 3/12 (Billions of Dollars)



## Asset Allocation By Market Value (In Millions)

Investment Strategies	3/31/2012	12/31/2011
Domestic Equity	\$14,435	\$14,583
Alternative Investments	10,587	10,487
International Equity	7,314	6,146
Fixed Income	6,536	6,458
Real Estate & Infra.	5,035	5,047
Short Term**	3,024	2,213
Real Return & Opport.	1,885	1,772
Absolute Return	1,749	1,417
<b>TOTAL</b>	<b>\$50,565</b>	<b>\$48,123</b>

## Short Term Equivalents

Short Term Strategy**	\$3.0
Short Term in Other Inv. Strategies	0.8
<b>TOTAL SHORT TERM</b>	<b>\$3.8</b>

**7.5% of Total Funds**

## Market Value By Plan 3/31/2012

	Market Value (In Millions)	%
Public School Employees	\$39,625	78.4%
State Employees	9,606	19.0%
State Police	1,087	2.1%
Judges	247	0.5%
<b>TOTAL</b>	<b>\$50,565</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

## January – February – March ~ 2012

*Beginning Cash:  
\$3.21 Billion*

Domestic Equity  
+\$1,892 mil

**Net withdrawal of \$1,892 million from Domestic Equity.**

International  
-\$569 mil

**Net sales of \$642 million in international equity swaps and net outflow of \$1,211 million to external managers.**

Alternative Invest.  
+\$157 mil

**Distributions exceeded draw-downs by \$157 million.**

Real Estate  
+\$115 mil

**Distributions exceeded the draw-downs by \$115 million.**

Infrastructure  
-\$34 mil

**Purchase of \$34 million in the new Infrastructure strategy.**

Fixed Income  
-\$34 mil

**Purchases exceeded sales, calls and maturities by \$34 million.**

STARR  
-\$410 mil

**Net purchases of \$410 million in opportunistic and commodity investments.**

Invest. Income  
+\$179 mil  
Net Benefit  
Payments  
-\$691 mil  
-\$512 mil

*Ending Cash:  
\$3.82 Billion*

## Asset Allocation Targets

Asset Class	MPSERS			MSERS			MSPRS			MJRS		
	Actual 03/31/12	Target 9/30/12	Target* 9/30/13	Actual 03/31/12	Target 9/30/12	Target* 9/30/13	Actual 03/31/12	Target 9/30/12	Target* 9/30/13	Actual 03/31/12	Target 9/30/12	Target* 9/30/13
Broad US Equity	28.6%	30.0%	31.0%	28.2%	30.0%	31.0%	28.1%	30.0%	31.0%	29.3%	30.0%	29.0%
Alternative Invest.	21.1%	18.0%	16.0%	20.6%	18.0%	16.0%	20.9%	18.0%	16.0%	15.2%	15.5%	14.0%
Broad Int'l Equity	14.4%	14.5%	16.0%	14.7%	14.5%	16.0%	14.4%	14.5%	16.0%	15.0%	14.0%	15.0%
US Fixed Income Core	12.9%	16.0%	15.0%	13.0%	16.0%	15.0%	12.7%	16.0%	15.0%	15.1%	17.5%	19.0%
Real Estate Core	9.7%	9.0%	6.0%	10.0%	9.0%	6.0%	9.9%	9.0%	6.0%	12.8%	10.0%	7.0%
Real Return / Opportunistic	3.8%	4.0%	5.0%	3.5%	4.0%	5.0%	3.1%	4.0%	5.0%	4.1%	4.0%	5.0%
Absolute Return	3.4%	3.0%	4.0%	3.5%	3.0%	4.0%	3.5%	3.0%	4.0%	3.6%	3.0%	4.0%
Cash	5.9%	4.5%	4.0%	6.3%	4.5%	4.0%	7.2%	4.5%	4.0%	4.6%	5.0%	4.0%
Infrastructure	0.2%	1.0%	3.0%	0.2%	1.0%	3.0%	0.2%	1.0%	3.0%	0.3%	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**

**INVESTMENT POLICY STATEMENTS**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**JUNE 14, 2012**



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





# INVESTMENT POLICY STATEMENT

## MICHIGAN PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

*Effective May 1, 2012*

### I. Introduction

This Investment Policy Statement (Policy) provides the framework for the management of the investments of the Michigan Public School Employees' Retirement System (MPSERS). Pursuant to State law, the State Treasurer is the custodian of the MPSERS. In addition to MPSERS, the State Treasurer also acts as custodian for the retirement systems for the Michigan State Employees' Retirement System, the Michigan State Police Retirement System, and the Michigan Judges' Retirement System. Collectively, these four systems comprise the State of Michigan Retirement System (SMRS).

The investment policies and objectives of the MPSERS are intended to allow for sufficient flexibility in the management process to capture investment opportunities, yet provide parameters that will ensure prudence and care in the execution of the investment program. The State Treasurer, as sole fiduciary, in investing MPSERS's assets shall act with the same care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a similar capacity and familiar with these matters would use in the conduct of an enterprise with similar aims, in accordance with the Public Employee Retirement System Investment Act, Act 314 of 1965, as amended (P.A. 314).

### Definition of Terms

- A. Allocated Cash – Funds allocated to the investment managers. These funds are generated by income (interest, dividends) and monies earned as a result of the sale of a security.
- B. Authorized Representatives – List, authorized by the State Treasurer, of Bureau of Investments (BOI) personnel who have authority to execute transactions on behalf of the SMRS.
- C. Cost – Book value or purchase price of the security.
- D. Market – Current price of the security if sold on the open market as of a given date.
- E. Strategic Asset Allocation – The long-range asset allocation of the plan designed to reasonably achieve the approved actuarial rate of return.
- F. Target Allocation – The percentage of MPSERS's portfolio (valued at market) to be allocated to the specific asset classes as outlined under Section IV.

- G. Unallocated Cash – Funds generated by MPSERS from contributions, less administrative expenses and benefit payments, invested in cash equivalents (but not managed by investment managers).

## **II. Assignment of Responsibilities**

- A. The State Treasurer is the sole fiduciary and custodian of MPSERS’s investments pursuant to state law. The State Treasurer, with input and analysis from the BOI, Investment Advisory Committee (IAC) members, internal and external investment managers, consultants, and other service providers, as needed, shall provide the following:
  - 1. Have asset liability studies conducted approximately every two years for each fund and distribute such studies to IAC members.
  - 2. Establish, approximately every two years, a long-term fund target asset allocation, based on the analysis and advice of the BOI.
  - 3. Establish, through this Investment Policy Statement, delegation of authority, and investment responsibility.
- B. The State Treasurer delegates investment approval authority of publicly traded equities and fixed income securities to the BOI and external managers. Absolute return, real return, and opportunistic investments made under the Short Term Fixed Income, Absolute and Real Return Division (STARR) are delegated to the Chief Investment Officer (CIO) or its external investment managers where applicable. Initial investment approval of real estate, private equity, venture capital, and private infrastructure investment funds made under the Real Estate and Infrastructure Investments Division (REID) or the Alternative Investments Division (AID) requires approval from either the State Treasurer or, if the State Treasurer position is vacant, the CIO shall approve.
- C. The State Treasurer shall report investment returns and strategy quarterly to the IAC, which reviews the investments, goals, and objectives of the retirement funds and may submit recommendations regarding them to the State Treasurer. The IAC may also, by a majority vote, direct the State Treasurer to dispose of any holding which in its judgment, is not suitable for the fund involved, and may by a unanimous vote direct the State Treasurer to make specific investments.
- D. The Director of the Bureau of Investments serves as the Chief Investment Officer of the MPSERS. The Director will implement the goals as described in Section II, A (1, 2, 3) of this document as well as direct the investment operations of the MPSERS, including each major asset class, in compliance with statutory requirements and sound business practices.

### **III. General Objectives and Policies**

The general objectives define the goals to be achieved through the management of MPSERS's assets. General policies provide guidelines for the State Treasurer, as sole fiduciary, to follow in meeting the general objectives.

#### **A. General Objectives:**

1. The overall objective of the MPSERS is to provide retirement, survivor, and disability benefits to its members through the investment of contributions and other MPSERS's assets.
2. The primary investment objective is to earn the approved actuarial rate of return on the total investment portfolio, consistent with a high degree of prudence and sufficient diversity to reduce risk and to meet the actuarial assumption for the investment rate of return, at a reasonable cost, achieved by cultivating a motivated team of dedicated professionals. It is understood that to meet the return objective of the fund equity risk must be assumed.
3. The State Treasurer will seek to diversify the plan with prudent levels of equity diversification through the investment of MPSERS's assets.

#### **B. General Policies:**

1. All transactions undertaken on behalf of MPSERS shall be for the sole benefit of plan participants.
2. All BOI staff and investment managers (including the State Treasurer, staff, and external service providers) involved in the investment process shall act with the care, skill, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims, in accordance with P.A. 314, or as otherwise stated in the investment policy, or their contract.
3. All BOI staff and investment managers (including the State Treasurer, staff, and external service providers) involved in the investment process shall refrain from personal business activity that could conflict with the proper execution and management of the investment program, or that could impair their ability to make impartial decisions. These parties are required to reveal all relationships that could create or appear to create a conflict of interest in their unbiased involvement in the investment process.
4. Investments shall be made without distinction between return generated from income as opposed to capital gains, and that diversification, need for liquidity, and the potential for gain and loss will be monitored on an on-going basis.

5. The allocation of assets among various asset classes shall be approved (as set forth here-in) by the State Treasurer. The asset allocation policy shall be predicated on the following factors:
  - a. the historical performance and risk measurers of capital markets adjusted for the expectations of the future short and long-term capital market performance;
  - b. the correlation of returns and risk among the relevant asset classes;
  - c. the expectations of future economic conditions, including inflation and interest rate assumptions;
  - d. the projected liability stream of benefits and the costs of funding to both covered employees and employers; and
  - e. the relationship between the current and projected assets of the plan and the projected actuarial liability stream.
6. This asset allocation policy will identify target allocations to the classes of assets MPSERS can utilize and the ranges within which each can fluctuate as a percent of the total portfolio. This policy is expected to provide diversification of assets in an effort to maximize the investment return to MPSERS consistent with prudent market and economic risk given the return objectives of the fund. Assets of MPSERS are to remain invested at all times in either cash equivalents or other asset classes as designated by this Policy.
7. Pursuant to State law, professional investment management firms, which are registered investment advisors or which are appropriately exempt from registration under the Investment Advisers Act of 1940 as may be amended, may be retained, by the State Treasurer, to assist in managing MPSERS's assets. Investments shall be sufficiently diversified so as to reduce the risk of material losses. Each investment manager will function under a formal contract that delineates its responsibilities and appropriate performance expectations. A formal set of investment guidelines and administrative requirements for management of each portfolio is to be provided to each manager. The BOI staff will review the investment performance of these managers against their stated objectives on a regular basis. Individual managers will be judged according to benchmarks, which reflect the objectives and characteristics of the strategic roles their portfolios are to fulfill. Other factors for consideration shall include, but not be limited to, fundamental changes in the manager's philosophy, changes in the manager's organizational structure, financial condition (including changes in total assets under management), personnel, changes in fee structure, or litigation brought against the manager. Investment managers may act at their own discretion provided their actions are in accordance with P.A. 314, this Policy, and their contract.

8. The State Treasurer will allocate MPSERS's contributions on an on-going basis in accordance with this Policy to balance the overall asset allocation against targets when deviations occur because of capital market fluctuations. Such allocations can be made even if contributions to managers or asset classes which have recently experienced poor performance, if staff believe the future outlook is favorable. If such poor performance is the result of an occurrence other than expected market-related volatility, then a reassessment of that investment shall be undertaken.
9. The State Treasurer may utilize the services of an investment consultant(s) for the purpose of performance review, asset allocation studies, risk budgeting, manager screening and selection, educational materials, and topical studies. The comments and recommendations of the consultant will be considered by the State Treasurer, as sole fiduciary, in conjunction with other available information for the purpose of making an informed and prudent decision.
10. The State Treasurer will utilize the services of a master custodian bank that will be responsible for holding MPSERS's assets, settling purchases and sales of securities; identifying and collecting income that becomes due and payable on assets held; and providing a management information/accounting system.
11. The State Treasurer may retain the services of a securities lending provider to generate additional return for MPSERS at acceptable levels of risk. The program will be administered in accordance with the securities lending policy negotiated with the provider.
12. The MPSERS considers the active voting of proxies an integral part of the investment process. Proxy voting will occur in accordance with the Proxy Voting Policy.
13. Updated return projections and asset allocation will be developed approximately every two years. The information for these reviews shall come from staff, outside consultants, and investment managers, as they may be retained.
14. It is the responsibility of the State Treasurer to administer the investments of MPSERS at reasonable industry standard cost, being careful to avoid sacrificing quality and opportunity for gain. These costs include, but are not limited to, management and custodial fees, consulting fees, transaction costs, and other administrative costs chargeable to MPSERS, as well as incentive fees.
15. Any investment or any action pursuant to an investment for MPSERS which is not expressly permitted under this Policy is not allowed unless submitted in writing, and formally reviewed and approved by the State Treasurer.
16. The State Treasurer will operate the pension investment program in compliance with all applicable state, federal, and local laws and regulations

concerning the investment of pension assets (USC Section 401 (a) (8), (9), (16), and (25) of the Internal Revenue Code; and under P.A. 314 and the Divestment From Terror Act, Act 234 of 2008, as amended (P.A. 234).

#### IV. Asset Allocation Policy and Objectives

Based on the factors identified in the preceding General Objectives and Policies, the State Treasurer has established strategic asset allocation targets and ranges on a market value basis as set forth below.

Ranges for each asset class are included in the asset allocation policy to provide the State Treasurer, as sole fiduciary, with flexibility to adjust to market fluctuations and portfolio changes.

A. The five-year strategic asset allocation targets are provided below:

<u>Asset Class</u>	<u>Benchmark</u>	<u>Target</u>	<u>Ranges</u>	<u>Statutory Limit*</u>
Absolute Return	T-bills +4%	4%	0% - 12%	20% (w/RRS)
Core Fixed Income	Barclays Govt./ Credit	15%	10% - 25%	
Cash / Short Term Fixed Income	U.S. 1 month T-bill	4%	1% - 9%	
Domestic Equity	S&P 1500	31%	20% - 50%	70%
Infrastructure	U.S. CPI +4% lagged 1 quarter	3%	0% - 5%	
International Equity	MSCI ACWI ex U.S.	16%	10% - 20%	20%
Private Equity	S&P 500 +3% lagged 1 quarter	16%	10% - 25%	30%
Real Estate	NPI – 1.3%	6%	5% - 15%	
Real Return / Opportunistic	U.S. CPI +5%	5%	0% - 10%	20% (w/ARS)
Total Assets	Actuarial Assumption	100%		

\*Additional statutory limitations may apply pursuant to P.A. 314.

- (1) Investments in foreign securities shall not exceed 20%, pursuant to the statutory limitation of the P.A. 314, section 38.1140k.
- (2) Absolute Return and Real Return/Opportunistic combined shall not exceed 20%, pursuant to the statutory limitation of P.A. 314, section 38.1140d.
- (3) Private Equity shall not exceed 30%, pursuant to the statutory limitation of P.A. 314, section 38.1139a.

- (4) Investments in derivative securities shall not exceed 15%, pursuant to the statutory limitation of P.A. 314, section 38.1140j.
- (5) Statutory limits may change from time to time as P.A. 314 is amended periodically.

#### **ASSETS CLASSES ARE DEFINED AS:**

**Absolute Return** – Investments representing ownership interest in hedge funds managed to an overall risk tolerance. Diversification by fund and by strategy, such as, but not limited to, long/short equities, arbitrage, and event-driven strategies is important as is prudent leverage levels on a total portfolio. Absolute Return strategies seek to produce return patterns over time that have a lower level of correlation with equities and other traditional asset classes.

**Cash/Short Term Fixed Income** – Investments in fixed income securities with maturities of less than one year including, but not limited to, Treasury bills and notes, commercial paper, bankers acceptances, certificates of deposit, asset backed securities.

**Equities** – Investments representing ownership interest to include public, preferred stock, convertible to stock, options, futures, or other derivatives on stocks or composites of stocks, units, participation or partnership shares which represent ownership interests in an underlying investment (excluding real property). Investment in REITs shall be classified as equities unless managed by the REID, which they will then be considered as real estate.

**Fixed Income** – Investments representing instruments with maturities greater than one year with obligated fixed or floating rates of interest to include public and private securities, mortgages, and investments in life insurance general accounts and guaranteed investment contracts, and options, futures or other derivatives on fixed income securities or fixed income components.

**Infrastructure** – Investments representing ownership interest in partnerships, publicly traded securities, operating companies, or other investment vehicles that represent equity and/or debt in infrastructure and real asset sectors including, but not limited to, energy resources and utilities, transportation assets, water and waste, communications, social infrastructure, or other infrastructure and real asset related investments.

**Real Estate** – Investments representing ownership interest in partnerships, publicly-traded securities, operating companies, or other vehicles that represent equity and/or mortgages in real estate including, but not limited to, commercial, retail, hotel, industrial, residential, land, or other real estate related investments.

**Real Return/Opportunistic** – Investments representing ownership interest in either individual real return asset classes that provide an inflationary protection or portfolios that are managed strategically or tactically utilizing real return asset classes in isolation or in combination with traditional asset classes to achieve this goal. Real Return

investments may include investments across asset classes. Opportunistic strategies may include tactical or strategic investments across asset classes.

**Private Equity** – Investments representing ownership interest in partnerships and other vehicles including, but not limited to, venture capital, leveraged buyouts, mezzanine debt, and special situations. In addition, this asset class may include public stock as a result of distributions.

## **THE STRATEGIC ROLE OF EACH ASSET CLASS & SUBCLASS AS DEFINED:**

### **Domestic Equity (may include, but are not limited to the following)**

Diversified portfolio of company stocks incorporated inside of the U.S. denominated in U.S. currency.

**Index/Passive** – Attempts to replicate performance and characteristics of the applicable index and may be implemented through direct stock holdings, mutual funds, commingled funds or the use of swaps or other derivative instruments.

**Active Management** – Attempts to add value over the benchmark through stock selection, sector rotation, macro economic themes, etc., which may include swaps, options, or other derivatives.

**Long-Short (130/30)** – Diversified portfolio of stocks utilizing both long and short positions. The strategy has a limited amount allowable to sell short (usually 20% to 40%). The proceeds of the short sales are used to buy more long positions, so that net market exposure is equal to 100%, though the portfolio return is expected to exceed that of the S&P 500 Index.

### **International Equity**

Diversified portfolio of company stocks incorporated outside of the U.S. that may be denominated in non-U.S. currency. International equity is expected to provide diversification to the fund's U.S. equity investments.

**Index/Passive** – Attempts to replicate performance and characteristics of the applicable index and may be implemented through direct stock holdings, mutual funds, commingled funds or the use of swaps, options, or other derivative instruments.

**Active Management** – Attempts to add value over the benchmark through country allocation, stock selection, sector rotation, global macroeconomic themes, etc.

### **Private Equity**

Diversified portfolio of partnerships in venture capital, leveraged buyouts, mezzanine debt, and special situations. The portfolio will consist of domestic and international partnerships, as well as private and public securities which may be the result of



distributions. Private equity investments shall be well diversified by sub-asset class (e.g. venture capital vs. buyouts), investment style (e.g. early vs. late stage, mid market vs. large cap market), and vintage year.

### **Absolute Return**

Diversified portfolio of hedge funds consisting of multiple funds and strategies, managed to an overall risk level and including acceptable leverage levels. Absolute return portfolios seek to produce return patterns over time that have a low level of correlation with equities and other traditional asset classes. The investments will be made through industry standard partnerships (or other applicable legal entities).

### **Real Return/Opportunistic**

Real Return/Opportunistic can include such diverse individual strategies as commodities, timber, floating rate notes, or a portfolio including a variety of asset classes managed tactically or strategically to achieve a real return goal. They are included in the portfolio to provide an inflation hedge or opportunistic tactical or strategic asset class exposure. Examples of additional individual strategies include, but are not limited to, TIPS, floating rate debt, and commodity futures. The investments may be direct or made through partnerships, or other legal entities, as standard industry practice.

### **Real Estate**

Diversified portfolio of equity or debt investment in real estate including, but not limited to, commercial, retail, hotel, industrial, residential, or land. Real estate investments may include investments in public or private real estate operating companies and non-traditional property types or other real estate related investments. The real estate portfolio is expected to provide diversification from traditional capital market risk. The real estate portfolio shall be diversified by property type and geography, and may include the use of leverage. The investments are typically made through partnerships or other legal entities.

### **Infrastructure**

Diversified global portfolio of infrastructure investments that possess quasi-monopolistic qualities and provide attractive income attributes or capital appreciation. Infrastructure is included in the portfolio to enhance diversification. Infrastructure investments shall be well diversified by sub-asset class, investment style, geography, vintage year, investment manager, and fund. These investments will be made through partnerships or other legal entities as standard industry practice.

### **Fixed Income**

Diversified portfolios of fixed income securities designed to primarily protect principal and generate cash flow. Internally managed portfolios shall consist of bonds that are either investment grade or meet the requirements of Section 17 of P.A. 314.

Externally managed bond portfolios seek to outperform the bond indices through traditional fixed income management tools such as yield curve management, non-core sector exposure, duration management, and other techniques. The overall total portfolio quality of these portfolios should be maintained above investment grade.

### **Cash/Short-Term Fixed Income**

Portfolio of short-term fixed income securities with an average maturity of less than one year. Its purpose is to provide liquidity and safety of principal from capital market and default risk.

## **V. Performance Objectives**

The investment performance of the fund will be measured against objectives for the total MPSERS and against objectives for individual portfolio components (asset classes and individual managers). Investment performance shall be measured no less than quarterly. Because capital markets fluctuate, and given the length of the duration of the liability stream, the performance relative to objectives is to be judged over a period of a market cycle as well as standard annualized periods of one, three, five, seven, and ten years. Greater emphasis is placed on intermediate and long-term results.

### **A. Performance Objectives for the MPSERS:**

1. Achieve the actuarial rate of return within prudent levels of risk, while maintaining sufficient liquidity to pay benefits.
2. Diversify assets.
3. Meet or exceed actuarial assumption over the long term.
4. Perform in the top half of the public plan universe over the long term.
5. Exceed individual asset class benchmarks over the long term.
6. Exceed the median peer within the appropriate manager or asset class universe ranking over the long term.

### **B. Performance Objectives for Individual Components**

It should be noted that peer universes may only be available for these comparisons on a gross-of-fees basis. This should be considered when evaluating the MPSERS's return streams which are stated net of fees. In addition, benchmark and peer data may change from time to time as the market/industry evolves.

1. Domestic Equities                      Exceed the total return of the S&P 1500 Super composite net of fees for one, three, five, seven, and ten-year periods and a market cycle.

	Rank above median in a public plan universe of domestic equity investments.
Index/Passive	Return within 20 basis points of the S&P 500 Index, 50 basis points for the S&P 400 mid-cap, and 60 basis points for the S&P 600 small-cap over one, three, five, seven, and ten-year periods and a market cycle.
Active Management	Exceed the most relevant S&P Index (or the most relevant Russell Index), adjusting for market capitalization and style, net of fees for one, three, five, seven, and ten-year periods and a market cycle.  Rank above median in a universe of managers possessing a similar market cap and style characteristics.
2. International Equities	Exceed the total return of the MSCI All Country World Index ex-U.S. (or the most relevant S&P Index) net of fees for one, three, five, seven, and ten-year periods and a market cycle.  Rank above median in a public plan universe of non-U.S. equity investments.
Index/Passive	Return within 250 basis points of the most relevant non-U.S. index net of fees for one, three, and five-year periods and a market cycle. Return within 250 basis points of the MSCI Emerging Markets Index, for one, three, five, seven, and ten-year periods and a market cycle.
Active Management	Exceed the most relevant MSCI Index (or the most relevant S&P Index) net of fees, adjusting for market capitalization, style and geography for one, three, five, seven, and ten-year periods and a market cycle.  Rank above median in a universe of managers possessing a similar market capitalization, style, and geography characteristics.
3. Private Equity	Exceed the S&P 500 Index by 300 basis points net of fees lagged by three months over one, three, five, seven, and ten-year periods and a market cycle.

- Rank above median in a public plan universe of private equity investments.
4. Absolute Return
- Exceed T-bills by 400 basis points net of fees over one, three, five, seven, and ten-year periods and a market cycle.
- Exceed the appropriate HFN Fund of Funds median net of fees over one, three, five, seven, and ten-year periods and a market cycle.
- If available, rank above median in a public plan universe of hedge fund investments.
5. Real Return/  
Opportunistic
- Blended Benchmark - Exceed the increase in the U.S. CPI by 500 basis points annually net of fees over one, three, five, seven, and ten-year periods and a market cycle (50%) and exceed the actuarial rate of return (50%).
- TIPS and Commodities performance will be broken out separately:
- TIPS – Exceed the Barclays U.S. TIPS Index over one, three, and five-year periods and a market cycle.
- Commodities – Exceed the Dow Jones-AIG Total Return Commodities Index over one, three, five, seven, and ten-year periods and a market cycle.
- If available, rank above median in a nationally recognized universe of managers possessing a similar style.
6. Real Estate
- Exceed the NPI over the one, three, five, seven, and ten-year periods and a market cycle, less 130 basis points. Meet or exceed the NCREIF-ODCE over one, three, five, seven, and ten-year periods and a market cycle.
- Rank above median in a public plan universe of private equity investments.
7. Infrastructure
- Exceed the average annual increase in the U.S. CPI, lagged one quarter, by 400 basis points, net of fees, over the three five, seven, and ten-year periods and a market cycle.

If available, rank above median in a nationally recognized universe of managers possessing a similar style.

8. Fixed Income

Exceed the most relevant Barclay's Index adjusting for credit risk and duration, net of fees for one, three, five, seven, and ten-year periods and a market cycle.

Rank above median in a nationally recognized universe of managers possessing a similar style.

## **VI. General Investment Manager Guidelines and Requirements**

- A. Purchases and sales, security selection, and portfolio implementation of investment strategies are delegated to the discretion of the investment manager, subject to compliance with MPSERS's investment policies, individual contracts, P.A. 314, and P.A. 234. If a commingled vehicle or mutual fund is utilized, the investment policies of that fund shall be considered the operative policy document.
- B. The following transactions are prohibited: Purchase of any securities or execution of any other transactions prohibited by P.A. 314 and P.A. 234.
- C. Transactions that involve a broker acting as a "principal" where such broker is also the investment manager who is making the transaction are prohibited. Brokers acting as investment managers are limited to "agency" transactions.
- D. Transactions shall be executed at a reasonable cost, taking into consideration prevailing market conditions and services and research provided by the executing broker.
- E. Investment managers shall vote proxies in accordance with the Proxy Voting Policy of the State of Michigan. The BOI agrees to promptly provide investment managers with any additions or modifications to the Proxy Voting Policy.
- F. All investment managers shall make the following disclosures:
  - 1. Periodically: Disclose any client relationship, including management of 401(k) plans, where the money management firm could invest state or pension moneys in the securities of the client.
  - 2. Periodically: Disclose, as requested, the manner in which portfolio managers and research analysts are compensated including any compensation resulting from the solicitation or acquisition of new clients or the retention of existing clients.
  - 3. Annually: Provide the SMRS with a copy of a safeguards plan and certify annually that the safeguards plan is being fully enforced. The safeguards plan

applies to Investment Managers affiliated with banks, investment banks, insurance companies, or other financial services corporations. The safeguards plan ensures that client relationships of any affiliate company do not influence investment decisions of the money management firm.

4. Quarterly: Report the amount of commissions paid to broker-dealers, and the percentage of commissions paid to broker-dealers.
- E. All internal managers shall adhere to the Bureau of Investments' *Standards of Professional Conduct*. As part of the *Standards of Professional Conduct*, the BOI has a personal trading policy in place that requires that all BOI employees (including the State Treasurer) obtain pre-approval for certain personal investments transactions and abide by specified ethical standards.
- F. All investment managers will be expected to provide MPSERS, the custodian, and their investment consultant, on a timely basis each quarter, such data as is required for proper monitoring.
- G. No more than 5% of the MPSERS's portfolio at its initial cost or initial market value may be invested in the securities of a single issuer, excluding securities issued by the U.S. government or its agencies.
- H. Except as permitted by Section 17 of P.A. Act 314, no fixed income security shall have an equivalent credit quality below investment grade at the time of purchase defined as:  
  
BBB- by S&P for straight bonds and convertibles.  
  
Baa (3) by Moody's Investor Service for straight bonds and convertibles.  
  
For short-term securities, credit rating must be within the two highest ratings established by at least two national rating services.
- I. The use of index futures is permitted to achieve (but not limited to) the following:
  1. To reduce the opportunity cost caused by "cash drag" in a rising market.
  2. To decrease the transaction costs of trading without increasing the risk (volatility) of that component of MPSERS.
  3. To increase the manager's flexibility in meeting the performance objectives set forth for them within defined investment style and strategy constraints.
- J. Futures must be used in accordance with P.A. 314.
- K. The Real Estate portfolio may be invested in (through various legal structures) properties located outside of the United States.
- L. Performance objectives are to be met on a net-of-fees basis.

- M. All guidelines must be adhered to by internal and external money managers. However, if from time to time an exception to the guidelines shall be deemed appropriate by a manager, it may seek review and approval by the State Treasurer, as sole fiduciary, to make such an exception, as facts and circumstances may dictate.
- N. Investment managers must comply with state laws prohibiting the State of Michigan from investing public monies in companies engaged in active business operations in countries designated as a state sponsor of terror by the United States Secretary of State. The BOI will provide investment managers with a list of prohibited companies each quarter. Investment managers must refrain from acquiring additional securities in those companies until receiving further direction from the BOI.
- O. Investment managers must comply with all applicable state and federal laws and SEC rules and regulations, including but not limited to, Pay to Play prohibitions adopted by the SEC under the Investment Advisors Act of 1940.

## **VII. Insider Trading Policy**

All internal portfolios will be managed in compliance with the Insider Trading Policy. Buying or selling securities while aware of material non-public (inside) information concerning the issuer of the securities, or improperly disclosing to others such inside information, may constitute fraud under federal and state securities laws and a violation of other legal and regulatory requirements. Inside information also includes information that a BOI staff member may have concerning State of Michigan Retirement Systems (SMRS) securities positions or trading.

## **VIII. Ethics**

The BOI is subject to Public Act 196 of 1973 (P.A. 196) and Michigan Civil Service Rule 2-8 with respect to any gifts to Michigan state public officers or employees and ethical standards of conduct. Investment managers shall use best efforts to ensure that its activities do not result in a Michigan state public officer or employee violating the requirements of P.A. 196 and Michigan Civil Service Rule 2-8 with respect to any gifts or ethical standards of conduct.

## **IX. Proxy Voting Policy**

The BOI acts as the arm of the State Treasurer in directing investments on behalf of the retirement systems for the state employees, state police, judges, and public school employees. The BOI has adopted a Proxy Voting Policy for the four systems. The Proxy Voting Policy is reviewed annually to reflect changes in state and federal laws and emerging trends and issues in corporate governance.

**X. Divestment**

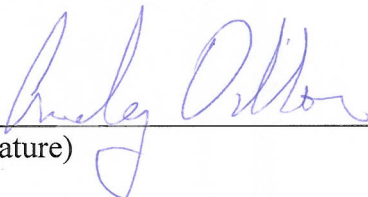
The State Treasurer, as sole fiduciary for the MPSERS, must adhere to divestment mandates contained in P.A. 314 and P.A. 234. Together, the statutes prohibit investing public monies in companies doing business in countries designated as a state sponsor of terror by the United States Secretary of State. In compliance with the statutes, the BOI, through its service provider, conducts a quarterly review of its holdings to ensure that it is not investing in companies with active business operations in a state sponsor of terror. The State Treasurer initiates engagement with companies that have business operations in state sponsors of terror with the goal of discouraging corporations from doing business in companies with ties to state sponsors of terror. The State Treasurer may retain a consultant to assist in its divestment compliance.

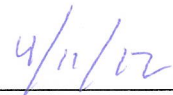
**XI. Review and Modification of Investment Policy Statement**

The State Treasurer, as sole fiduciary, will review the Policy approximately every two years to determine if modifications are necessary or desirable. The most current Investment Policy Statement shall be made available to the public on the BOI Web site.

Approved:

By:

  
\_\_\_\_\_  
(Signature)

  
\_\_\_\_\_  
(Date)

Andy Dillon  
State Treasurer



# INVESTMENT POLICY STATEMENT

## MICHIGAN STATE EMPLOYEES' RETIREMENT SYSTEM

*Effective May 1, 2012*

### I. Introduction

This Investment Policy Statement (Policy) provides the framework for the management of the investments of the Michigan State Employees' Retirement System (MSERS). Pursuant to State law, the State Treasurer is the custodian of the MSERS. In addition to MSERS, the State Treasurer also acts as custodian for the retirement systems for the Michigan State Police Retirement System, the Michigan Judges' Retirement System, and the Michigan Public School Employees' Retirement System. Collectively, these four systems comprise the State of Michigan Retirement System (SMRS).

The investment policies and objectives of the MSERS are intended to allow for sufficient flexibility in the management process to capture investment opportunities, yet provide parameters that will ensure prudence and care in the execution of the investment program. The State Treasurer, as sole fiduciary, in investing MSERS's assets shall act with the same care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a similar capacity and familiar with these matters would use in the conduct of an enterprise with similar aims, in accordance with the Public Employee Retirement System Investment Act, Act 314 of 1965, as amended (P.A. 314).

### Definition of Terms

- A. Allocated Cash – Funds allocated to the investment managers. These funds are generated by income (interest, dividends) and monies earned as a result of the sale of a security.
- B. Authorized Representatives – List, authorized by the State Treasurer, of Bureau of Investments (BOI) personnel who have authority to execute transactions on behalf of the SMRS.
- C. Cost – Book value or purchase price of the security.
- D. Market – Current price of the security if sold on the open market as of a given date.
- E. Strategic Asset Allocation – The long-range asset allocation of the plan designed to reasonably achieve the approved actuarial rate of return.
- F. Target Allocation – The percentage of MSERS's portfolio (valued at market) to be allocated to the specific asset classes as outlined under Section IV.

- G. Unallocated Cash – Funds generated by MSERS from contributions, less administrative expenses and benefit payments, invested in cash equivalents (but not managed by investment managers).

## **II. Assignment of Responsibilities**

- A. The State Treasurer is the sole fiduciary and custodian of MSERS's investments pursuant to state law. The State Treasurer, with input and analysis from the BOI, Investment Advisory Committee (IAC) members, internal and external investment managers, consultants, and other service providers, as needed, shall provide the following:
  - 1. Have asset liability studies conducted approximately every two years for each fund and distribute such studies to IAC members.
  - 2. Establish, approximately every two years, a long-term fund target asset allocation, based on the analysis and advice of the BOI.
  - 3. Establish, through this Investment Policy Statement, delegation of authority, and investment responsibility.
- B. The State Treasurer delegates investment approval authority of publicly traded equities and fixed income securities to the BOI and external managers. Absolute return, real return, and opportunistic investments made under the Short Term Fixed Income, Absolute and Real Return Division (STARR) are delegated to the Chief Investment Officer (CIO) or its external investment managers where applicable. Initial investment approval of real estate, private equity, venture capital, and private infrastructure investment funds made under the Real Estate and Infrastructure Investments Division (REID) or the Alternative Investments Division (AID) requires approval from either the State Treasurer or, if the State Treasurer position is vacant, the CIO shall approve.
- C. The State Treasurer shall report investment returns and strategy quarterly to the IAC, which reviews the investments, goals, and objectives of the retirement funds and may submit recommendations regarding them to the State Treasurer. The IAC may also, by a majority vote, direct the State Treasurer to dispose of any holding which in its judgment, is not suitable for the fund involved, and may by a unanimous vote direct the State Treasurer to make specific investments.
- D. The Director of the Bureau of Investments serves as the Chief Investment Officer of the MSERS. The Director will implement the goals as described in Section II, A (1, 2, 3) of this document as well as direct the investment operations of the MSERS, including each major asset class, in compliance with statutory requirements and sound business practices.

### **III. General Objectives and Policies**

The general objectives define the goals to be achieved through the management of MSERS's assets. General policies provide guidelines for the State Treasurer, as sole fiduciary, to follow in meeting the general objectives.

#### **A. General Objectives:**

1. The overall objective of the MSERS is to provide retirement, survivor, and disability benefits to its members through the investment of contributions and other MSERS's assets.
2. The primary investment objective is to earn the approved actuarial rate of return on the total investment portfolio, consistent with a high degree of prudence and sufficient diversity to reduce risk and to meet the actuarial assumption for the investment rate of return, at a reasonable cost, achieved by cultivating a motivated team of dedicated professionals. It is understood that to meet the return objective of the fund equity risk must be assumed.
3. The State Treasurer will seek to diversify the plan with prudent levels of equity diversification through the investment of MSERS's assets.

#### **B. General Policies:**

1. All transactions undertaken on behalf of MSERS shall be for the sole benefit of plan participants.
2. All BOI staff and investment managers (including the State Treasurer, staff, and external service providers) involved in the investment process shall act with the care, skill, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims, in accordance with P.A. 314, or as otherwise stated in the investment policy, or their contract.
3. All BOI staff and investment managers (including the State Treasurer, staff, and external service providers) involved in the investment process shall refrain from personal business activity that could conflict with the proper execution and management of the investment program, or that could impair their ability to make impartial decisions. These parties are required to reveal all relationships that could create or appear to create a conflict of interest in their unbiased involvement in the investment process.
4. Investments shall be made without distinction between return generated from income as opposed to capital gains, and that diversification, need for liquidity, and the potential for gain and loss will be monitored on an on-going basis.

5. The allocation of assets among various asset classes shall be approved (as set forth here-in) by the State Treasurer. The asset allocation policy shall be predicated on the following factors:
  - a. the historical performance and risk measurers of capital markets adjusted for the expectations of the future short and long-term capital market performance;
  - b. the correlation of returns and risk among the relevant asset classes;
  - c. the expectations of future economic conditions, including inflation and interest rate assumptions;
  - d. the projected liability stream of benefits and the costs of funding to both covered employees and employers; and
  - e. the relationship between the current and projected assets of the plan and the projected actuarial liability stream.
6. This asset allocation policy will identify target allocations to the classes of assets MSERS can utilize and the ranges within which each can fluctuate as a percent of the total portfolio. This policy is expected to provide diversification of assets in an effort to maximize the investment return to MSERS consistent with prudent market and economic risk given the return objectives of the fund. Assets of MSERS are to remain invested at all times in either cash equivalents or other asset classes as designated by this Policy.
7. Pursuant to State law, professional investment management firms, which are registered investment advisors or which are appropriately exempt from registration under the Investment Advisers Act of 1940 as may be amended, may be retained, by the State Treasurer, to assist in managing MSERS's assets. Investments shall be sufficiently diversified so as to reduce the risk of material losses. Each investment manager will function under a formal contract that delineates its responsibilities and appropriate performance expectations. A formal set of investment guidelines and administrative requirements for management of each portfolio is to be provided to each manager. The BOI staff will review the investment performance of these managers against their stated objectives on a regular basis. Individual managers will be judged according to benchmarks, which reflect the objectives and characteristics of the strategic roles their portfolios are to fulfill. Other factors for consideration shall include, but not be limited to, fundamental changes in the manager's philosophy, changes in the manager's organizational structure, financial condition (including changes in total assets under management), personnel, changes in fee structure, or litigation brought against the manager. Investment managers may act at their own discretion provided their actions are in accordance with P.A. 314, this Policy, and their contract.

8. The State Treasurer will allocate MSERS's contributions on an on-going basis in accordance with this Policy to balance the overall asset allocation against targets when deviations occur because of capital market fluctuations. Such allocations can be made even if contributions to managers or asset classes which have recently experienced poor performance, if staff believe the future outlook is favorable. If such poor performance is the result of an occurrence other than expected market-related volatility, then a reassessment of that investment shall be undertaken.
9. The State Treasurer may utilize the services of an investment consultant(s) for the purpose of performance review, asset allocation studies, risk budgeting, manager screening and selection, educational materials, and topical studies. The comments and recommendations of the consultant will be considered by the State Treasurer, as sole fiduciary, in conjunction with other available information for the purpose of making an informed and prudent decision.
10. The State Treasurer will utilize the services of a master custodian bank that will be responsible for holding MSERS's assets, settling purchases and sales of securities; identifying and collecting income that becomes due and payable on assets held; and providing a management information/accounting system.
11. The State Treasurer may retain the services of a securities lending provider to generate additional return for MSERS at acceptable levels of risk. The program will be administered in accordance with the securities lending policy negotiated with the provider.
12. The MSERS considers the active voting of proxies an integral part of the investment process. Proxy voting will occur in accordance with the Proxy Voting Policy.
13. Updated return projections and asset allocation will be developed approximately every two years. The information for these reviews shall come from staff, outside consultants, and investment managers, as they may be retained.
14. It is the responsibility of the State Treasurer to administer the investments of MSERS at reasonable industry standard cost, being careful to avoid sacrificing quality and opportunity for gain. These costs include, but are not limited to, management and custodial fees, consulting fees, transaction costs, and other administrative costs chargeable to MSERS, as well as incentive fees.
15. Any investment or any action pursuant to an investment for MSERS which is not expressly permitted under this Policy is not allowed unless submitted in writing, and formally reviewed and approved by the State Treasurer.
16. The State Treasurer will operate the pension investment program in compliance with all applicable state, federal, and local laws and regulations concerning the investment of pension assets (USC Section 401 (a) (8), (9),

(16), and (25) of the Internal Revenue Code; and under P.A. 314 and the Divestment From Terror Act, Act 234 of 2008, as amended (P.A. 234).

#### IV. Asset Allocation Policy and Objectives

Based on the factors identified in the preceding General Objectives and Policies, the State Treasurer has established strategic asset allocation targets and ranges on a market value basis as set forth below.

Ranges for each asset class are included in the asset allocation policy to provide the State Treasurer, as sole fiduciary, with flexibility to adjust to market fluctuations and portfolio changes.

A. The five-year strategic asset allocation targets are provided below:

<u>Asset Class</u>	<u>Benchmark</u>	<u>Target</u>	<u>Ranges</u>	<u>Statutory Limit*</u>
Absolute Return	T-bills +4%	4%	0% - 12%	20% (w/RRS)
Core Fixed Income	Barclays Govt./ Credit	15%	10% - 25%	
Cash / Short Term Fixed Income	U.S. 1 month T-bill	4%	1% - 9%	
Domestic Equity	S&P 1500	31%	20% - 50%	70%
Infrastructure	U.S. CPI +4% lagged 1 quarter	3%	0% - 5%	
International Equity	MSCI ACWI ex U.S.	16%	10% - 20%	20%
Private Equity	S&P 500 +3% lagged 1 quarter	16%	10% - 25%	30%
Real Estate	NPI – 1.3%	6%	5% - 15%	
Real Return / Opportunistic	U.S. CPI +5%	5%	0% - 10%	20% (w/ARS)
Total Assets	Actuarial Assumption	100%		

\*Additional statutory limitations may apply pursuant to P.A. 314.

- (1) Investments in foreign securities shall not exceed 20%, pursuant to the statutory limitation of the P.A. 314, section 38.1140k.
- (2) Absolute Return and Real Return/Opportunistic combined shall not exceed 20%, pursuant to the statutory limitation of P.A. 314, section 38.1140d.
- (3) Private Equity shall not exceed 30%, pursuant to the statutory limitation of P.A. 314, section 38.1139a.

- (4) Investments in derivative securities shall not exceed 15%, pursuant to the statutory limitation of P.A. 314, section 38.1140j.
- (5) Statutory limits may change from time to time as P.A. 314 is amended periodically.

#### **ASSETS CLASSES ARE DEFINED AS:**

**Absolute Return** – Investments representing ownership interest in hedge funds managed to an overall risk tolerance. Diversification by fund and by strategy, such as, but not limited to, long/short equities, arbitrage, and event-driven strategies is important as is prudent leverage levels on a total portfolio. Absolute Return strategies seek to produce return patterns over time that have a lower level of correlation with equities and other traditional asset classes.

**Cash/Short Term Fixed Income** – Investments in fixed income securities with maturities of less than one year including, but not limited to, Treasury bills and notes, commercial paper, bankers acceptances, certificates of deposit, asset backed securities.

**Equities** – Investments representing ownership interest to include public, preferred stock, convertible to stock, options, futures, or other derivatives on stocks or composites of stocks, units, participation or partnership shares which represent ownership interests in an underlying investment (excluding real property). Investment in REITs shall be classified as equities unless managed by the REID, which they will then be considered as real estate.

**Fixed Income** – Investments representing instruments with maturities greater than one year with obligated fixed or floating rates of interest to include public and private securities, mortgages, and investments in life insurance general accounts and guaranteed investment contracts, and options, futures or other derivatives on fixed income securities or fixed income components.

**Infrastructure** – Investments representing ownership interest in partnerships, publicly traded securities, operating companies, or other investment vehicles that represent equity and/or debt in infrastructure and real asset sectors including, but not limited to, energy resources and utilities, transportation assets, water and waste, communications, social infrastructure, or other infrastructure and real asset related investments.

**Real Estate** – Investments representing ownership interest in partnerships, publicly-traded securities, operating companies, or other vehicles that represent equity and/or mortgages in real estate including, but not limited to, commercial, retail, hotel, industrial, residential, land, or other real estate related investments.

**Real Return/Opportunistic** – Investments representing ownership interest in either individual real return asset classes that provide an inflationary protection or portfolios that are managed strategically or tactically utilizing real return asset classes in isolation or in combination with traditional asset classes to achieve this goal. Real Return

investments may include investments across asset classes. Opportunistic strategies may include tactical or strategic investments across asset classes.

**Private Equity** – Investments representing ownership interest in partnerships and other vehicles including, but not limited to, venture capital, leveraged buyouts, mezzanine debt, and special situations. In addition, this asset class may include public stock as a result of distributions.

## **THE STRATEGIC ROLE OF EACH ASSET CLASS & SUBCLASS AS DEFINED:**

### **Domestic Equity (may include, but are not limited to the following)**

Diversified portfolio of company stocks incorporated inside of the U.S. denominated in U.S. currency.

**Index/Passive** – Attempts to replicate performance and characteristics of the applicable index and may be implemented through direct stock holdings, mutual funds, commingled funds or the use of swaps or other derivative instruments.

**Active Management** – Attempts to add value over the benchmark through stock selection, sector rotation, macro economic themes, etc., which may include swaps, options, or other derivatives.

**Long-Short (130/30)** – Diversified portfolio of stocks utilizing both long and short positions. The strategy has a limited amount allowable to sell short (usually 20% to 40%). The proceeds of the short sales are used to buy more long positions, so that net market exposure is equal to 100%, though the portfolio return is expected to exceed that of the S&P 500 Index.

### **International Equity**

Diversified portfolio of company stocks incorporated outside of the U.S. that may be denominated in non-U.S. currency. International equity is expected to provide diversification to the fund's U.S. equity investments.

**Index/Passive** – Attempts to replicate performance and characteristics of the applicable index and may be implemented through direct stock holdings, mutual funds, commingled funds or the use of swaps, options, or other derivative instruments.

**Active Management** – Attempts to add value over the benchmark through country allocation, stock selection, sector rotation, global macroeconomic themes, etc.

### **Private Equity**

Diversified portfolio of partnerships in venture capital, leveraged buyouts, mezzanine debt, and special situations. The portfolio will consist of domestic and international partnerships, as well as private and public securities which may be the result of



distributions. Private equity investments shall be well diversified by sub-asset class (e.g. venture capital vs. buyouts), investment style (e.g. early vs. late stage, mid market vs. large cap market), and vintage year.

### **Absolute Return**

Diversified portfolio of hedge funds consisting of multiple funds and strategies, managed to an overall risk level and including acceptable leverage levels. Absolute return portfolios seek to produce return patterns over time that have a low level of correlation with equities and other traditional asset classes. The investments will be made through industry standard partnerships (or other applicable legal entities).

### **Real Return/Oppportunistic**

Real Return/Oppportunistic can include such diverse individual strategies as commodities, timber, floating rate notes, or a portfolio including a variety of asset classes managed tactically or strategically to achieve a real return goal. They are included in the portfolio to provide an inflation hedge or opportunistic tactical or strategic asset class exposure. Examples of additional individual strategies include, but are not limited to, TIPS, floating rate debt, and commodity futures. The investments may be direct or made through partnerships, or other legal entities, as standard industry practice.

### **Real Estate**

Diversified portfolio of equity or debt investment in real estate including, but not limited to, commercial, retail, hotel, industrial, residential, or land. Real estate investments may include investments in public or private real estate operating companies and non-traditional property types or other real estate related investments. The real estate portfolio is expected to provide diversification from traditional capital market risk. The real estate portfolio shall be diversified by property type and geography, and may include the use of leverage. The investments are typically made through partnerships or other legal entities.

### **Infrastructure**

Diversified global portfolio of infrastructure investments that possess quasi-monopolistic qualities and provide attractive income attributes or capital appreciation. Infrastructure is included in the portfolio to enhance diversification. Infrastructure investments shall be well diversified by sub-asset class, investment style, geography, vintage year, investment manager, and fund. These investments will be made through partnerships or other legal entities as standard industry practice.

### **Fixed Income**

Diversified portfolios of fixed income securities designed to primarily protect principal and generate cash flow. Internally managed portfolios shall consist of bonds that are either investment grade or meet the requirements of Section 17 of P.A. 314.

Externally managed bond portfolios seek to outperform the bond indices through traditional fixed income management tools such as yield curve management, non-core sector exposure, duration management, and other techniques. The overall total portfolio quality of these portfolios should be maintained above investment grade.

### **Cash/Short-Term Fixed Income**

Portfolio of short-term fixed income securities with an average maturity of less than one year. Its purpose is to provide liquidity and safety of principal from capital market and default risk.

## **V. Performance Objectives**

The investment performance of the fund will be measured against objectives for the total MSERS and against objectives for individual portfolio components (asset classes and individual managers). Investment performance shall be measured no less than quarterly. Because capital markets fluctuate, and given the length of the duration of the liability stream, the performance relative to objectives is to be judged over a period of a market cycle as well as standard annualized periods of one, three, five, seven, and ten years. Greater emphasis is placed on intermediate and long-term results.

### **A. Performance Objectives for the MSERS:**

1. Achieve the actuarial rate of return within prudent levels of risk, while maintaining sufficient liquidity to pay benefits.
2. Diversify assets.
3. Meet or exceed actuarial assumption over the long term.
4. Perform in the top half of the public plan universe over the long term.
5. Exceed individual asset class benchmarks over the long term.
6. Exceed the median peer within the appropriate manager or asset class universe ranking over the long term.

### **B. Performance Objectives for Individual Components**

It should be noted that peer universes may only be available for these comparisons on a gross-of-fees basis. This should be considered when evaluating the MSERS's return streams which are stated net of fees. In addition, benchmark and peer data may change from time to time as the market/industry evolves.

1. Domestic Equities                      Exceed the total return of the S&P 1500 Super composite net of fees for one, three, five, seven, and ten-year periods and a market cycle.

	Rank above median in a public plan universe of domestic equity investments.
Index/Passive	Return within 20 basis points of the S&P 500 Index, 50 basis points for the S&P 400 mid-cap, and 60 basis points for the S&P 600 small-cap over one, three, five, seven, and ten-year periods and a market cycle.
Active Management	Exceed the most relevant S&P Index (or the most relevant Russell Index), adjusting for market capitalization and style, net of fees for one, three, five, seven, and ten-year periods and a market cycle.  Rank above median in a universe of managers possessing a similar market cap and style characteristics.
2. International Equities	Exceed the total return of the MSCI All Country World Index ex-U.S. (or the most relevant S&P Index) net of fees for one, three, five, seven, and ten-year periods and a market cycle.  Rank above median in a public plan universe of non-U.S. equity investments.
Index/Passive	Return within 250 basis points of the most relevant non-U.S. index net of fees for one, three, and five-year periods and a market cycle. Return within 250 basis points of the MSCI Emerging Markets Index, for one, three, five, seven, and ten-year periods and a market cycle.
Active Management	Exceed the most relevant MSCI Index (or the most relevant S&P Index) net of fees, adjusting for market capitalization, style and geography for one, three, five, seven, and ten-year periods and a market cycle.  Rank above median in a universe of managers possessing a similar market capitalization, style, and geography characteristics.
3. Private Equity	Exceed the S&P 500 Index by 300 basis points net of fees lagged by three months over one, three, five, seven, and ten-year periods and a market cycle.

- Rank above median in a public plan universe of private equity investments.
4. Absolute Return
- Exceed T-bills by 400 basis points net of fees over one, three, five, seven, and ten-year periods and a market cycle.
- Exceed the appropriate HFN Fund of Funds median net of fees over one, three, five, seven, and ten-year periods and a market cycle.
- If available, rank above median in a public plan universe of hedge fund investments.
5. Real Return/  
Opportunistic
- Blended Benchmark - Exceed the increase in the U.S. CPI by 500 basis points annually net of fees over one, three, five, seven, and ten-year periods and a market cycle (50%) and exceed the actuarial rate of return (50%).
- TIPS and Commodities performance will be broken out separately:
- TIPS – Exceed the Barclays U.S. TIPS Index over one, three, and five-year periods and a market cycle.
- Commodities – Exceed the Dow Jones-AIG Total Return Commodities Index over one, three, five, seven, and ten-year periods and a market cycle.
- If available, rank above median in a nationally recognized universe of managers possessing a similar style.
6. Real Estate
- Exceed the NPI over the one, three, five, seven, and ten-year periods and a market cycle, less 130 basis points. Meet or exceed the NCREIF-ODCE over one, three, five, seven, and ten-year periods and a market cycle.
- Rank above median in a public plan universe of private equity investments.
7. Infrastructure
- Exceed the average annual increase in the U.S. CPI, lagged one quarter, by 400 basis points, net of fees, over the three five, seven, and ten-year periods and a market cycle.

If available, rank above median in a nationally recognized universe of managers possessing a similar style.

8. Fixed Income

Exceed the most relevant Barclay's Index adjusting for credit risk and duration, net of fees for one, three, five, seven, and ten-year periods and a market cycle.

Rank above median in a nationally recognized universe of managers possessing a similar style.

## **VI. General Investment Manager Guidelines and Requirements**

- A. Purchases and sales, security selection, and portfolio implementation of investment strategies are delegated to the discretion of the investment manager, subject to compliance with MSERS's investment policies, individual contracts, P.A. 314, and P.A. 234. If a commingled vehicle or mutual fund is utilized, the investment policies of that fund shall be considered the operative policy document.
- B. The following transactions are prohibited: Purchase of any securities or execution of any other transactions prohibited by P.A. 314 and P.A. 234.
- C. Transactions that involve a broker acting as a "principal" where such broker is also the investment manager who is making the transaction are prohibited. Brokers acting as investment managers are limited to "agency" transactions.
- D. Transactions shall be executed at a reasonable cost, taking into consideration prevailing market conditions and services and research provided by the executing broker.
- E. Investment managers shall vote proxies in accordance with the Proxy Voting Policy of the State of Michigan. The BOI agrees to promptly provide investment managers with any additions or modifications to the Proxy Voting Policy.
- F. All investment managers shall make the following disclosures:
  - 1. Periodically: Disclose any client relationship, including management of 401(k) plans, where the money management firm could invest state or pension moneys in the securities of the client.
  - 2. Periodically: Disclose, as requested, the manner in which portfolio managers and research analysts are compensated including any compensation resulting from the solicitation or acquisition of new clients or the retention of existing clients.
  - 3. Annually: Provide the SMRS with a copy of a safeguards plan and certify annually that the safeguards plan is being fully enforced. The safeguards plan

applies to Investment Managers affiliated with banks, investment banks, insurance companies, or other financial services corporations. The safeguards plan ensures that client relationships of any affiliate company do not influence investment decisions of the money management firm.

4. Quarterly: Report the amount of commissions paid to broker-dealers, and the percentage of commissions paid to broker-dealers.
- E. All internal managers shall adhere to the Bureau of Investments' *Standards of Professional Conduct*. As part of the *Standards of Professional Conduct*, the BOI has a personal trading policy in place that requires that all BOI employees (including the State Treasurer) obtain pre-approval for certain personal investments transactions and abide by specified ethical standards.
- F. All investment managers will be expected to provide MSERS, the custodian, and their investment consultant, on a timely basis each quarter, such data as is required for proper monitoring.
- G. No more than 5% of the MSERS's portfolio at its initial cost or initial market value may be invested in the securities of a single issuer, excluding securities issued by the U.S. government or its agencies.
- H. Except as permitted by Section 17 of P.A. Act 314, no fixed income security shall have an equivalent credit quality below investment grade at the time of purchase defined as:  
  
BBB- by S&P for straight bonds and convertibles.  
  
Baa (3) by Moody's Investor Service for straight bonds and convertibles.  
  
For short-term securities, credit rating must be within the two highest ratings established by at least two national rating services.
- I. The use of index futures is permitted to achieve (but not limited to) the following:
  1. To reduce the opportunity cost caused by "cash drag" in a rising market.
  2. To decrease the transaction costs of trading without increasing the risk (volatility) of that component of MSERS.
  3. To increase the manager's flexibility in meeting the performance objectives set forth for them within defined investment style and strategy constraints.
- J. Futures must be used in accordance with P.A. 314.
- K. The Real Estate portfolio may be invested in (through various legal structures) properties located outside of the United States.
- L. Performance objectives are to be met on a net-of-fees basis.

- M. All guidelines must be adhered to by internal and external money managers. However, if from time to time an exception to the guidelines shall be deemed appropriate by a manager, it may seek review and approval by the State Treasurer, as sole fiduciary, to make such an exception, as facts and circumstances may dictate.
- N. Investment managers must comply with state laws prohibiting the State of Michigan from investing public monies in companies engaged in active business operations in countries designated as a state sponsor of terror by the United States Secretary of State. The BOI will provide investment managers with a list of prohibited companies each quarter. Investment managers must refrain from acquiring additional securities in those companies until receiving further direction from the BOI.
- O. Investment managers must comply with all applicable state and federal laws and SEC rules and regulations, including but not limited to, Pay to Play prohibitions adopted by the SEC under the Investment Advisors Act of 1940.

## **VII. Insider Trading Policy**

All internal portfolios will be managed in compliance with the Insider Trading Policy. Buying or selling securities while aware of material non-public (inside) information concerning the issuer of the securities, or improperly disclosing to others such inside information, may constitute fraud under federal and state securities laws and a violation of other legal and regulatory requirements. Inside information also includes information that a BOI staff member may have concerning State of Michigan Retirement Systems (SMRS) securities positions or trading.

## **VIII. Ethics**

The BOI is subject to Public Act 196 of 1973 (P.A. 196) and Michigan Civil Service Rule 2-8 with respect to any gifts to Michigan state public officers or employees and ethical standards of conduct. Investment managers shall use best efforts to ensure that its activities do not result in a Michigan state public officer or employee violating the requirements of P.A. 196 and Michigan Civil Service Rule 2-8 with respect to any gifts or ethical standards of conduct.

## **IX. Proxy Voting Policy**

The BOI acts as the arm of the State Treasurer in directing investments on behalf of the retirement systems for the state employees, state police, judges, and public school employees. The BOI has adopted a Proxy Voting Policy for the four systems. The Proxy Voting Policy is reviewed annually to reflect changes in state and federal laws and emerging trends and issues in corporate governance.

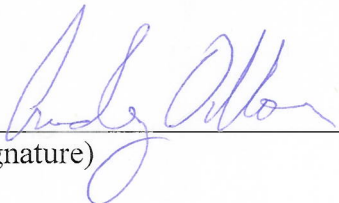
**X. Divestment**

The State Treasurer, as sole fiduciary for the MSERS, must adhere to divestment mandates contained in P.A. 314 and P.A. 234. Together, the statutes prohibit investing public monies in companies doing business in countries designated as a state sponsor of terror by the United States Secretary of State. In compliance with the statutes, the BOI, through its service provider, conducts a quarterly review of its holdings to ensure that it is not investing in companies with active business operations in a state sponsor of terror. The State Treasurer initiates engagement with companies that have business operations in state sponsors of terror with the goal of discouraging corporations from doing business in companies with ties to state sponsors of terror. The State Treasurer may retain a consultant to assist in its divestment compliance.

**XI. Review and Modification of Investment Policy Statement**

The State Treasurer, as sole fiduciary, will review the Policy approximately every two years to determine if modifications are necessary or desirable. The most current Investment Policy Statement shall be made available to the public on the BOI Web site.

Approved:

By:  4/15/12  
(Signature) (Date)  
Andy Dillon  
State Treasurer



# INVESTMENT POLICY STATEMENT

## MICHIGAN STATE POLICE RETIREMENT SYSTEM

*Effective May 1, 2012*

### I. Introduction

This Investment Policy Statement (Policy) provides the framework for the management of the investments of the Michigan State Police Retirement System (MSPRS). Pursuant to State law, the State Treasurer is the custodian of the MSPRS. In addition to MSPRS, the State Treasurer also acts as custodian for the retirement systems for the Michigan Public School Employees' Retirement System, the Michigan State Employees' Retirement System, and the Michigan Judges' Retirement System. Collectively, these four systems comprise the State of Michigan Retirement System (SMRS).

The investment policies and objectives of the MSPRS are intended to allow for sufficient flexibility in the management process to capture investment opportunities, yet provide parameters that will ensure prudence and care in the execution of the investment program. The State Treasurer, as sole fiduciary, in investing MSPRS's assets shall act with the same care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a similar capacity and familiar with these matters would use in the conduct of an enterprise with similar aims, in accordance with the Public Employee Retirement System Investment Act, Act 314 of 1965, as amended (P.A. 314).

### Definition of Terms

- A. Allocated Cash – Funds allocated to the investment managers. These funds are generated by income (interest, dividends) and monies earned as a result of the sale of a security.
- B. Authorized Representatives – List, authorized by the State Treasurer, of Bureau of Investments (BOI) personnel who have authority to execute transactions on behalf of the SMRS.
- C. Cost – Book value or purchase price of the security.
- D. Market – Current price of the security if sold on the open market as of a given date.
- E. Strategic Asset Allocation – The long-range asset allocation of the plan designed to reasonably achieve the approved actuarial rate of return.
- F. Target Allocation – The percentage of MSPRS's portfolio (valued at market) to be allocated to the specific asset classes as outlined under Section IV.

- G. Unallocated Cash – Funds generated by MSPRS from contributions, less administrative expenses and benefit payments, invested in cash equivalents (but not managed by investment managers).

## **II. Assignment of Responsibilities**

- A. The State Treasurer is the sole fiduciary and custodian of MSPRS's investments pursuant to state law. The State Treasurer, with input and analysis from the BOI, Investment Advisory Committee (IAC) members, internal and external investment managers, consultants, and other service providers, as needed, shall provide the following:
  - 1. Have asset liability studies conducted approximately every two years for each fund and distribute such studies to IAC members.
  - 2. Establish, approximately every two years, a long-term fund target asset allocation, based on the analysis and advice of the BOI.
  - 3. Establish, through this Investment Policy Statement, delegation of authority, and investment responsibility.
- B. The State Treasurer delegates investment approval authority of publicly traded equities and fixed income securities to the BOI and external managers. Absolute return, real return, and opportunistic investments made under the Short Term Fixed Income, Absolute and Real Return Division (STARR) are delegated to the Chief Investment Officer (CIO) or its external investment managers where applicable. Initial investment approval of real estate, private equity, venture capital, and private infrastructure investment funds made under the Real Estate and Infrastructure Investments Division (REID) or the Alternative Investments Division (AID) requires approval from either the State Treasurer or, if the State Treasurer position is vacant, the CIO shall approve.
- C. The State Treasurer shall report investment returns and strategy quarterly to the IAC, which reviews the investments, goals, and objectives of the retirement funds and may submit recommendations regarding them to the State Treasurer. The IAC may also, by a majority vote, direct the State Treasurer to dispose of any holding which in its judgment, is not suitable for the fund involved, and may by a unanimous vote direct the State Treasurer to make specific investments.
- D. The Director of the Bureau of Investments serves as the Chief Investment Officer of the MSPRS. The Director will implement the goals as described in Section II, A (1, 2, 3) of this document as well as direct the investment operations of the MSPRS, including each major asset class, in compliance with statutory requirements and sound business practices.

### **III. General Objectives and Policies**

The general objectives define the goals to be achieved through the management of MSPRS's assets. General policies provide guidelines for the State Treasurer, as sole fiduciary, to follow in meeting the general objectives.

#### **A. General Objectives:**

1. The overall objective of the MSPRS is to provide retirement, survivor, and disability benefits to its members through the investment of contributions and other MSPRS's assets.
2. The primary investment objective is to earn the approved actuarial rate of return on the total investment portfolio, consistent with a high degree of prudence and sufficient diversity to reduce risk and to meet the actuarial assumption for the investment rate of return, at a reasonable cost, achieved by cultivating a motivated team of dedicated professionals. It is understood that to meet the return objective of the fund equity risk must be assumed.
3. The State Treasurer will seek to diversify the plan with prudent levels of equity diversification through the investment of MSPRS's assets.

#### **B. General Policies:**

1. All transactions undertaken on behalf of MSPRS shall be for the sole benefit of plan participants.
2. All BOI staff and investment managers (including the State Treasurer, staff, and external service providers) involved in the investment process shall act with the care, skill, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims, in accordance with P.A. 314, or as otherwise stated in the investment policy, or their contract.
3. All BOI staff and investment managers (including the State Treasurer, staff, and external service providers) involved in the investment process shall refrain from personal business activity that could conflict with the proper execution and management of the investment program, or that could impair their ability to make impartial decisions. These parties are required to reveal all relationships that could create or appear to create a conflict of interest in their unbiased involvement in the investment process.
4. Investments shall be made without distinction between return generated from income as opposed to capital gains, and that diversification, need for liquidity, and the potential for gain and loss will be monitored on an on-going basis.

5. The allocation of assets among various asset classes shall be approved (as set forth here-in) by the State Treasurer. The asset allocation policy shall be predicated on the following factors:
  - a. the historical performance and risk measurers of capital markets adjusted for the expectations of the future short and long-term capital market performance;
  - b. the correlation of returns and risk among the relevant asset classes;
  - c. the expectations of future economic conditions, including inflation and interest rate assumptions;
  - d. the projected liability stream of benefits and the costs of funding to both covered employees and employers; and
  - e. the relationship between the current and projected assets of the plan and the projected actuarial liability stream.
6. This asset allocation policy will identify target allocations to the classes of assets MSPRS can utilize and the ranges within which each can fluctuate as a percent of the total portfolio. This policy is expected to provide diversification of assets in an effort to maximize the investment return to MSPRS consistent with prudent market and economic risk given the return objectives of the fund. Assets of MSPRS are to remain invested at all times in either cash equivalents or other asset classes as designated by this Policy.
7. Pursuant to State law, professional investment management firms, which are registered investment advisors or which are appropriately exempt from registration under the Investment Advisers Act of 1940 as may be amended, may be retained, by the State Treasurer, to assist in managing MSPRS's assets. Investments shall be sufficiently diversified so as to reduce the risk of material losses. Each investment manager will function under a formal contract that delineates its responsibilities and appropriate performance expectations. A formal set of investment guidelines and administrative requirements for management of each portfolio is to be provided to each manager. The BOI staff will review the investment performance of these managers against their stated objectives on a regular basis. Individual managers will be judged according to benchmarks, which reflect the objectives and characteristics of the strategic roles their portfolios are to fulfill. Other factors for consideration shall include, but not be limited to, fundamental changes in the manager's philosophy, changes in the manager's organizational structure, financial condition (including changes in total assets under management), personnel, changes in fee structure, or litigation brought against the manager. Investment managers may act at their own discretion provided their actions are in accordance with P.A. 314, this Policy, and their contract.

8. The State Treasurer will allocate MSPRS's contributions on an on-going basis in accordance with this Policy to balance the overall asset allocation against targets when deviations occur because of capital market fluctuations. Such allocations can be made even if contributions to managers or asset classes which have recently experienced poor performance, if staff believe the future outlook is favorable. If such poor performance is the result of an occurrence other than expected market-related volatility, then a reassessment of that investment shall be undertaken.
9. The State Treasurer may utilize the services of an investment consultant(s) for the purpose of performance review, asset allocation studies, risk budgeting, manager screening and selection, educational materials, and topical studies. The comments and recommendations of the consultant will be considered by the State Treasurer, as sole fiduciary, in conjunction with other available information for the purpose of making an informed and prudent decision.
10. The State Treasurer will utilize the services of a master custodian bank that will be responsible for holding MSPRS's assets, settling purchases and sales of securities; identifying and collecting income that becomes due and payable on assets held; and providing a management information/accounting system.
11. The State Treasurer may retain the services of a securities lending provider to generate additional return for MSPRS at acceptable levels of risk. The program will be administered in accordance with the securities lending policy negotiated with the provider.
12. The MSPRS considers the active voting of proxies an integral part of the investment process. Proxy voting will occur in accordance with the Proxy Voting Policy.
13. Updated return projections and asset allocation will be developed approximately every two years. The information for these reviews shall come from staff, outside consultants, and investment managers, as they may be retained.
14. It is the responsibility of the State Treasurer to administer the investments of MSPRS at reasonable industry standard cost, being careful to avoid sacrificing quality and opportunity for gain. These costs include, but are not limited to, management and custodial fees, consulting fees, transaction costs, and other administrative costs chargeable to MSPRS, as well as incentive fees.
15. Any investment or any action pursuant to an investment for MSPRS which is not expressly permitted under this Policy is not allowed unless submitted in writing, and formally reviewed and approved by the State Treasurer.
16. The State Treasurer will operate the pension investment program in compliance with all applicable state, federal, and local laws and regulations concerning the investment of pension assets (USC Section 401 (a) (8), (9),

(16), and (25) of the Internal Revenue Code; and under P.A. 314 and the Divestment From Terror Act, Act 234 of 2008, as amended (P.A. 234).

#### IV. Asset Allocation Policy and Objectives

Based on the factors identified in the preceding General Objectives and Policies, the State Treasurer has established strategic asset allocation targets and ranges on a market value basis as set forth below.

Ranges for each asset class are included in the asset allocation policy to provide the State Treasurer, as sole fiduciary, with flexibility to adjust to market fluctuations and portfolio changes.

A. The five-year strategic asset allocation targets are provided below:

<u>Asset Class</u>	<u>Benchmark</u>	<u>Target</u>	<u>Ranges</u>	<u>Statutory Limit*</u>
Absolute Return	T-bills +4%	4%	0% - 12%	20% (w/RRS)
Core Fixed Income	Barclays Govt./ Credit	15%	10% - 25%	
Cash / Short Term Fixed Income	U.S. 1 month T-bill	4%	1% - 9%	
Domestic Equity	S&P 1500	31%	20% - 50%	70%
Infrastructure	U.S. CPI +4% lagged 1 quarter	3%	0% - 5%	
International Equity	MSCI ACWI ex U.S.	16%	10% - 20%	20%
Private Equity	S&P 500 +3% lagged 1 quarter	16%	10% - 25%	30%
Real Estate	NPI – 1.3%	6%	5% - 15%	
Real Return / Opportunistic	U.S. CPI +5%	5%	0% - 10%	20% (w/ARS)
Total Assets	Actuarial Assumption	100%		

\*Additional statutory limitations may apply pursuant to P.A. 314.

- (1) Investments in foreign securities shall not exceed 20%, pursuant to the statutory limitation of the P.A. 314, section 38.1140k.
- (2) Absolute Return and Real Return/Opportunistic combined shall not exceed 20%, pursuant to the statutory limitation of P.A. 314, section 38.1140d.
- (3) Private Equity shall not exceed 30%, pursuant to the statutory limitation of P.A. 314, section 38.1139a.

- (4) Investments in derivative securities shall not exceed 15%, pursuant to the statutory limitation of P.A. 314, section 38.1140j.
- (5) Statutory limits may change from time to time as P.A. 314 is amended periodically.

#### **ASSETS CLASSES ARE DEFINED AS:**

**Absolute Return** – Investments representing ownership interest in hedge funds managed to an overall risk tolerance. Diversification by fund and by strategy, such as, but not limited to, long/short equities, arbitrage, and event-driven strategies is important as is prudent leverage levels on a total portfolio. Absolute Return strategies seek to produce return patterns over time that have a lower level of correlation with equities and other traditional asset classes.

**Cash/Short Term Fixed Income** – Investments in fixed income securities with maturities of less than one year including, but not limited to, Treasury bills and notes, commercial paper, bankers acceptances, certificates of deposit, asset backed securities.

**Equities** – Investments representing ownership interest to include public, preferred stock, convertible to stock, options, futures, or other derivatives on stocks or composites of stocks, units, participation or partnership shares which represent ownership interests in an underlying investment (excluding real property). Investment in REITs shall be classified as equities unless managed by the REID, which they will then be considered as real estate.

**Fixed Income** – Investments representing instruments with maturities greater than one year with obligated fixed or floating rates of interest to include public and private securities, mortgages, and investments in life insurance general accounts and guaranteed investment contracts, and options, futures or other derivatives on fixed income securities or fixed income components.

**Infrastructure** – Investments representing ownership interest in partnerships, publicly traded securities, operating companies, or other investment vehicles that represent equity and/or debt in infrastructure and real asset sectors including, but not limited to, energy resources and utilities, transportation assets, water and waste, communications, social infrastructure, or other infrastructure and real asset related investments.

**Real Estate** – Investments representing ownership interest in partnerships, publicly-traded securities, operating companies, or other vehicles that represent equity and/or mortgages in real estate including, but not limited to, commercial, retail, hotel, industrial, residential, land, or other real estate related investments.

**Real Return/Opportunistic** – Investments representing ownership interest in either individual real return asset classes that provide an inflationary protection or portfolios that are managed strategically or tactically utilizing real return asset classes in isolation or in combination with traditional asset classes to achieve this goal. Real Return

investments may include investments across asset classes. Opportunistic strategies may include tactical or strategic investments across asset classes.

**Private Equity** – Investments representing ownership interest in partnerships and other vehicles including, but not limited to, venture capital, leveraged buyouts, mezzanine debt, and special situations. In addition, this asset class may include public stock as a result of distributions.

## **THE STRATEGIC ROLE OF EACH ASSET CLASS & SUBCLASS AS DEFINED:**

### **Domestic Equity (may include, but are not limited to the following)**

Diversified portfolio of company stocks incorporated inside of the U.S. denominated in U.S. currency.

**Index/Passive** – Attempts to replicate performance and characteristics of the applicable index and may be implemented through direct stock holdings, mutual funds, commingled funds or the use of swaps or other derivative instruments.

**Active Management** – Attempts to add value over the benchmark through stock selection, sector rotation, macro economic themes, etc., which may include swaps, options, or other derivatives.

**Long-Short (130/30)** – Diversified portfolio of stocks utilizing both long and short positions. The strategy has a limited amount allowable to sell short (usually 20% to 40%). The proceeds of the short sales are used to buy more long positions, so that net market exposure is equal to 100%, though the portfolio return is expected to exceed that of the S&P 500 Index.

### **International Equity**

Diversified portfolio of company stocks incorporated outside of the U.S. that may be denominated in non-U.S. currency. International equity is expected to provide diversification to the fund's U.S. equity investments.

**Index/Passive** – Attempts to replicate performance and characteristics of the applicable index and may be implemented through direct stock holdings, mutual funds, commingled funds or the use of swaps, options, or other derivative instruments.

**Active Management** – Attempts to add value over the benchmark through country allocation, stock selection, sector rotation, global macroeconomic themes, etc.

### **Private Equity**

Diversified portfolio of partnerships in venture capital, leveraged buyouts, mezzanine debt, and special situations. The portfolio will consist of domestic and international partnerships, as well as private and public securities which may be the result of



distributions. Private equity investments shall be well diversified by sub-asset class (e.g. venture capital vs. buyouts), investment style (e.g. early vs. late stage, mid market vs. large cap market), and vintage year.

### **Absolute Return**

Diversified portfolio of hedge funds consisting of multiple funds and strategies, managed to an overall risk level and including acceptable leverage levels. Absolute return portfolios seek to produce return patterns over time that have a low level of correlation with equities and other traditional asset classes. The investments will be made through industry standard partnerships (or other applicable legal entities).

### **Real Return/Opportunistic**

Real Return/Opportunistic can include such diverse individual strategies as commodities, timber, floating rate notes, or a portfolio including a variety of asset classes managed tactically or strategically to achieve a real return goal. They are included in the portfolio to provide an inflation hedge or opportunistic tactical or strategic asset class exposure. Examples of additional individual strategies include, but are not limited to, TIPS, floating rate debt, and commodity futures. The investments may be direct or made through partnerships, or other legal entities, as standard industry practice.

### **Real Estate**

Diversified portfolio of equity or debt investment in real estate including, but not limited to, commercial, retail, hotel, industrial, residential, or land. Real estate investments may include investments in public or private real estate operating companies and non-traditional property types or other real estate related investments. The real estate portfolio is expected to provide diversification from traditional capital market risk. The real estate portfolio shall be diversified by property type and geography, and may include the use of leverage. The investments are typically made through partnerships or other legal entities.

### **Infrastructure**

Diversified global portfolio of infrastructure investments that possess quasi-monopolistic qualities and provide attractive income attributes or capital appreciation. Infrastructure is included in the portfolio to enhance diversification. Infrastructure investments shall be well diversified by sub-asset class, investment style, geography, vintage year, investment manager, and fund. These investments will be made through partnerships or other legal entities as standard industry practice.

### **Fixed Income**

Diversified portfolios of fixed income securities designed to primarily protect principal and generate cash flow. Internally managed portfolios shall consist of bonds that are either investment grade or meet the requirements of Section 17 of P.A. 314.

Externally managed bond portfolios seek to outperform the bond indices through traditional fixed income management tools such as yield curve management, non-core sector exposure, duration management, and other techniques. The overall total portfolio quality of these portfolios should be maintained above investment grade.

### **Cash/Short-Term Fixed Income**

Portfolio of short-term fixed income securities with an average maturity of less than one year. Its purpose is to provide liquidity and safety of principal from capital market and default risk.

## **V. Performance Objectives**

The investment performance of the fund will be measured against objectives for the total MSPRS and against objectives for individual portfolio components (asset classes and individual managers). Investment performance shall be measured no less than quarterly. Because capital markets fluctuate, and given the length of the duration of the liability stream, the performance relative to objectives is to be judged over a period of a market cycle as well as standard annualized periods of one, three, five, seven, and ten years. Greater emphasis is placed on intermediate and long-term results.

### **A. Performance Objectives for the MSPRS:**

1. Achieve the actuarial rate of return within prudent levels of risk, while maintaining sufficient liquidity to pay benefits.
2. Diversify assets.
3. Meet or exceed actuarial assumption over the long term.
4. Perform in the top half of the public plan universe over the long term.
5. Exceed individual asset class benchmarks over the long term.
6. Exceed the median peer within the appropriate manager or asset class universe ranking over the long term.

### **B. Performance Objectives for Individual Components**

It should be noted that peer universes may only be available for these comparisons on a gross-of-fees basis. This should be considered when evaluating the MSPRS's return streams which are stated net of fees. In addition, benchmark and peer data may change from time to time as the market/industry evolves.

1. Domestic Equities                      Exceed the total return of the S&P 1500 Super composite net of fees for one, three, five, seven, and ten-year periods and a market cycle.

	Rank above median in a public plan universe of domestic equity investments.
Index/Passive	Return within 20 basis points of the S&P 500 Index, 50 basis points for the S&P 400 mid-cap, and 60 basis points for the S&P 600 small-cap over one, three, five, seven, and ten-year periods and a market cycle.
Active Management	Exceed the most relevant S&P Index (or the most relevant Russell Index), adjusting for market capitalization and style, net of fees for one, three, five, seven, and ten-year periods and a market cycle.  Rank above median in a universe of managers possessing a similar market cap and style characteristics.
2. International Equities	Exceed the total return of the MSCI All Country World Index ex-U.S. (or the most relevant S&P Index) net of fees for one, three, five, seven, and ten-year periods and a market cycle.  Rank above median in a public plan universe of non-U.S. equity investments.
Index/Passive	Return within 250 basis points of the most relevant non-U.S. index net of fees for one, three, and five-year periods and a market cycle. Return within 250 basis points of the MSCI Emerging Markets Index, for one, three, five, seven, and ten-year periods and a market cycle.
Active Management	Exceed the most relevant MSCI Index (or the most relevant S&P Index) net of fees, adjusting for market capitalization, style and geography for one, three, five, seven, and ten-year periods and a market cycle.  Rank above median in a universe of managers possessing a similar market capitalization, style, and geography characteristics.
3. Private Equity	Exceed the S&P 500 Index by 300 basis points net of fees lagged by three months over one, three, five, seven, and ten-year periods and a market cycle.

- Rank above median in a public plan universe of private equity investments.
4. Absolute Return
- Exceed T-bills by 400 basis points net of fees over one, three, five, seven, and ten-year periods and a market cycle.
- Exceed the appropriate HFN Fund of Funds median net of fees over one, three, five, seven, and ten-year periods and a market cycle.
- If available, rank above median in a public plan universe of hedge fund investments.
5. Real Return/  
Opportunistic
- Blended Benchmark - Exceed the increase in the U.S. CPI by 500 basis points annually net of fees over one, three, five, seven, and ten-year periods and a market cycle (50%) and exceed the actuarial rate of return (50%).
- TIPS and Commodities performance will be broken out separately:
- TIPS – Exceed the Barclays U.S. TIPS Index over one, three, and five-year periods and a market cycle.
- Commodities – Exceed the Dow Jones-AIG Total Return Commodities Index over one, three, five, seven, and ten-year periods and a market cycle.
- If available, rank above median in a nationally recognized universe of managers possessing a similar style.
6. Real Estate
- Exceed the NPI over the one, three, five, seven, and ten-year periods and a market cycle, less 130 basis points. Meet or exceed the NCREIF-ODCE over one, three, five, seven, and ten-year periods and a market cycle.
- Rank above median in a public plan universe of private equity investments.
7. Infrastructure
- Exceed the average annual increase in the U.S. CPI, lagged one quarter, by 400 basis points, net of fees, over the three five, seven, and ten-year periods and a market cycle.

If available, rank above median in a nationally recognized universe of managers possessing a similar style.

8. Fixed Income

Exceed the most relevant Barclay's Index adjusting for credit risk and duration, net of fees for one, three, five, seven, and ten-year periods and a market cycle.

Rank above median in a nationally recognized universe of managers possessing a similar style.

## **VI. General Investment Manager Guidelines and Requirements**

- A. Purchases and sales, security selection, and portfolio implementation of investment strategies are delegated to the discretion of the investment manager, subject to compliance with MSPRS's investment policies, individual contracts, P.A. 314, and P.A. 234. If a commingled vehicle or mutual fund is utilized, the investment policies of that fund shall be considered the operative policy document.
- B. The following transactions are prohibited: Purchase of any securities or execution of any other transactions prohibited by P.A. 314 and P.A. 234.
- C. Transactions that involve a broker acting as a "principal" where such broker is also the investment manager who is making the transaction are prohibited. Brokers acting as investment managers are limited to "agency" transactions.
- D. Transactions shall be executed at a reasonable cost, taking into consideration prevailing market conditions and services and research provided by the executing broker.
- E. Investment managers shall vote proxies in accordance with the Proxy Voting Policy of the State of Michigan. The BOI agrees to promptly provide investment managers with any additions or modifications to the Proxy Voting Policy.
- F. All investment managers shall make the following disclosures:
  - 1. Periodically: Disclose any client relationship, including management of 401(k) plans, where the money management firm could invest state or pension moneys in the securities of the client.
  - 2. Periodically: Disclose, as requested, the manner in which portfolio managers and research analysts are compensated including any compensation resulting from the solicitation or acquisition of new clients or the retention of existing clients.
  - 3. Annually: Provide the SMRS with a copy of a safeguards plan and certify annually that the safeguards plan is being fully enforced. The safeguards plan

applies to Investment Managers affiliated with banks, investment banks, insurance companies, or other financial services corporations. The safeguards plan ensures that client relationships of any affiliate company do not influence investment decisions of the money management firm.

4. Quarterly: Report the amount of commissions paid to broker-dealers, and the percentage of commissions paid to broker-dealers.
- E. All internal managers shall adhere to the Bureau of Investments' *Standards of Professional Conduct*. As part of the *Standards of Professional Conduct*, the BOI has a personal trading policy in place that requires that all BOI employees (including the State Treasurer) obtain pre-approval for certain personal investments transactions and abide by specified ethical standards.
- F. All investment managers will be expected to provide MSPRS, the custodian, and their investment consultant, on a timely basis each quarter, such data as is required for proper monitoring.
- G. No more than 5% of the MSPRS's portfolio at its initial cost or initial market value may be invested in the securities of a single issuer, excluding securities issued by the U.S. government or its agencies.
- H. Except as permitted by Section 17 of P.A. Act 314, no fixed income security shall have an equivalent credit quality below investment grade at the time of purchase defined as:  
  
BBB- by S&P for straight bonds and convertibles.  
  
Baa (3) by Moody's Investor Service for straight bonds and convertibles.  
  
For short-term securities, credit rating must be within the two highest ratings established by at least two national rating services.
- I. The use of index futures is permitted to achieve (but not limited to) the following:
  1. To reduce the opportunity cost caused by "cash drag" in a rising market.
  2. To decrease the transaction costs of trading without increasing the risk (volatility) of that component of MSPRS.
  3. To increase the manager's flexibility in meeting the performance objectives set forth for them within defined investment style and strategy constraints.
- J. Futures must be used in accordance with P.A. 314.
- K. The Real Estate portfolio may be invested in (through various legal structures) properties located outside of the United States.
- L. Performance objectives are to be met on a net-of-fees basis.

- M. All guidelines must be adhered to by internal and external money managers. However, if from time to time an exception to the guidelines shall be deemed appropriate by a manager, it may seek review and approval by the State Treasurer, as sole fiduciary, to make such an exception, as facts and circumstances may dictate.
- N. Investment managers must comply with state laws prohibiting the State of Michigan from investing public monies in companies engaged in active business operations in countries designated as a state sponsor of terror by the United States Secretary of State. The BOI will provide investment managers with a list of prohibited companies each quarter. Investment managers must refrain from acquiring additional securities in those companies until receiving further direction from the BOI.
- O. Investment managers must comply with all applicable state and federal laws and SEC rules and regulations, including but not limited to, Pay to Play prohibitions adopted by the SEC under the Investment Advisors Act of 1940.

## **VII. Insider Trading Policy**

All internal portfolios will be managed in compliance with the Insider Trading Policy. Buying or selling securities while aware of material non-public (inside) information concerning the issuer of the securities, or improperly disclosing to others such inside information, may constitute fraud under federal and state securities laws and a violation of other legal and regulatory requirements. Inside information also includes information that a BOI staff member may have concerning State of Michigan Retirement Systems (SMRS) securities positions or trading.

## **VIII. Ethics**

The BOI is subject to Public Act 196 of 1973 (P.A. 196) and Michigan Civil Service Rule 2-8 with respect to any gifts to Michigan state public officers or employees and ethical standards of conduct. Investment managers shall use best efforts to ensure that its activities do not result in a Michigan state public officer or employee violating the requirements of P.A. 196 and Michigan Civil Service Rule 2-8 with respect to any gifts or ethical standards of conduct.

## **IX. Proxy Voting Policy**

The BOI acts as the arm of the State Treasurer in directing investments on behalf of the retirement systems for the state employees, state police, judges, and public school employees. The BOI has adopted a Proxy Voting Policy for the four systems. The Proxy Voting Policy is reviewed annually to reflect changes in state and federal laws and emerging trends and issues in corporate governance.

**X. Divestment**

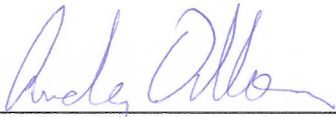
The State Treasurer, as sole fiduciary for the MSPRS, must adhere to divestment mandates contained in P.A. 314 and P.A. 234. Together, the statutes prohibit investing public monies in companies doing business in countries designated as a state sponsor of terror by the United States Secretary of State. In compliance with the statutes, the BOI, through its service provider, conducts a quarterly review of its holdings to ensure that it is not investing in companies with active business operations in a state sponsor of terror. The State Treasurer initiates engagement with companies that have business operations in state sponsors of terror with the goal of discouraging corporations from doing business in companies with ties to state sponsors of terror. The State Treasurer may retain a consultant to assist in its divestment compliance.

**XI. Review and Modification of Investment Policy Statement**


The State Treasurer, as sole fiduciary, will review the Policy approximately every two years to determine if modifications are necessary or desirable. The most current Investment Policy Statement shall be made available to the public on the BOI Web site.

Approved:

By:

  
\_\_\_\_\_  
(Signature)

Andy Dillon  
State Treasurer

  
\_\_\_\_\_  
(Date)



# INVESTMENT POLICY STATEMENT

## MICHIGAN JUDGES' RETIREMENT SYSTEM

*Effective May 1, 2012*

### I. Introduction

This Investment Policy Statement (Policy) provides the framework for the management of the investments of the Michigan Judges' Retirement System (MJRS). Pursuant to State law, the State Treasurer is the custodian of the MJRS. In addition to MJRS, the State Treasurer also acts as custodian for the retirement systems for the Michigan Public School Employees' Retirement System, the Michigan State Employees' Retirement System, and the Michigan State Police Retirement System. Collectively, these four systems comprise the State of Michigan Retirement System (SMRS).

The investment policies and objectives of the MJRS are intended to allow for sufficient flexibility in the management process to capture investment opportunities, yet provide parameters that will ensure prudence and care in the execution of the investment program. The State Treasurer, as sole fiduciary, in investing MJRS's assets shall act with the same care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a similar capacity and familiar with these matters would use in the conduct of an enterprise with similar aims, in accordance with the Public Employee Retirement System Investment Act, Act 314 of 1965, as amended (P.A. 314).

### Definition of Terms

- A. Allocated Cash – Funds allocated to the investment managers. These funds are generated by income (interest, dividends) and monies earned as a result of the sale of a security.
- B. Authorized Representatives – List, authorized by the State Treasurer, of Bureau of Investments (BOI) personnel who have authority to execute transactions on behalf of the SMRS.
- C. Cost – Book value or purchase price of the security.
- D. Market – Current price of the security if sold on the open market as of a given date.
- E. Strategic Asset Allocation – The long-range asset allocation of the plan designed to reasonably achieve the approved actuarial rate of return.
- F. Target Allocation – The percentage of MJRS's portfolio (valued at market) to be allocated to the specific asset classes as outlined under Section IV.

- G. Unallocated Cash – Funds generated by MJRS from contributions, less administrative expenses and benefit payments, invested in cash equivalents (but not managed by investment managers).

## **II. Assignment of Responsibilities**

- A. The State Treasurer is the sole fiduciary and custodian of MJRS's investments pursuant to state law. The State Treasurer, with input and analysis from the BOI, Investment Advisory Committee (IAC) members, internal and external investment managers, consultants, and other service providers, as needed, shall provide the following:
  - 1. Have asset liability studies conducted approximately every two years for each fund and distribute such studies to IAC members.
  - 2. Establish, approximately every two years, a long-term fund target asset allocation, based on the analysis and advice of the BOI.
  - 3. Establish, through this Investment Policy Statement, delegation of authority, and investment responsibility.
- B. The State Treasurer delegates investment approval authority of publicly traded equities and fixed income securities to the BOI and external managers. Absolute return, real return, and opportunistic investments made under the Short Term Fixed Income, Absolute and Real Return Division (STARR) are delegated to the Chief Investment Officer (CIO) or its external investment managers where applicable. Initial investment approval of real estate, private equity, venture capital, and private infrastructure investment funds made under the Real Estate and Infrastructure Investments Division (REID) or the Alternative Investments Division (AID) requires approval from either the State Treasurer or, if the State Treasurer position is vacant, the CIO shall approve.
- C. The State Treasurer shall report investment returns and strategy quarterly to the IAC, which reviews the investments, goals, and objectives of the retirement funds and may submit recommendations regarding them to the State Treasurer. The IAC may also, by a majority vote, direct the State Treasurer to dispose of any holding which in its judgment, is not suitable for the fund involved, and may by a unanimous vote direct the State Treasurer to make specific investments.
- D. The Director of the Bureau of Investments serves as the Chief Investment Officer of the MJRS. The Director will implement the goals as described in Section II, A (1, 2, 3) of this document as well as direct the investment operations of the MJRS, including each major asset class, in compliance with statutory requirements and sound business practices.

### **III. General Objectives and Policies**

The general objectives define the goals to be achieved through the management of MJRS's assets. General policies provide guidelines for the State Treasurer, as sole fiduciary, to follow in meeting the general objectives.

#### **A. General Objectives:**

1. The overall objective of the MJRS is to provide retirement, survivor, and disability benefits to its members through the investment of contributions and other MJRS's assets.
2. The primary investment objective is to earn the approved actuarial rate of return on the total investment portfolio, consistent with a high degree of prudence and sufficient diversity to reduce risk and to meet the actuarial assumption for the investment rate of return, at a reasonable cost, achieved by cultivating a motivated team of dedicated professionals. It is understood that to meet the return objective of the fund equity risk must be assumed.
3. The State Treasurer will seek to diversify the plan with prudent levels of equity diversification through the investment of MJRS's assets.

#### **B. General Policies:**

1. All transactions undertaken on behalf of MJRS shall be for the sole benefit of plan participants.
2. All BOI staff and investment managers (including the State Treasurer, staff, and external service providers) involved in the investment process shall act with the care, skill, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims, in accordance with P.A. 314, or as otherwise stated in the investment policy, or their contract.
3. All BOI staff and investment managers (including the State Treasurer, staff, and external service providers) involved in the investment process shall refrain from personal business activity that could conflict with the proper execution and management of the investment program, or that could impair their ability to make impartial decisions. These parties are required to reveal all relationships that could create or appear to create a conflict of interest in their unbiased involvement in the investment process.
4. Investments shall be made without distinction between return generated from income as opposed to capital gains, and that diversification, need for liquidity, and the potential for gain and loss will be monitored on an on-going basis.

5. The allocation of assets among various asset classes shall be approved (as set forth here-in) by the State Treasurer. The asset allocation policy shall be predicated on the following factors:
  - a. the historical performance and risk measurers of capital markets adjusted for the expectations of the future short and long-term capital market performance;
  - b. the correlation of returns and risk among the relevant asset classes;
  - c. the expectations of future economic conditions, including inflation and interest rate assumptions;
  - d. the projected liability stream of benefits and the costs of funding to both covered employees and employers; and
  - e. the relationship between the current and projected assets of the plan and the projected actuarial liability stream.
6. This asset allocation policy will identify target allocations to the classes of assets MJRS can utilize and the ranges within which each can fluctuate as a percent of the total portfolio. This policy is expected to provide diversification of assets in an effort to maximize the investment return to MJRS consistent with prudent market and economic risk given the return objectives of the fund. Assets of MJRS are to remain invested at all times in either cash equivalents or other asset classes as designated by this Policy.
7. Pursuant to State law, professional investment management firms, which are registered investment advisors or which are appropriately exempt from registration under the Investment Advisers Act of 1940 as may be amended, may be retained, by the State Treasurer, to assist in managing MJRS's assets. Investments shall be sufficiently diversified so as to reduce the risk of material losses. Each investment manager will function under a formal contract that delineates its responsibilities and appropriate performance expectations. A formal set of investment guidelines and administrative requirements for management of each portfolio is to be provided to each manager. The BOI staff will review the investment performance of these managers against their stated objectives on a regular basis. Individual managers will be judged according to benchmarks, which reflect the objectives and characteristics of the strategic roles their portfolios are to fulfill. Other factors for consideration shall include, but not be limited to, fundamental changes in the manager's philosophy, changes in the manager's organizational structure, financial condition (including changes in total assets under management), personnel, changes in fee structure, or litigation brought against the manager. Investment managers may act at their own discretion provided their actions are in accordance with P.A. 314, this Policy, and their contract.

8. The State Treasurer will allocate MJRS's contributions on an on-going basis in accordance with this Policy to balance the overall asset allocation against targets when deviations occur because of capital market fluctuations. Such allocations can be made even if contributions to managers or asset classes which have recently experienced poor performance, if staff believe the future outlook is favorable. If such poor performance is the result of an occurrence other than expected market-related volatility, then a reassessment of that investment shall be undertaken.
9. The State Treasurer may utilize the services of an investment consultant(s) for the purpose of performance review, asset allocation studies, risk budgeting, manager screening and selection, educational materials, and topical studies. The comments and recommendations of the consultant will be considered by the State Treasurer, as sole fiduciary, in conjunction with other available information for the purpose of making an informed and prudent decision.
10. The State Treasurer will utilize the services of a master custodian bank that will be responsible for holding MJRS's assets, settling purchases and sales of securities; identifying and collecting income that becomes due and payable on assets held; and providing a management information/accounting system.
11. The State Treasurer may retain the services of a securities lending provider to generate additional return for MJRS at acceptable levels of risk. The program will be administered in accordance with the securities lending policy negotiated with the provider.
12. The MJRS considers the active voting of proxies an integral part of the investment process. Proxy voting will occur in accordance with the Proxy Voting Policy.
13. Updated return projections and asset allocation will be developed approximately every two years. The information for these reviews shall come from staff, outside consultants, and investment managers, as they may be retained.
14. It is the responsibility of the State Treasurer to administer the investments of MJRS at reasonable industry standard cost, being careful to avoid sacrificing quality and opportunity for gain. These costs include, but are not limited to, management and custodial fees, consulting fees, transaction costs, and other administrative costs chargeable to MJRS, as well as incentive fees.
15. Any investment or any action pursuant to an investment for MJRS which is not expressly permitted under this Policy is not allowed unless submitted in writing, and formally reviewed and approved by the State Treasurer.
16. The State Treasurer will operate the pension investment program in compliance with all applicable state, federal, and local laws and regulations concerning the investment of pension assets (USC Section 401 (a) (8), (9),

(16), and (25) of the Internal Revenue Code; and under P.A. 314 and the Divestment From Terror Act, Act 234 of 2008, as amended (P.A. 234).

#### IV. Asset Allocation Policy and Objectives

Based on the factors identified in the preceding General Objectives and Policies, the State Treasurer has established strategic asset allocation targets and ranges on a market value basis as set forth below.

Ranges for each asset class are included in the asset allocation policy to provide the State Treasurer, as sole fiduciary, with flexibility to adjust to market fluctuations and portfolio changes.

A. The five-year strategic asset allocation targets are provided below:

<u>Asset Class</u>	<u>Benchmark</u>	<u>Target</u>	<u>Ranges</u>	<u>Statutory Limit*</u>
Absolute Return	T-bills +4%	4%	4% - 12%	20% (w/RRS)
Core Fixed Income	Barclays Govt./ Credit	19%	10% - 25%	
Cash / Short Term Fixed Income	U.S. 1 month T-bill	4%	1% - 9%	
Domestic Equity	S&P 1500	29%	20% - 50%	70%
Infrastructure	U.S. CPI +4% lagged 1 quarter	3%	0% - 5%	
International Equity	MSCI ACWI ex U.S.	15%	10% - 20%	20%
Private Equity	S&P 500 +3% lagged 1 quarter	14%	10% - 25%	30%
Real Estate	NPI – 1.3%	7%	5% - 15%	
Real Return / Opportunistic	U.S. CPI +5%	5%	0% - 10%	20% (w/ARS)
Total Assets	Actuarial Assumption	100%		

\*Additional statutory limitations may apply pursuant to P.A. 314.

- (1) Investments in foreign securities shall not exceed 20%, pursuant to the statutory limitation of the P.A. 314, section 38.1140k.
- (2) Absolute Return and Real Return/Opportunistic combined shall not exceed 20%, pursuant to the statutory limitation of P.A. 314, section 38.1140d.
- (3) Private Equity shall not exceed 30%, pursuant to the statutory limitation of P.A. 314, section 38.1139a.

- (4) Investments in derivative securities shall not exceed 15%, pursuant to the statutory limitation of P.A. 314, section 38.1140j.
- (5) Statutory limits may change from time to time as P.A. 314 is amended periodically.

#### **ASSETS CLASSES ARE DEFINED AS:**

**Absolute Return** – Investments representing ownership interest in hedge funds managed to an overall risk tolerance. Diversification by fund and by strategy, such as, but not limited to, long/short equities, arbitrage, and event-driven strategies is important as is prudent leverage levels on a total portfolio. Absolute Return strategies seek to produce return patterns over time that have a lower level of correlation with equities and other traditional asset classes.

**Cash/Short Term Fixed Income** – Investments in fixed income securities with maturities of less than one year including, but not limited to, Treasury bills and notes, commercial paper, bankers acceptances, certificates of deposit, asset backed securities.

**Equities** – Investments representing ownership interest to include public, preferred stock, convertible to stock, options, futures, or other derivatives on stocks or composites of stocks, units, participation or partnership shares which represent ownership interests in an underlying investment (excluding real property). Investment in REITs shall be classified as equities unless managed by the REID, which they will then be considered as real estate.

**Fixed Income** – Investments representing instruments with maturities greater than one year with obligated fixed or floating rates of interest to include public and private securities, mortgages, and investments in life insurance general accounts and guaranteed investment contracts, and options, futures or other derivatives on fixed income securities or fixed income components.

**Infrastructure** – Investments representing ownership interest in partnerships, publicly traded securities, operating companies, or other investment vehicles that represent equity and/or debt in infrastructure and real asset sectors including, but not limited to, energy resources and utilities, transportation assets, water and waste, communications, social infrastructure, or other infrastructure and real asset related investments.

**Real Estate** – Investments representing ownership interest in partnerships, publicly-traded securities, operating companies, or other vehicles that represent equity and/or mortgages in real estate including, but not limited to, commercial, retail, hotel, industrial, residential, land, or other real estate related investments.

**Real Return/Opportunistic** – Investments representing ownership interest in either individual real return asset classes that provide an inflationary protection or portfolios that are managed strategically or tactically utilizing real return asset classes in isolation or in combination with traditional asset classes to achieve this goal. Real Return

investments may include investments across asset classes. Opportunistic strategies may include tactical or strategic investments across asset classes.

**Private Equity** – Investments representing ownership interest in partnerships and other vehicles including, but not limited to, venture capital, leveraged buyouts, mezzanine debt, and special situations. In addition, this asset class may include public stock as a result of distributions.

## **THE STRATEGIC ROLE OF EACH ASSET CLASS & SUBCLASS AS DEFINED:**

### **Domestic Equity (may include, but are not limited to the following)**

Diversified portfolio of company stocks incorporated inside of the U.S. denominated in U.S. currency.

**Index/Passive** – Attempts to replicate performance and characteristics of the applicable index and may be implemented through direct stock holdings, mutual funds, commingled funds or the use of swaps or other derivative instruments.

**Active Management** – Attempts to add value over the benchmark through stock selection, sector rotation, macro economic themes, etc., which may include swaps, options, or other derivatives.

**Long-Short (130/30)** – Diversified portfolio of stocks utilizing both long and short positions. The strategy has a limited amount allowable to sell short (usually 20% to 40%). The proceeds of the short sales are used to buy more long positions, so that net market exposure is equal to 100%, though the portfolio return is expected to exceed that of the S&P 500 Index.

### **International Equity**

Diversified portfolio of company stocks incorporated outside of the U.S. that may be denominated in non-U.S. currency. International equity is expected to provide diversification to the fund's U.S. equity investments.

**Index/Passive** – Attempts to replicate performance and characteristics of the applicable index and may be implemented through direct stock holdings, mutual funds, commingled funds or the use of swaps, options, or other derivative instruments.

**Active Management** – Attempts to add value over the benchmark through country allocation, stock selection, sector rotation, global macroeconomic themes, etc.

### **Private Equity**

Diversified portfolio of partnerships in venture capital, leveraged buyouts, mezzanine debt, and special situations. The portfolio will consist of domestic and international partnerships, as well as private and public securities which may be the result of



distributions. Private equity investments shall be well diversified by sub-asset class (e.g. venture capital vs. buyouts), investment style (e.g. early vs. late stage, mid market vs. large cap market), and vintage year.

### **Absolute Return**

Diversified portfolio of hedge funds consisting of multiple funds and strategies, managed to an overall risk level and including acceptable leverage levels. Absolute return portfolios seek to produce return patterns over time that have a low level of correlation with equities and other traditional asset classes. The investments will be made through industry standard partnerships (or other applicable legal entities).

### **Real Return/Opportunistic**

Real Return/Opportunistic can include such diverse individual strategies as commodities, timber, floating rate notes, or a portfolio including a variety of asset classes managed tactically or strategically to achieve a real return goal. They are included in the portfolio to provide an inflation hedge or opportunistic tactical or strategic asset class exposure. Examples of additional individual strategies include, but are not limited to, TIPS, floating rate debt, and commodity futures. The investments may be direct or made through partnerships, or other legal entities, as standard industry practice.

### **Real Estate**

Diversified portfolio of equity or debt investment in real estate including, but not limited to, commercial, retail, hotel, industrial, residential, or land. Real estate investments may include investments in public or private real estate operating companies and non-traditional property types or other real estate related investments. The real estate portfolio is expected to provide diversification from traditional capital market risk. The real estate portfolio shall be diversified by property type and geography, and may include the use of leverage. The investments are typically made through partnerships or other legal entities.

### **Infrastructure**

Diversified global portfolio of infrastructure investments that possess quasi-monopolistic qualities and provide attractive income attributes or capital appreciation. Infrastructure is included in the portfolio to enhance diversification. Infrastructure investments shall be well diversified by sub-asset class, investment style, geography, vintage year, investment manager, and fund. These investments will be made through partnerships or other legal entities as standard industry practice.

### **Fixed Income**

Diversified portfolios of fixed income securities designed to primarily protect principal and generate cash flow. Internally managed portfolios shall consist of bonds that are either investment grade or meet the requirements of Section 17 of P.A. 314.

Externally managed bond portfolios seek to outperform the bond indices through traditional fixed income management tools such as yield curve management, non-core sector exposure, duration management, and other techniques. The overall total portfolio quality of these portfolios should be maintained above investment grade.

### **Cash/Short-Term Fixed Income**

Portfolio of short-term fixed income securities with an average maturity of less than one year. Its purpose is to provide liquidity and safety of principal from capital market and default risk.

## **V. Performance Objectives**

The investment performance of the fund will be measured against objectives for the total MJRS and against objectives for individual portfolio components (asset classes and individual managers). Investment performance shall be measured no less than quarterly. Because capital markets fluctuate, and given the length of the duration of the liability stream, the performance relative to objectives is to be judged over a period of a market cycle as well as standard annualized periods of one, three, five, seven, and ten years. Greater emphasis is placed on intermediate and long-term results.

### **A. Performance Objectives for the MJRS:**

1. Achieve the actuarial rate of return within prudent levels of risk, while maintaining sufficient liquidity to pay benefits.
2. Diversify assets.
3. Meet or exceed actuarial assumption over the long term.
4. Perform in the top half of the public plan universe over the long term.
5. Exceed individual asset class benchmarks over the long term.
6. Exceed the median peer within the appropriate manager or asset class universe ranking over the long term.

### **B. Performance Objectives for Individual Components**

It should be noted that peer universes may only be available for these comparisons on a gross-of-fees basis. This should be considered when evaluating the MJRS's return streams which are stated net of fees. In addition, benchmark and peer data may change from time to time as the market/industry evolves.

1. Domestic Equities                      Exceed the total return of the S&P 1500 Super composite net of fees for one, three, five, seven, and ten-year periods and a market cycle.

	Rank above median in a public plan universe of domestic equity investments.
Index/Passive	Return within 20 basis points of the S&P 500 Index, 50 basis points for the S&P 400 mid-cap, and 60 basis points for the S&P 600 small-cap over one, three, five, seven, and ten-year periods and a market cycle.
Active Management	Exceed the most relevant S&P Index (or the most relevant Russell Index), adjusting for market capitalization and style, net of fees for one, three, five, seven, and ten-year periods and a market cycle.  Rank above median in a universe of managers possessing a similar market cap and style characteristics.
2. International Equities	Exceed the total return of the MSCI All Country World Index ex-U.S. (or the most relevant S&P Index) net of fees for one, three, five, seven, and ten-year periods and a market cycle.  Rank above median in a public plan universe of non-U.S. equity investments.
Index/Passive	Return within 250 basis points of the most relevant non-U.S. index net of fees for one, three, and five-year periods and a market cycle. Return within 250 basis points of the MSCI Emerging Markets Index, for one, three, five, seven, and ten-year periods and a market cycle.
Active Management	Exceed the most relevant MSCI Index (or the most relevant S&P Index) net of fees, adjusting for market capitalization, style and geography for one, three, five, seven, and ten-year periods and a market cycle.  Rank above median in a universe of managers possessing a similar market capitalization, style, and geography characteristics.
3. Private Equity	Exceed the S&P 500 Index by 300 basis points net of fees lagged by three months over one, three, five, seven, and ten-year periods and a market cycle.

- Rank above median in a public plan universe of private equity investments.
4. Absolute Return
- Exceed T-bills by 400 basis points net of fees over one, three, five, seven, and ten-year periods and a market cycle.
- Exceed the appropriate HFN Fund of Funds median net of fees over one, three, five, seven, and ten-year periods and a market cycle.
- If available, rank above median in a public plan universe of hedge fund investments.
5. Real Return/  
Opportunistic
- Blended Benchmark - Exceed the increase in the U.S. CPI by 500 basis points annually net of fees over one, three, five, seven, and ten-year periods and a market cycle (50%) and exceed the actuarial rate of return (50%).
- TIPS and Commodities performance will be broken out separately:
- TIPS – Exceed the Barclays U.S. TIPS Index over one, three, and five-year periods and a market cycle.
- Commodities – Exceed the Dow Jones-AIG Total Return Commodities Index over one, three, five, seven, and ten-year periods and a market cycle.
- If available, rank above median in a nationally recognized universe of managers possessing a similar style.
6. Real Estate
- Exceed the NPI over the one, three, five, seven, and ten-year periods and a market cycle, less 130 basis points. Meet or exceed the NCREIF-ODCE over one, three, five, seven, and ten-year periods and a market cycle.
- Rank above median in a public plan universe of private equity investments.
7. Infrastructure
- Exceed the average annual increase in the U.S. CPI, lagged one quarter, by 400 basis points, net of fees, over the three five, seven, and ten-year periods and a market cycle.

If available, rank above median in a nationally recognized universe of managers possessing a similar style.

8. Fixed Income

Exceed the most relevant Barclay's Index adjusting for credit risk and duration, net of fees for one, three, five, seven, and ten-year periods and a market cycle.

Rank above median in a nationally recognized universe of managers possessing a similar style.

## **VI. General Investment Manager Guidelines and Requirements**

- A. Purchases and sales, security selection, and portfolio implementation of investment strategies are delegated to the discretion of the investment manager, subject to compliance with MJRS's investment policies, individual contracts, P.A. 314, and P.A. 234. If a commingled vehicle or mutual fund is utilized, the investment policies of that fund shall be considered the operative policy document.
- B. The following transactions are prohibited: Purchase of any securities or execution of any other transactions prohibited by P.A. 314 and P.A. 234.
- C. Transactions that involve a broker acting as a "principal" where such broker is also the investment manager who is making the transaction are prohibited. Brokers acting as investment managers are limited to "agency" transactions.
- D. Transactions shall be executed at a reasonable cost, taking into consideration prevailing market conditions and services and research provided by the executing broker.
- E. Investment managers shall vote proxies in accordance with the Proxy Voting Policy of the State of Michigan. The BOI agrees to promptly provide investment managers with any additions or modifications to the Proxy Voting Policy.
- F. All investment managers shall make the following disclosures:
  - 1. Periodically: Disclose any client relationship, including management of 401(k) plans, where the money management firm could invest state or pension moneys in the securities of the client.
  - 2. Periodically: Disclose, as requested, the manner in which portfolio managers and research analysts are compensated including any compensation resulting from the solicitation or acquisition of new clients or the retention of existing clients.
  - 3. Annually: Provide the SMRS with a copy of a safeguards plan and certify annually that the safeguards plan is being fully enforced. The safeguards plan

applies to Investment Managers affiliated with banks, investment banks, insurance companies, or other financial services corporations. The safeguards plan ensures that client relationships of any affiliate company do not influence investment decisions of the money management firm.

4. Quarterly: Report the amount of commissions paid to broker-dealers, and the percentage of commissions paid to broker-dealers.
- E. All internal managers shall adhere to the Bureau of Investments' *Standards of Professional Conduct*. As part of the *Standards of Professional Conduct*, the BOI has a personal trading policy in place that requires that all BOI employees (including the State Treasurer) obtain pre-approval for certain personal investments transactions and abide by specified ethical standards.
- F. All investment managers will be expected to provide MJRS, the custodian, and their investment consultant, on a timely basis each quarter, such data as is required for proper monitoring.
- G. No more than 5% of the MJRS's portfolio at its initial cost or initial market value may be invested in the securities of a single issuer, excluding securities issued by the U.S. government or its agencies.
- H. Except as permitted by Section 17 of P.A. Act 314, no fixed income security shall have an equivalent credit quality below investment grade at the time of purchase defined as:  
  
BBB- by S&P for straight bonds and convertibles.  
  
Baa (3) by Moody's Investor Service for straight bonds and convertibles.  
  
For short-term securities, credit rating must be within the two highest ratings established by at least two national rating services.
- I. The use of index futures is permitted to achieve (but not limited to) the following:
  1. To reduce the opportunity cost caused by "cash drag" in a rising market.
  2. To decrease the transaction costs of trading without increasing the risk (volatility) of that component of MJRS.
  3. To increase the manager's flexibility in meeting the performance objectives set forth for them within defined investment style and strategy constraints.
- J. Futures must be used in accordance with P.A. 314.
- K. The Real Estate portfolio may be invested in (through various legal structures) properties located outside of the United States.
- L. Performance objectives are to be met on a net-of-fees basis.

- M. All guidelines must be adhered to by internal and external money managers. However, if from time to time an exception to the guidelines shall be deemed appropriate by a manager, it may seek review and approval by the State Treasurer, as sole fiduciary, to make such an exception, as facts and circumstances may dictate.
- N. Investment managers must comply with state laws prohibiting the State of Michigan from investing public monies in companies engaged in active business operations in countries designated as a state sponsor of terror by the United States Secretary of State. The BOI will provide investment managers with a list of prohibited companies each quarter. Investment managers must refrain from acquiring additional securities in those companies until receiving further direction from the BOI.
- O. Investment managers must comply with all applicable state and federal laws and SEC rules and regulations, including but not limited to, Pay to Play prohibitions adopted by the SEC under the Investment Advisors Act of 1940.

## **VII. Insider Trading Policy**

All internal portfolios will be managed in compliance with the Insider Trading Policy. Buying or selling securities while aware of material non-public (inside) information concerning the issuer of the securities, or improperly disclosing to others such inside information, may constitute fraud under federal and state securities laws and a violation of other legal and regulatory requirements. Inside information also includes information that a BOI staff member may have concerning State of Michigan Retirement Systems (SMRS) securities positions or trading.

## **VIII. Ethics**

The BOI is subject to Public Act 196 of 1973 (P.A. 196) and Michigan Civil Service Rule 2-8 with respect to any gifts to Michigan state public officers or employees and ethical standards of conduct. Investment managers shall use best efforts to ensure that its activities do not result in a Michigan state public officer or employee violating the requirements of P.A. 196 and Michigan Civil Service Rule 2-8 with respect to any gifts or ethical standards of conduct.

## **IX. Proxy Voting Policy**

The BOI acts as the arm of the State Treasurer in directing investments on behalf of the retirement systems for the state employees, state police, judges, and public school employees. The BOI has adopted a Proxy Voting Policy for the four systems. The Proxy Voting Policy is reviewed annually to reflect changes in state and federal laws and emerging trends and issues in corporate governance.

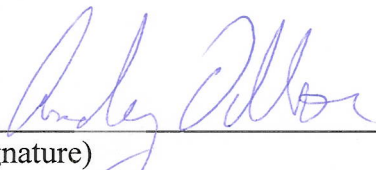
**X. Divestment**

The State Treasurer, as sole fiduciary for the MJRS, must adhere to divestment mandates contained in P.A. 314 and P.A. 234. Together, the statutes prohibit investing public monies in companies doing business in countries designated as a state sponsor of terror by the United States Secretary of State. In compliance with the statutes, the BOI, through its service provider, conducts a quarterly review of its holdings to ensure that it is not investing in companies with active business operations in a state sponsor of terror. The State Treasurer initiates engagement with companies that have business operations in state sponsors of terror with the goal of discouraging corporations from doing business in companies with ties to state sponsors of terror. The State Treasurer may retain a consultant to assist in its divestment compliance.

**XI. Review and Modification of Investment Policy Statement**

The State Treasurer, as sole fiduciary, will review the Policy approximately every two years to determine if modifications are necessary or desirable. The most current Investment Policy Statement shall be made available to the public on the BOI Web site.

Approved:

By:   
(Signature)

4/11/12  
(Date)

Andy Dillon  
State Treasurer



**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**CAPITAL MARKETS OVERVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**JUNE 14, 2012**



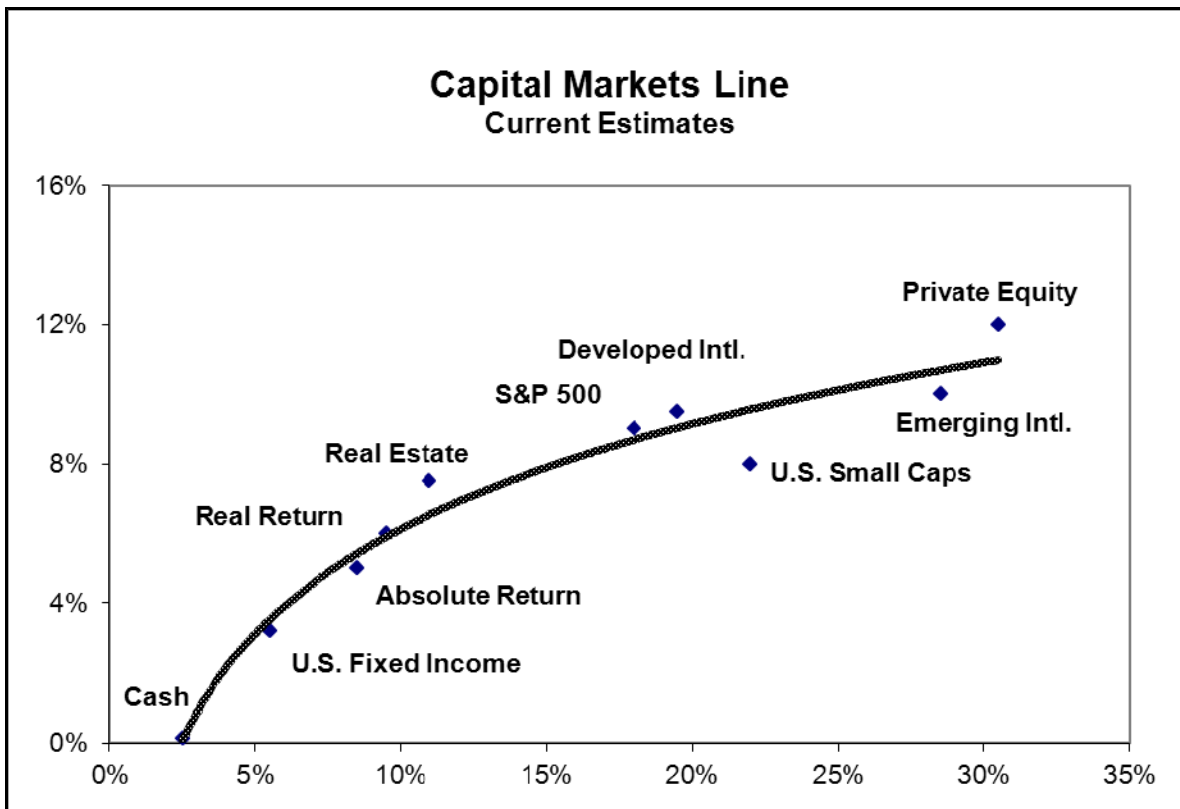
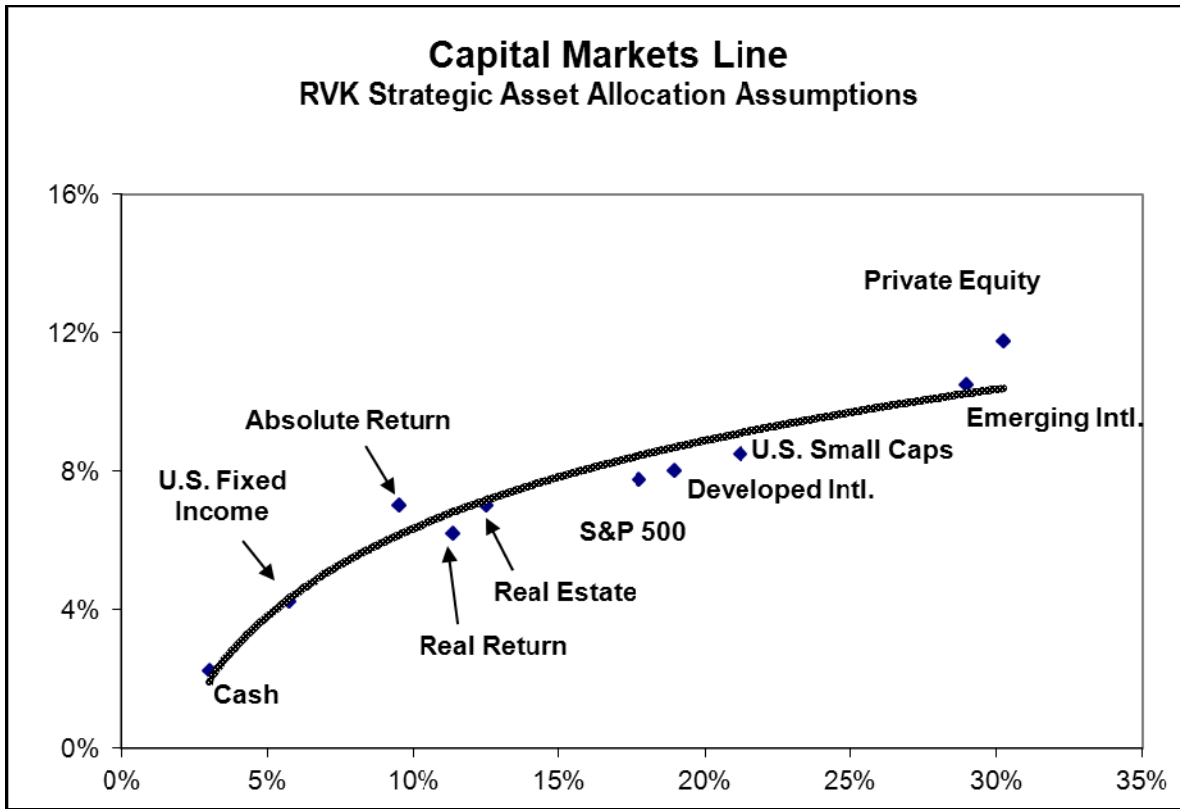
**Gregory J. Parker, CFA  
Director of Investments – Public Markets  
Director of Asset Allocation  
Bureau of Investments**



## **CAPITAL MARKETS OVERVIEW**

- Most asset classes are priced to return “Normal” long-term rates of returns.
- Responses to the European Sovereign Debt Crisis appear effective and credible.
  - Globally Coordinated Central Bank liquidity injection reducing currency swap rates by 50 basis points (bp).
  - Three-year Long-Term Refinancing Operations (LTROs) loaning ~ 1 trillion Euros to European banks at a rate of 1%.
  - Collateral rules have been relaxed making an additional 6 trillion Euros eligible to be used as collateral.
- Economic Indicators are mixed.
  - U.S. unemployment rate down to 8.2%.
  - Leading Economic Indicators show mixed results.
  - Consumer confidence is no longer improving.
- Equity Market Concerns:
  - Pace of 2012 ascent seems unsustainable.
  - Margins are weakening.
  - Earnings growth is poor.
- 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 has not bottomed.
- U.S. GDP growth still very weak at 2.2%.
- Other Concerns:
  - Iran/Israel tension.
  - U.S. fiscal cliff.
  - Euro-zone potential break-up.

# Capital Markets Line



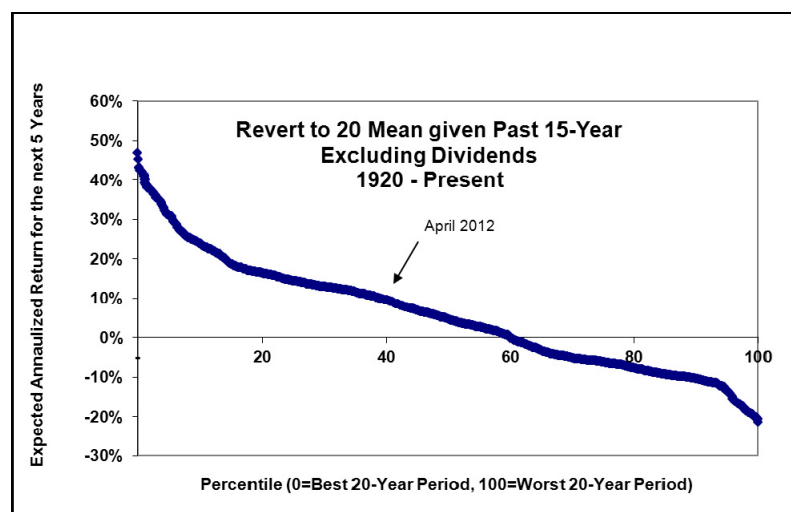
# Domestic Equities

## S&P 500 – 12/31/08 – 4/30/12



- At the beginning of 2012, the S&P 500 price broke out above the 200-day moving average.
- The market tested its 52-week highs.
- The technical backdrop is noticeably weak.

## Returns Based Outlook



- Since 1920, the median 20-year price return for the S&P 500 is 176.1% or 5.2% annualized.
- The S&P 500 has increased by 83.0% 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 8.6% 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%	High
Base	2.1%	5.8%	Mid
Bear	-8.5%	-5.7%	Low
Super Bear	-14.6%	-13.7%	

## Assumptions

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

Based on Robert Shiller data

# International Equities

## Developed Markets

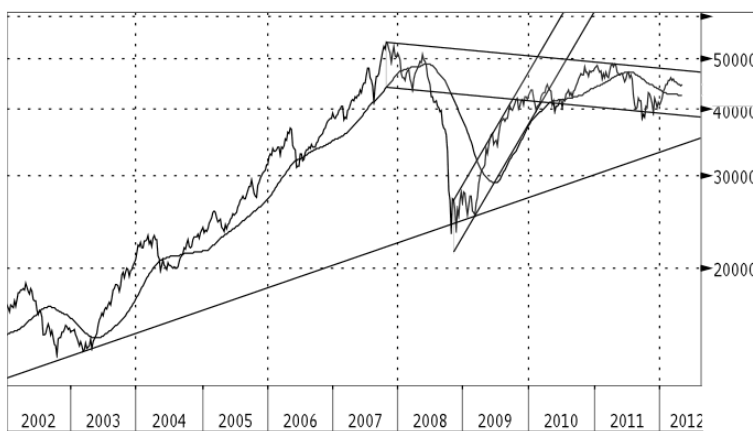
### MSCI EAFE – 1/4/02 – 4/30/12



- 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 is very poor.

## Emerging Markets

### MSCI Emerging Markets – 1/4/02 – 4/30/12



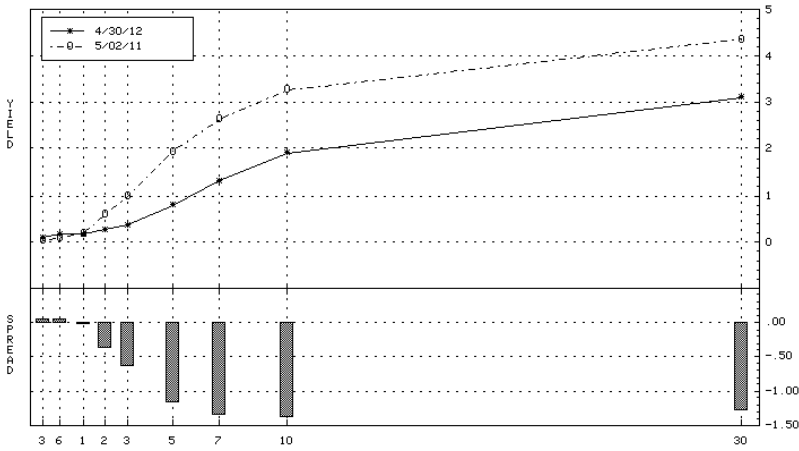
- The “V-shaped” recovery in emerging markets began in 2008. However, the rate of appreciation has slowed since late 2009.
- Emerging markets are now above the October 2010 levels.
- Since 2010, it has appeared that further weakness is likely until a new trend can be established.

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

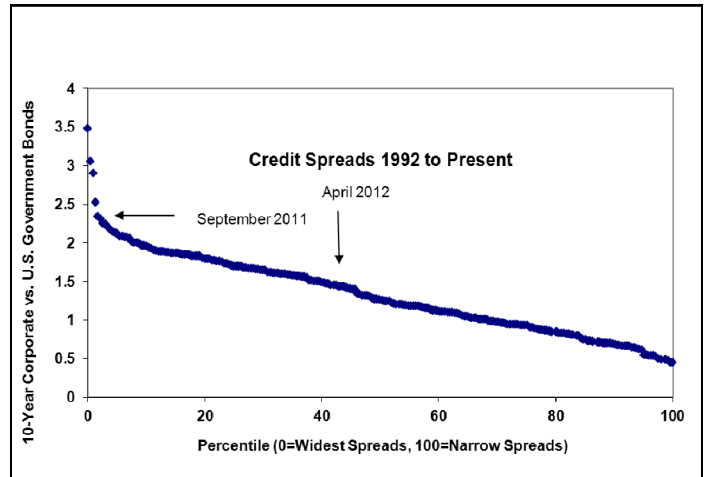
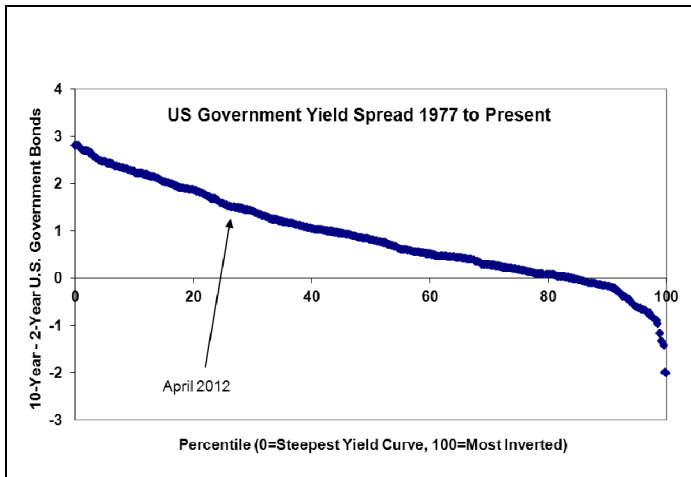
	<u>Developed</u>	<u>Emerging</u>
April 30, 2012	6	5
December 31, 2011	5	2
December 31, 2010	5	2

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

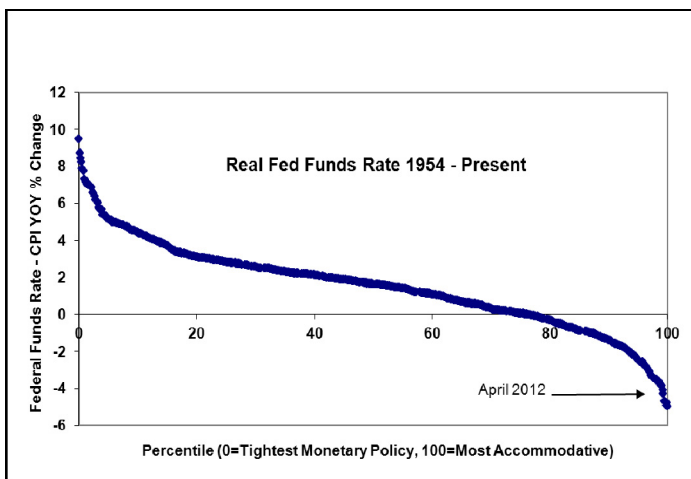


- Over the past year, rates have decreased, especially at the long end of the curve.
- Rates at the short end are still very low.



- The yield curve has steepened.
- 88 bp of flattening to get to average.

- Credit spreads inclined modestly.
- Credit spreads are now average.



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

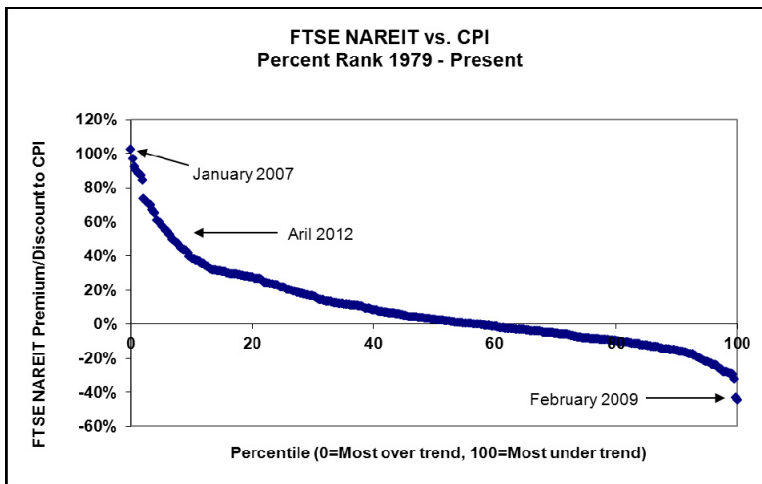
# U. S. Real Estate

## FTSE NAREIT Index – 1/31/06 – 4/30/12

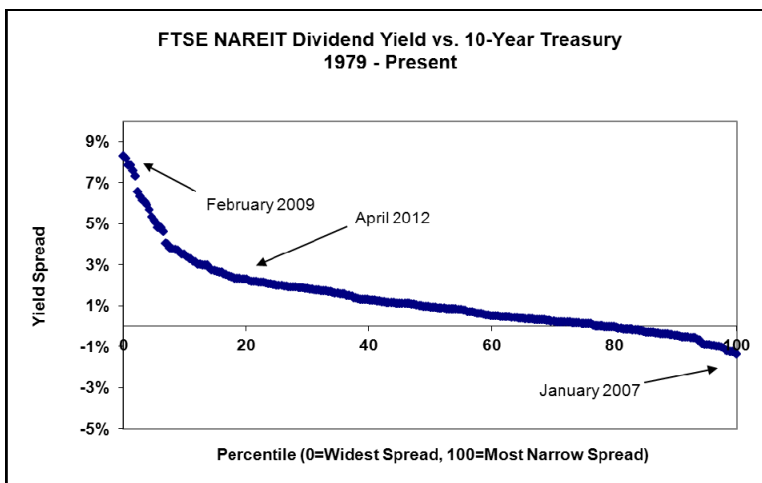


- Commercial real estate represented by the FTSE NAREIT Index has rebounded strongly since the first quarter of 2009 and has been trending up.
- The trend rate of acceleration appears to have topped.
- The index price is above its 200-day moving average.

## Return Outlook



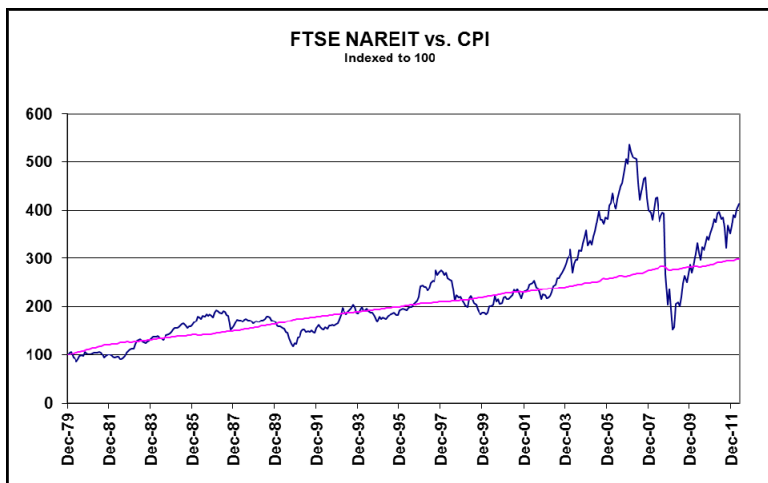
- REITs have priced lower ~ 90% of the time.
- REITs are very expensive when compared to the CPI.



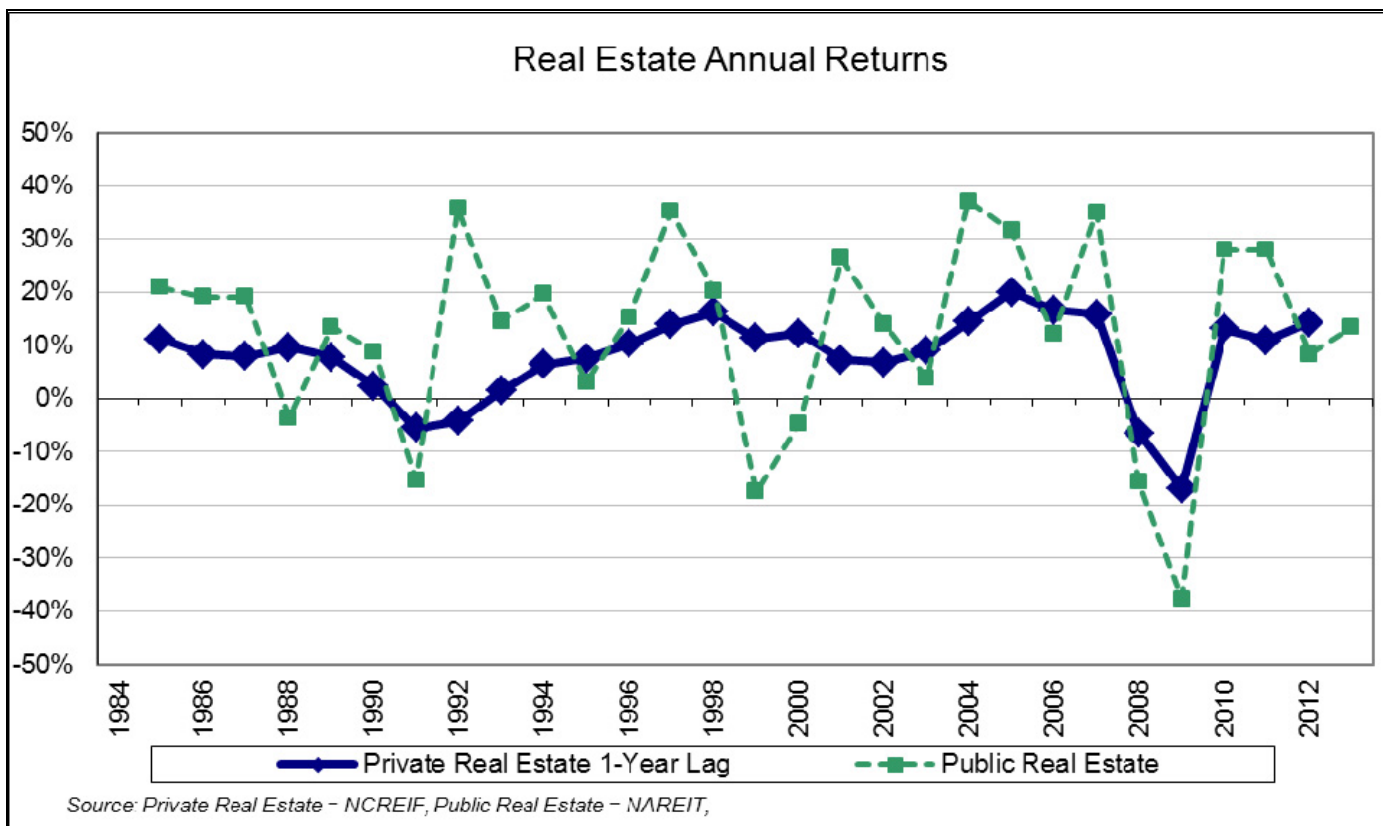
- The Index normally yields 0.90% more than 10-Year Treasuries.
- Current dividend yield is at 4.1%.
- When compared against the 10-Year Treasury, REITs are reasonably priced.



## U.S. Real Estate - Continued



- REITs prices have trended around CPI.



- 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



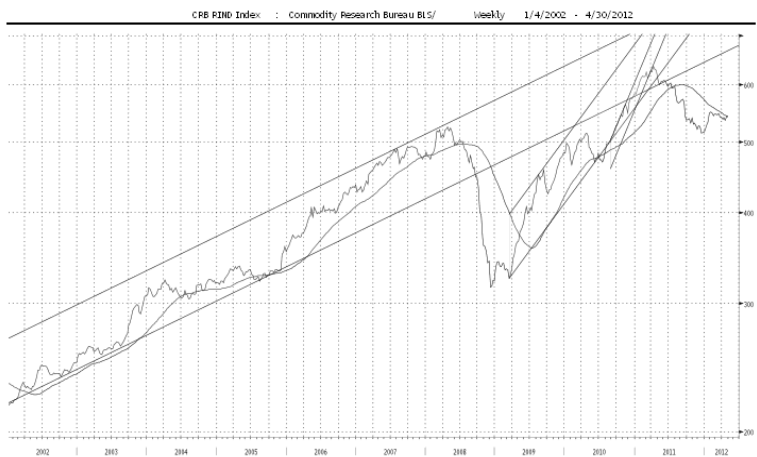
- Commodity prices, as measured by the ThompsonReuters / Jeffries CRB Index, appear to have rolled over and have broke through trend to the down side.
- Inflation does not appear to be a 2012 concern.

## CRB Food Index



- CRB Food index remains elevated.
- Index price break-out in late 2010.
- Price increase trend has moderated.

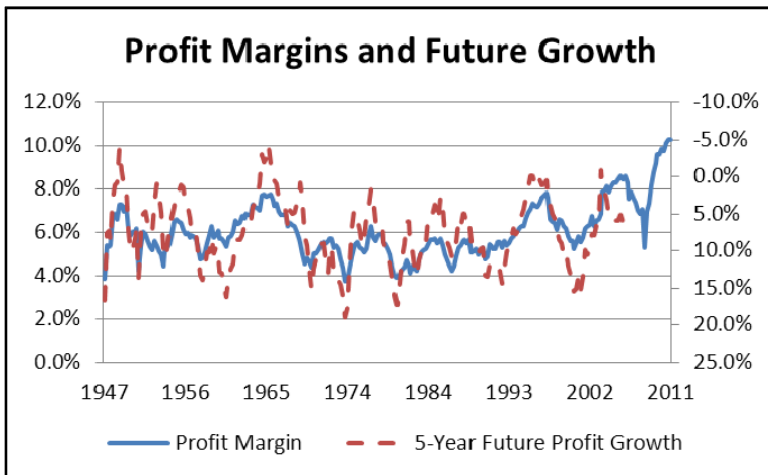
## CRB Raw Industrials Index



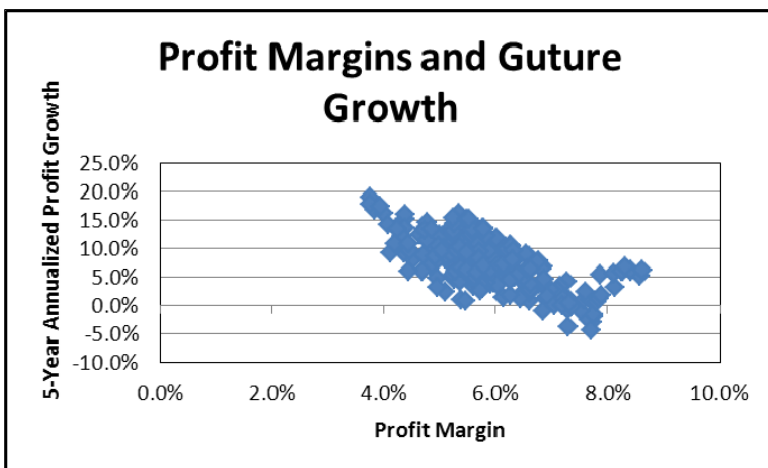
- CRB Raw Industrials index trend has rolled over.
- Price trend is falling.

# Looking Ahead to 2012

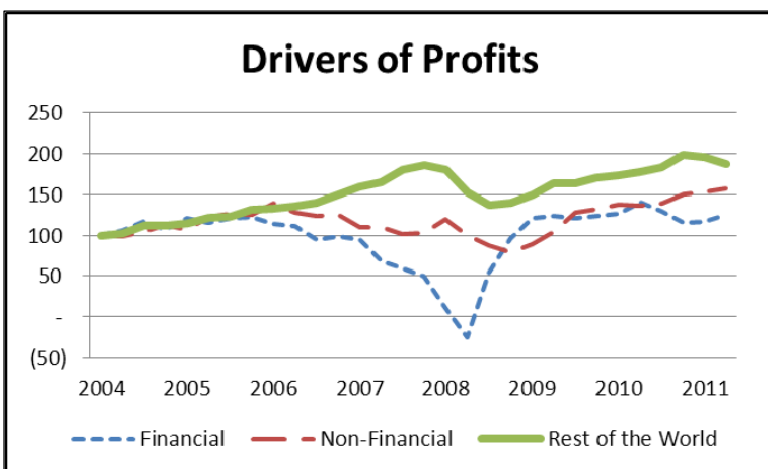
## Topic of Interest: Corporate Profits



- Profit margins and future growth have been inversely related.
- Current profit margins are at 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 trend. Question is why?



- 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.
- Will the growth in the rest of the world profits continue to grow at the same pace?

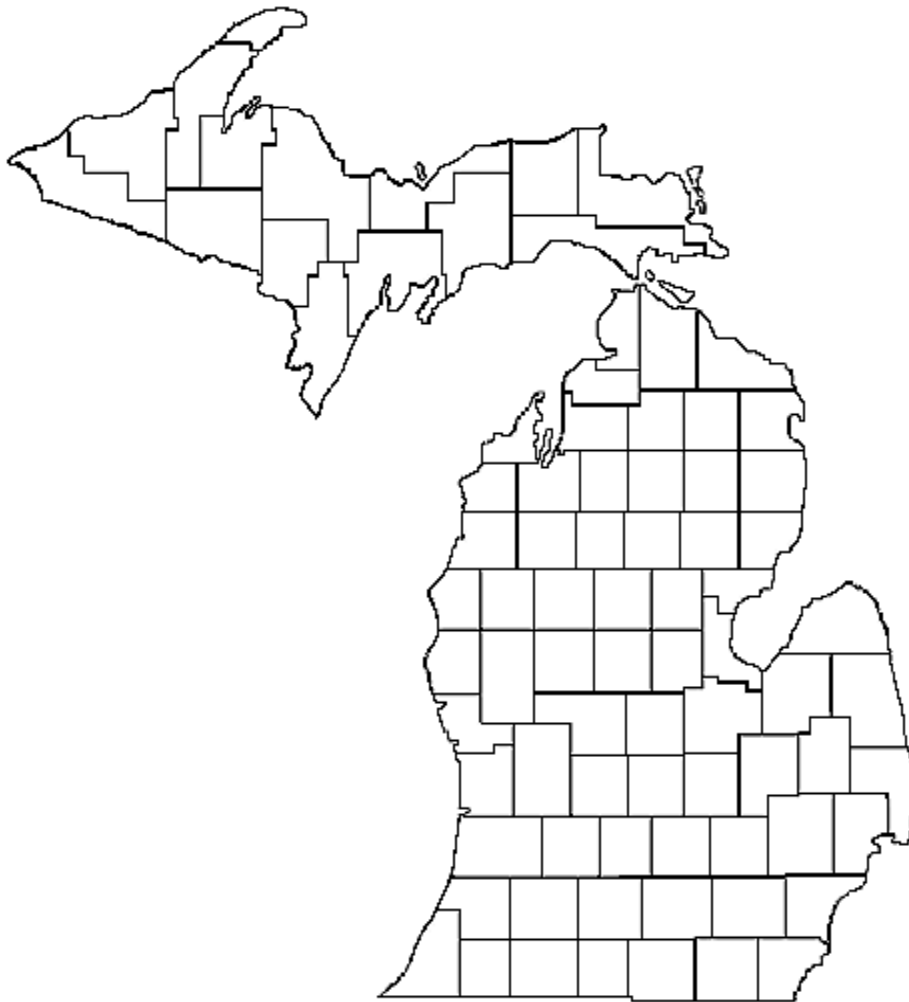


**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**ECONOMIC AND MARKET REVIEW  
AND OUTLOOK**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**JUNE 14, 2012**



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

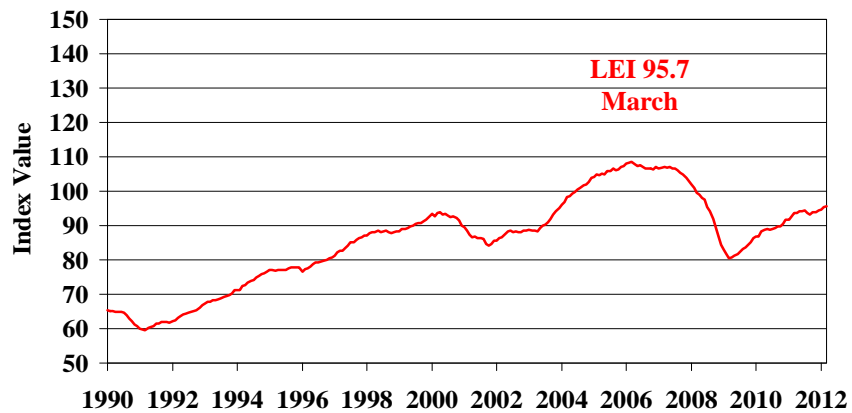


# Economic Outlook Summary

- In spite of only modest economic growth, the jobs market is showing improvements.
- 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 rise.

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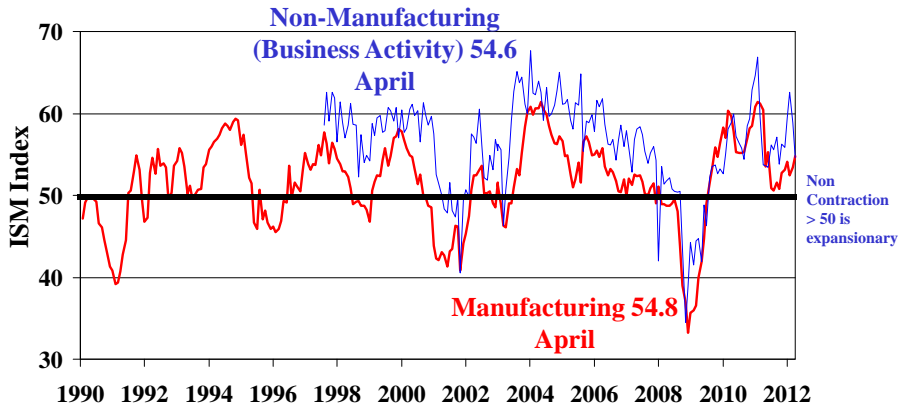
# U.S. Leading Economic Indicators Continued Growth At A Slower Rate



Source: Bloomberg

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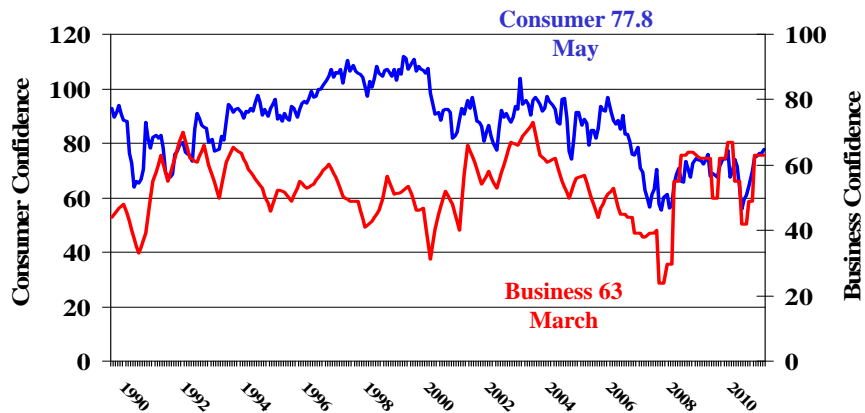
## Manufacturing/Non-Manufacturing Still In Expansion Mode



Source: Institute for Supply Management

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## CEO & Consumer Confidence Optimistic



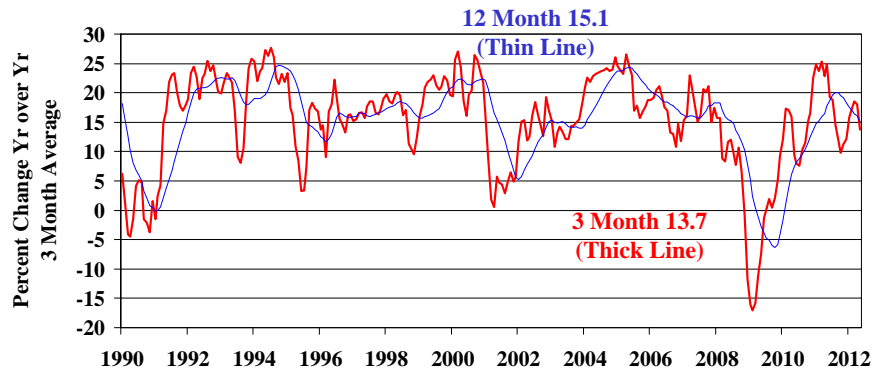
Sources: University of Michigan, Survey Research Center and The Conference Board

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# Capital Spending Expectations Down

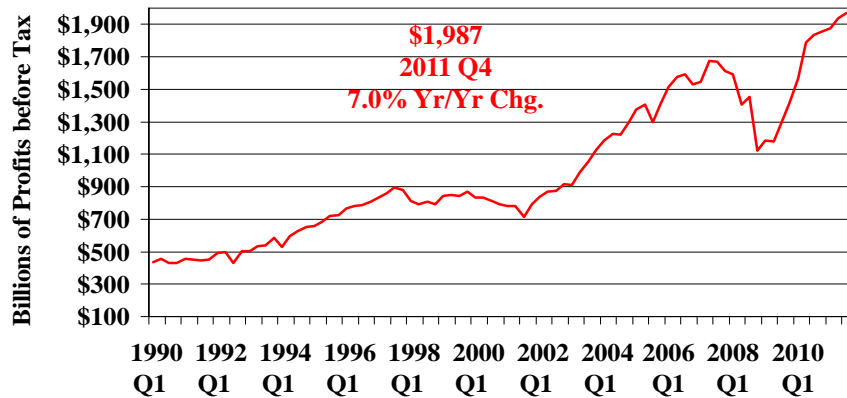
Philadelphia Federal Reserve Bank Capital Spending Expectations Index



Source: Philadelphia Federal Reserve Bank

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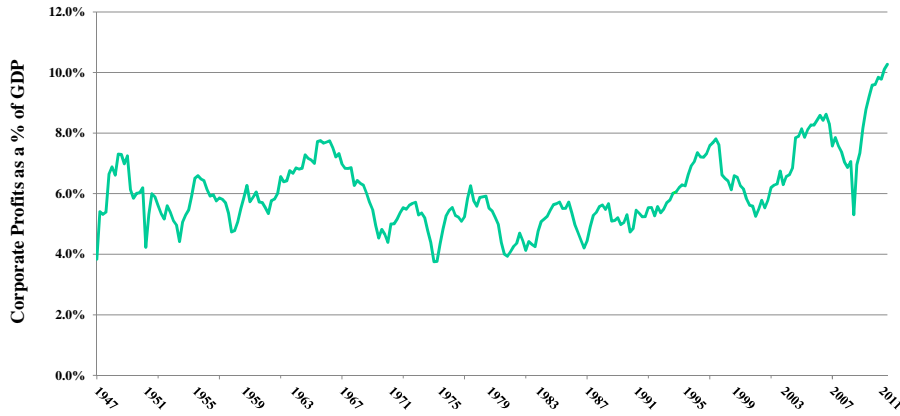
# Corporate Profits Improving



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

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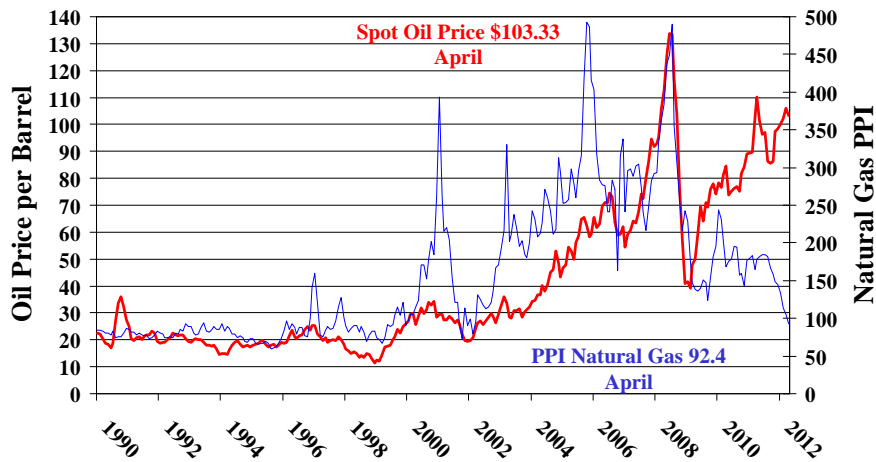
# U.S. Corporate Profits as a Percent of GDP



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

IAC 6-14-12

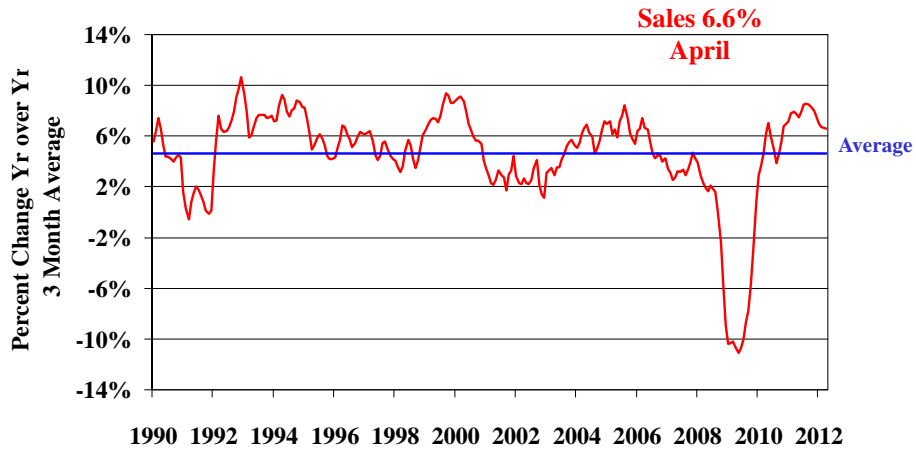
# Natural Gas Decreasing Oil Prices Increasing



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

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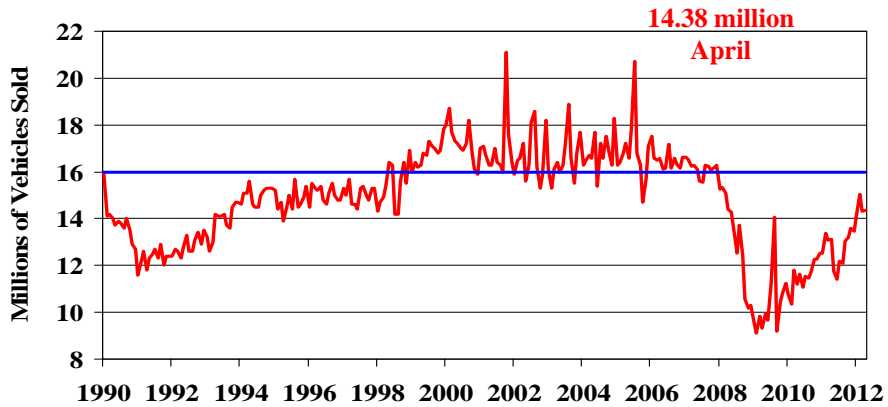
## Retail Sales Remain Weak



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

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## U.S. Light Vehicle Sales Improving



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

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# Capital Spending Decreasing

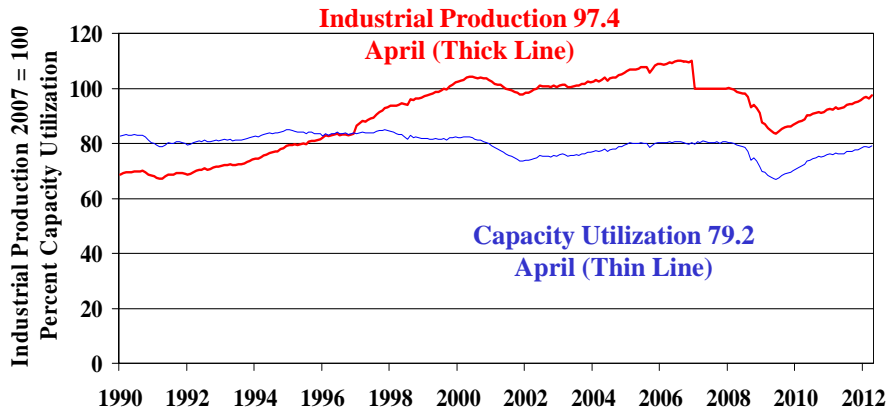
New Orders for Durable Goods (Excluding Aircraft and Defense)



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

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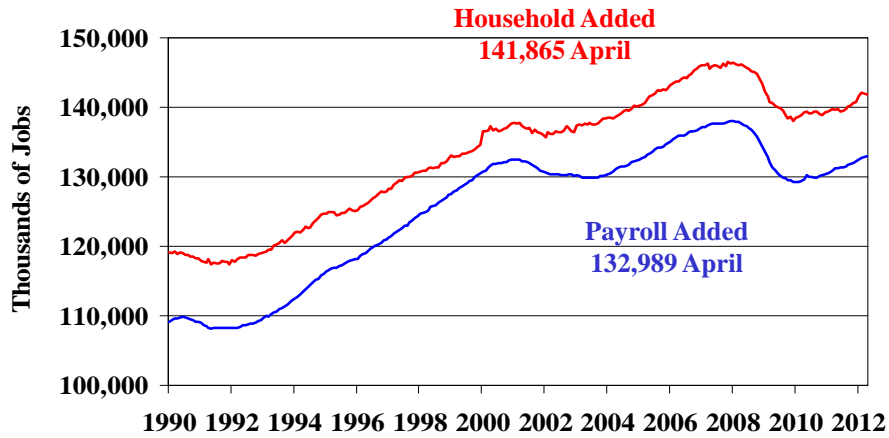
# Industrial Production and Capacity Utilization Increasing Slightly



Source: U.S. Federal Reserve Bank

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## Job Market Growth



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

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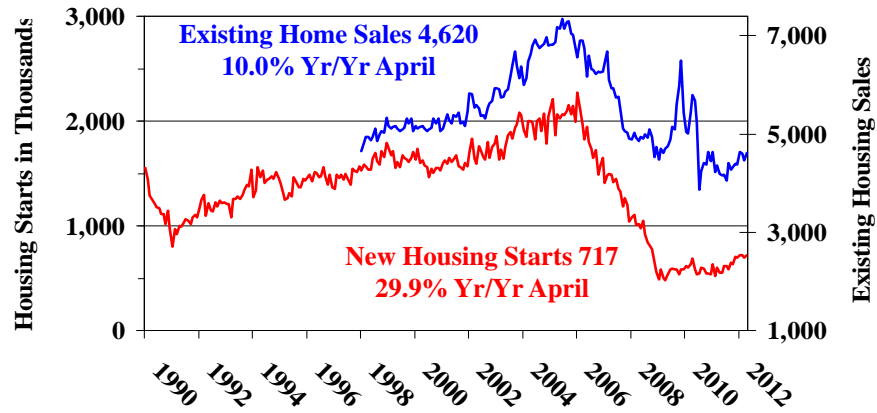
## Initial Unemployment Claims Still Trending Down



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

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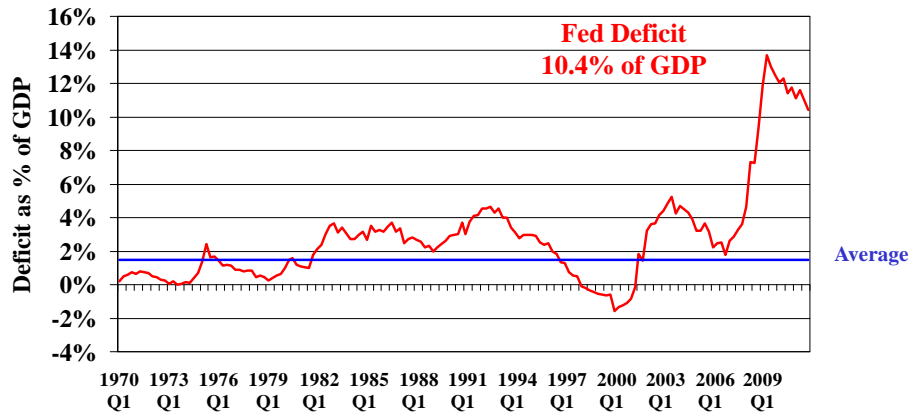
## Existing Home Sales and Housing Starts Remain Weak



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

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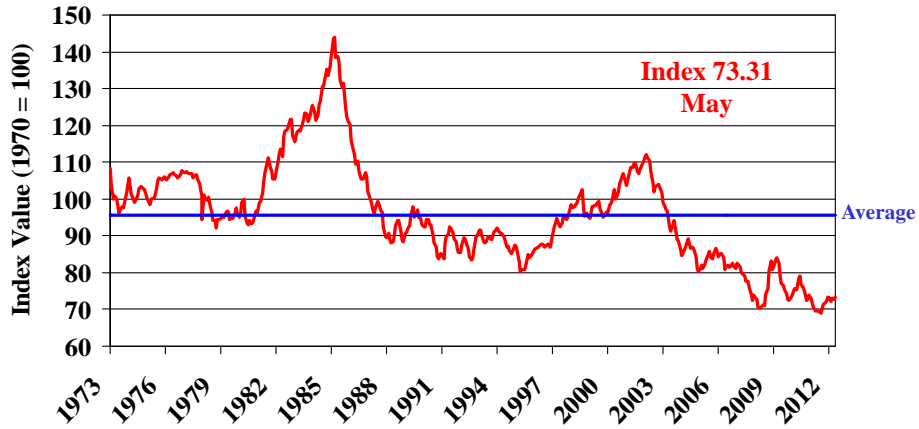
## U.S. Federal Deficit Remains High



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

IAC 6-14-12

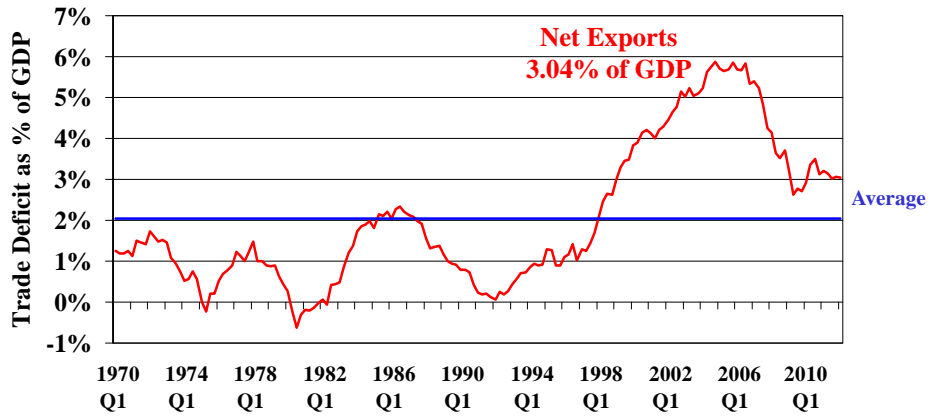
## Trade Weighted U.S. Dollar Strengthening



Source: Federal Reserve Board

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## U.S. Foreign Trade Deficit Decreasing

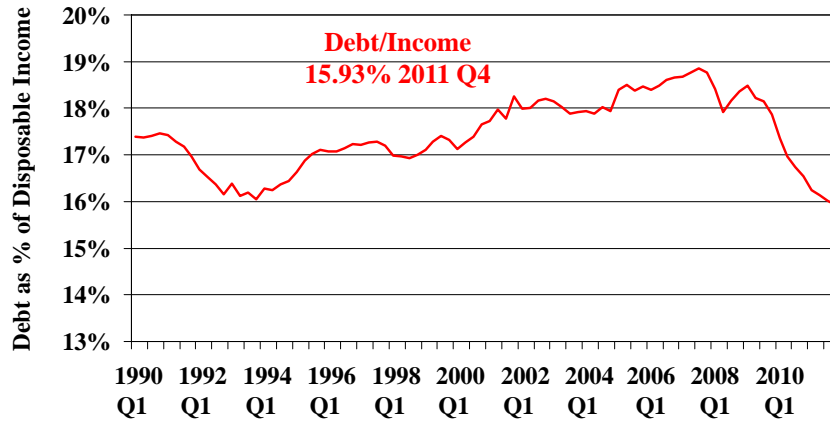


Source: U.S. Department of Commerce, Bureau of Economic Analysis

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# Consumers Remain Focused On Paying Off Debt

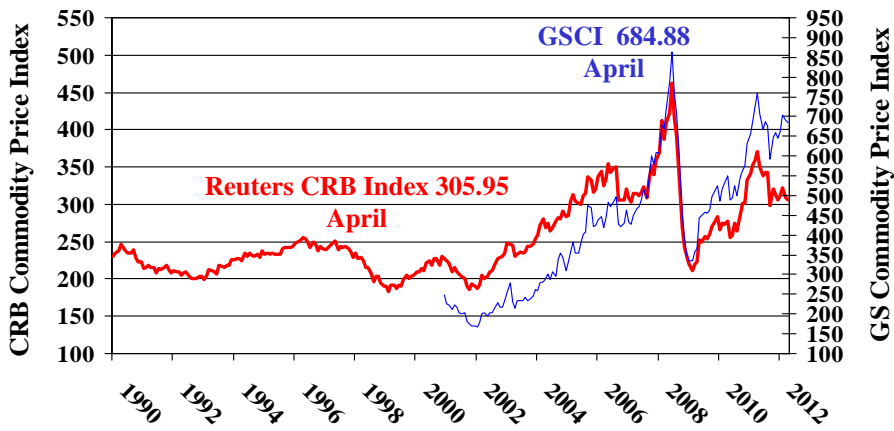
Financial Obligations as Percent of Disposable Income



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

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# Commodity & Energy Index Prices Decreasing

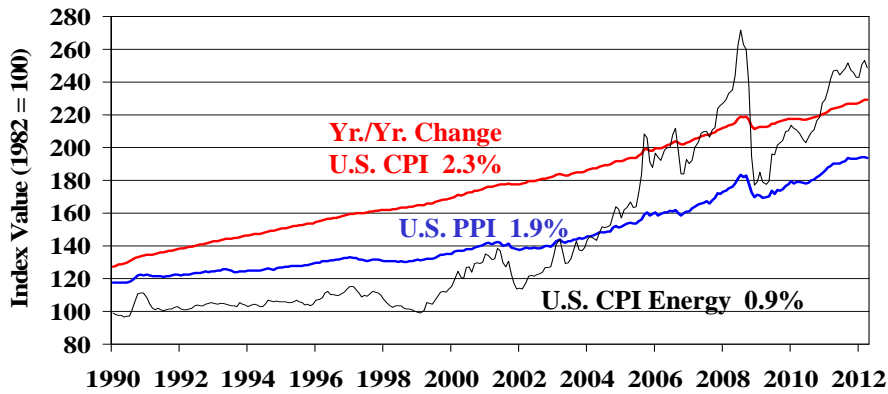


Sources: Reuters, Goldman Sachs, Bloomberg

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## Consumer and Producer Prices Weakening

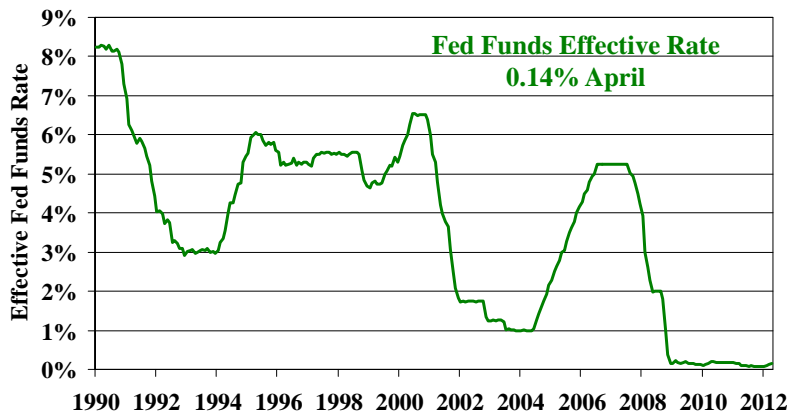


Note: Rates are year over year for latest month, seasonally adjusted.

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

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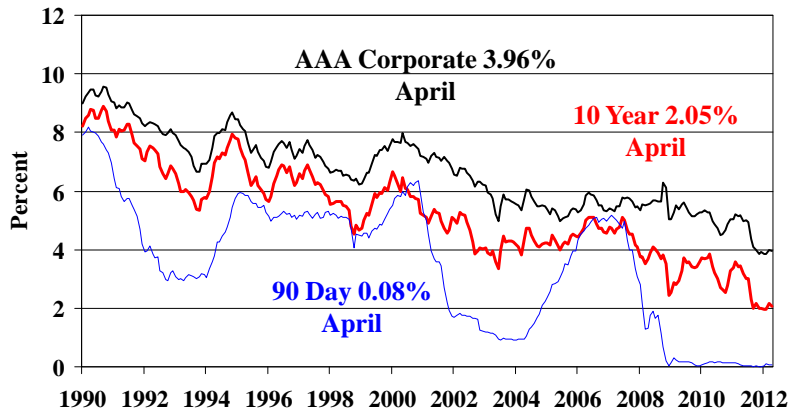
## Federal Open Market Committee Fed Funds Rate Slowly Increases



Source: Federal Reserve Board

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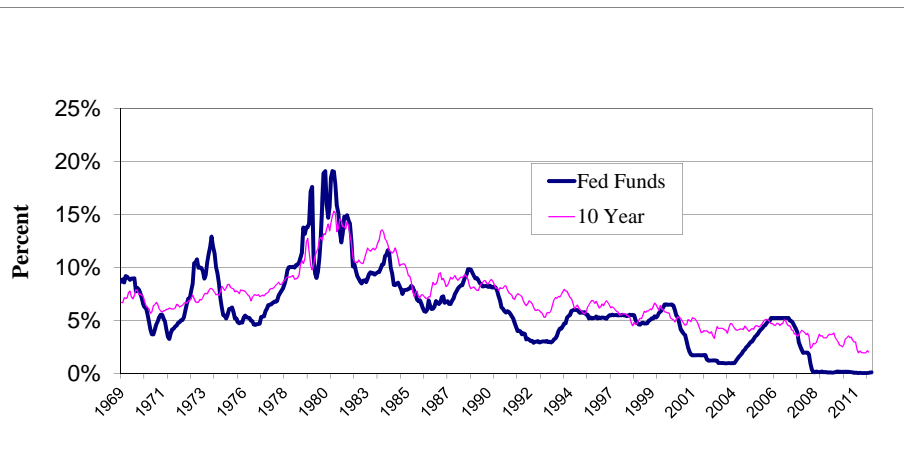
## Interest Rates Remain Low



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	2.2%	2.5%
Blue Chip	2.3%	2.5%
Global Insight	2.2%	2.4%

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## Likelihood of 2012 Economic Outlook

### **2012-2013 Forecasts**

<b><u>Scenario</u></b>	<b><u>May</u></b>	<b><u>Aug</u></b>	<b><u>Nov</u></b>	<b><u>Feb</u></b>	<b><u>May</u></b>
Stronger Growth	15%	15%	15%	25%	25%
Moderate Growth	75%	75%	75%	70%	70%
Slowdown	10%	10%	10%	5%	5%

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## Upside Risks To the Forecast

- Continued job growth.
- U.S. economy takes advantage of the glut in natural gas.
- Stronger consumer spending.
- Stronger export growth.

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## Downside Risks To the Forecast

- A credit market event.
- Shock to economy from geopolitical events.
  - Spread of social unrest.
- Sovereign credit default concerns.
  - Greece exit from Eurozone.

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# Economic and Market Outlook

May 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%	2.2%	2.4%
Retail Sales	6.5%	5.0%	4.0%
Auto Sales (millions)	12.7	14.3	14.9
Housing Starts (millions)	610 4.3%	742 21.6%	1,008 35.8%
Corporate Profits	5.1%	13.2%	7.1%
Durable Goods	8.2%	8.6%	3.9%
Unemployment Rate	9.0%	8.1%	7.8%
<b><u>Prices</u></b>			
CPI	3.1%	2.2%	1.7%
PPI	6.0%	1.7%	1.3%
Oil (Refiner Acq. Cost, Composite, \$/bbl)	\$101.80 32.7%	\$111.91 9.9%	\$112.87 0.9%
Employment Cost Index	2.2%	2.0%	2.2%
Value of U.S. Dollar (FRB)	-4.6%	0.8%	-2.1%
<b><u>Interest Rates</u></b>			
Federal Funds Rate	0.10%	0.10%	0.10%
3-Month T-Bills	0.05%	0.09%	0.09%
10 Year T-Bonds	2.79%	2.10%	2.61%
<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)	\$96.67	\$105.00	\$119.00
Change	26.5%	8.6%	13.3%
Multiple on Fair Value	13.7 X	13.8 X	13.0 X
Dividend (Year End)	\$26.43	\$28.00	\$30.00
Change	8.7%	5.9%	7.1%
As a % of Earnings	27.3%	26.7%	25.2%
Yield	1.99%	1.93%	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

May 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>(PIIGS) - 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**

**REAL ESTATE AND  
INFRASTRUCTURE REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**JUNE 14, 2012**



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





## REAL ESTATE EXECUTIVE SUMMARY

- Total real estate market value ended the first quarter at \$4.9 billion with a total return of 2.34%; its eighth straight positive quarterly return. This return is in spite of an economy that continues to experience a slow recovery.
- Valuations were mixed this quarter for the various property types and regions. U.S. values, especially apartments, increased while international properties decreased in value. Operating revenue increases remain strong for apartments, hospitality, and medical office properties.
- The REID leverage ratio stands at 52%. REID's goal is to continue to deleverage the portfolio.
- Unfunded capital commitments for real estate totaled \$396 million. The REID is also executing sales of non-strategic office buildings and apartment projects in secondary markets with limited upside potential at attractive prices.
- In the commercial mortgage-backed securities (CMBS) market, spreads for AAA rated classes tightened as the market moderates. CMBS delinquencies stood at 8.4% 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, but slowly increasing as managers cautiously proceed to acquire assets. 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

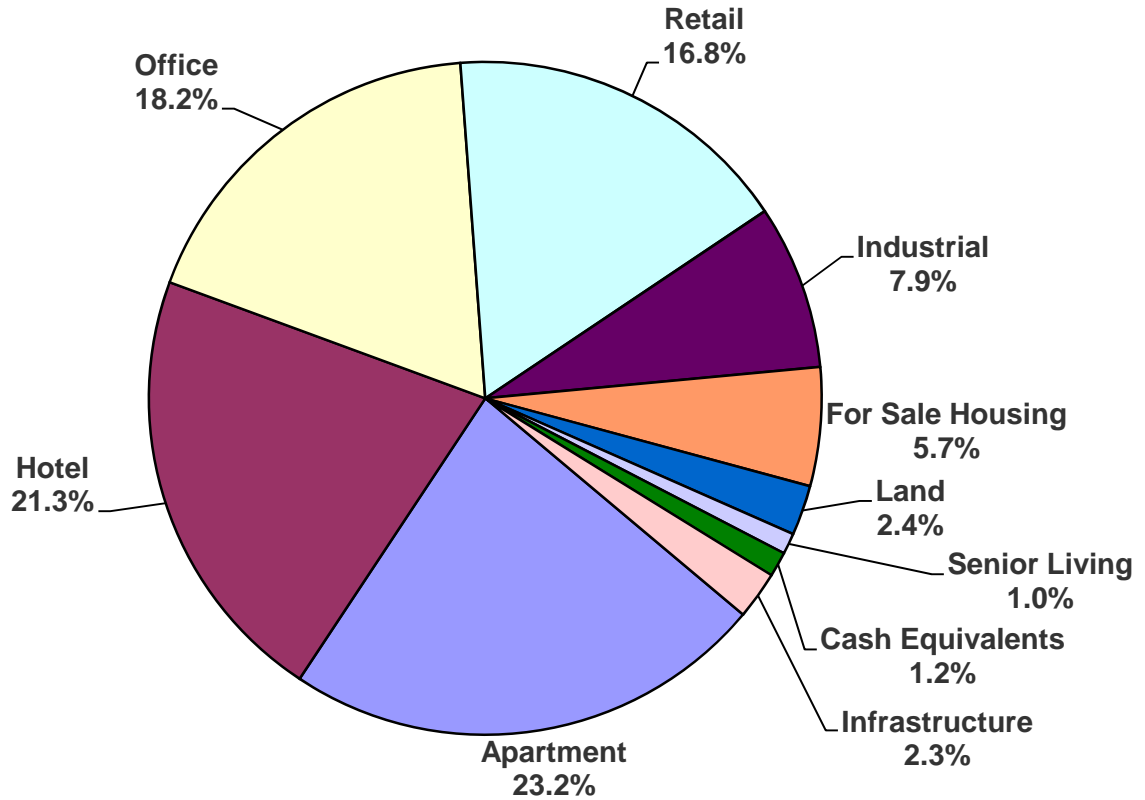
- SMRS will invest in diverse portfolio investments representing ownership interest in partnerships, publicly-traded securities, operating companies, or other investment vehicles that represent equity and/or debt in infrastructure and real asset sectors including, but not limited to, energy resources and utilities, transportation assets, water and waste, communications, social infrastructure, or other infrastructure and real asset related investments. Infrastructure investments shall be well-diversified by sub-asset class, investment style, geography, and vintage year.
- 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. The asset class will also contain CPI enhancers to offer measured protection from inflation. Infrastructure investments are typically linked to GDP growth and have high operational leverage.
- 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.
- Currently the infrastructure investment market is slowly recovering from the global financial crisis. 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 fourth quarter of 2011. The first is a \$100 million commitment to Customized Infrastructure Strategies, LP, a Credit Suisse Global Infrastructure Fund. The Fund will be a multi-sector, geographically diverse portfolio of secondary and co-investments. The second is a \$70 million commitment to JP Morgan AIRRO India SideCar Fund. The investment is exclusively a commitment to Project Amrit, an infrastructure company with interests in national highway concessions in India.
- REID is also reviewing a U.S. transportation investment, and an energy transmission line investment. In addition REID is actively meeting with major infrastructure managers in the industry. Additional commitments will be made over the next several years.



# SMRS

## Real Estate and Infrastructure Holdings By Property Type

3/31/12



Market Value in Millions				
	3/31/2012		12/31/2011	
Apartment	\$1,168	23.2%	\$1,141	22.6%
Hotel	1,072	21.3%	1,099	21.8%
Office	916	18.2%	929	18.4%
Retail	844	16.8%	831	16.5%
Industrial	401	7.9%	398	7.9%
For Sale Housing	287	5.7%	320	6.3%
Land	121	2.4%	128	2.5%
Senior Living	52	1.0%	52	1.0%
<b>Total Investments</b>	<b>\$4,861</b>	<b>96.5%</b>	<b>\$4,898</b>	<b>97.0%</b>
Infrastructure	114	2.3%	109	2.2%
Cash Equivalents	60	1.2%	40	0.8%
<b>Total</b>	<b>\$5,035</b>	<b>100.0%</b>	<b>\$5,047</b>	<b>100.0%</b>

# REAL ESTATE

March 31, 2012

## Portfolio Leverage Summary

<u>Gross Market Value</u>	<u>Existing Debt *</u>	<u>Loan to Value %</u>
\$ 10,304,917,145	\$ 5,383,354,558	52.2%

## Top Ten Advisors or Companies

<u>Advisor or Company</u>	<u>Net Market Value</u>
Clarion Partners (formerly ING Clarion)	\$ 870,907,284
MWT Holdings, LLC **	705,493,980
Edens & Avant Investments, LP	564,339,159
KBS Realty Advisors, Inc.	309,615,346
Principal Real Estate Investors	260,448,846
Kensington Realty Advisors, Inc.	252,775,980
Five Star Realty Partners, LLC	207,079,672
Winnington Capital Ltd.	150,222,292
CIM Group, Inc.	141,441,145
Blackstone Real Estate Advisors	139,434,140
	<u>\$ 3,601,757,844</u>

### Footnotes:

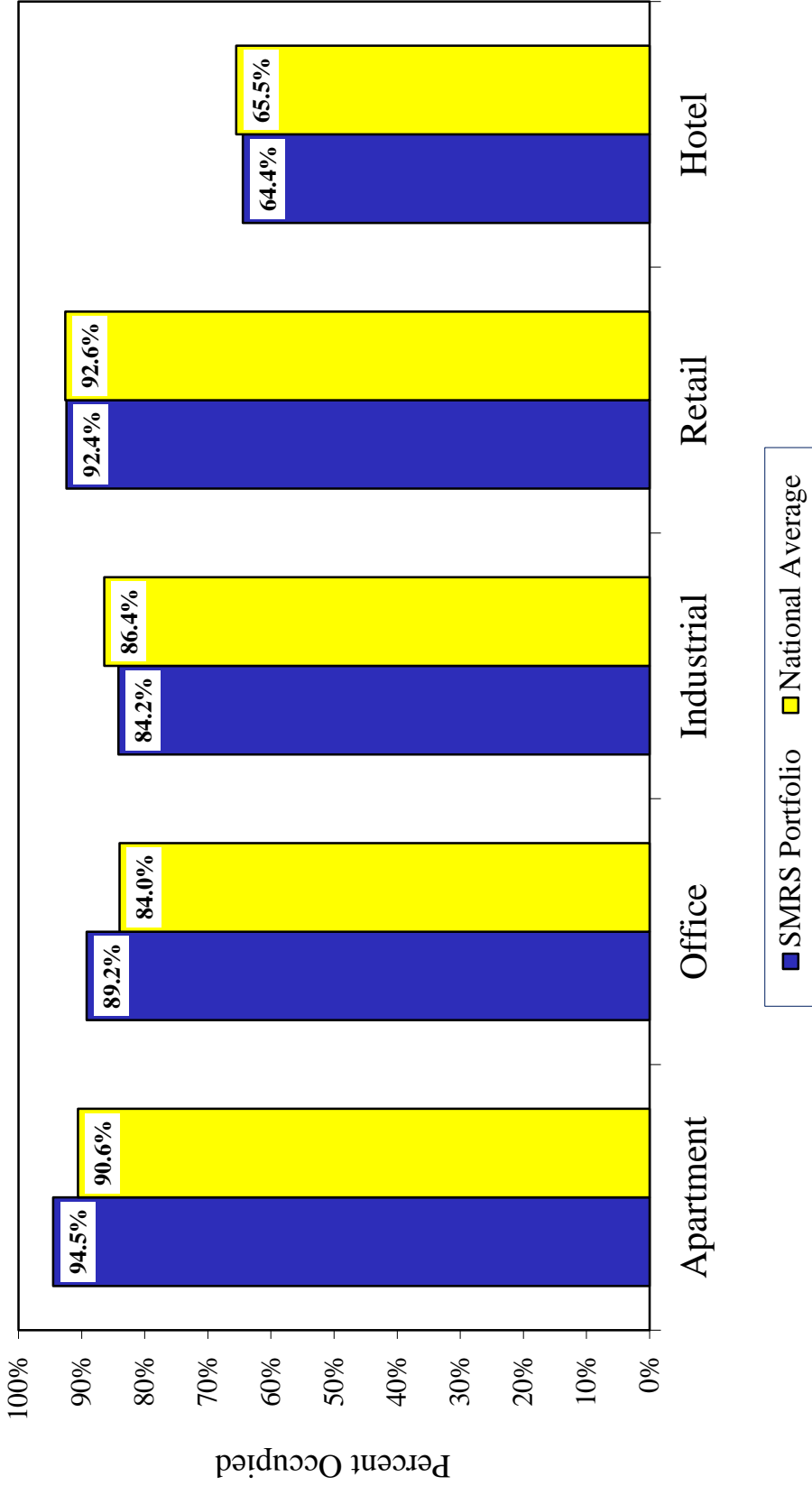
\* Existing debt is comprised of property level debt.

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

# REAL ESTATE

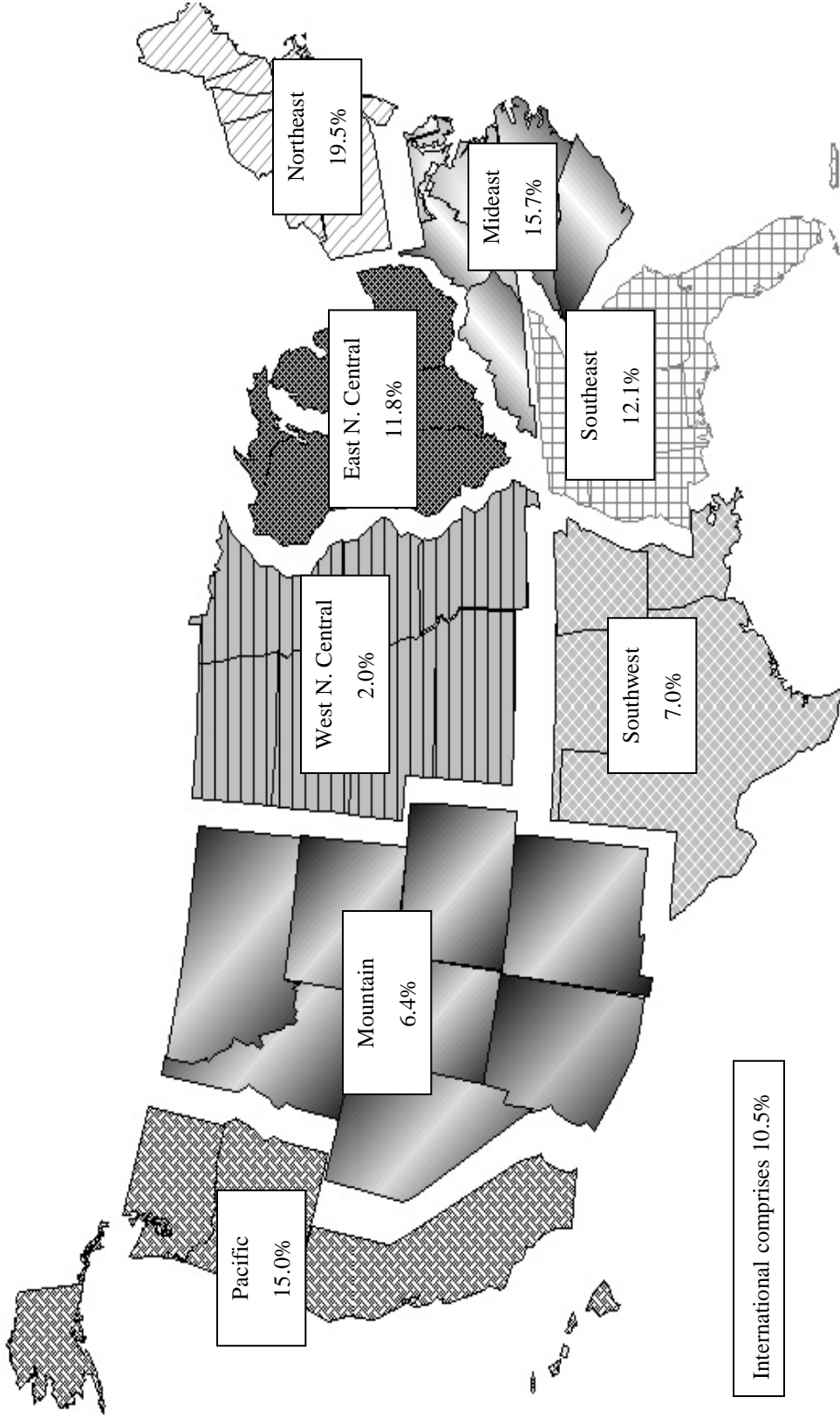
## Occupancy by Property Type

### March 31, 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)  
**March 31, 2012**



Geographic regions defined by NCREIF, whose property index composition is: Pacific 28.2%, Mountain 5.7%, West N. Central 1.9%, Southwest 10.6%, East N. Central 8.1%, Southeast 11.3%, Northeast 19.5%, Mideast 14.7%

**REAL ESTATE**  
**Net Market Values by Ownership Entity**  
**March 31, 2012**

	Net Market Value	Unfunded Commitment
801 Grand Avenue Capital, LLC	\$ 114,775,048	\$ 0
AGL Annuity Contract GVA 0016	295,150,131	0
<b>Avanath Affordable Housing I, LLC</b>	<b>0</b>	<b>25,000,000</b>
Beacon Capital Strategic Partners IV, LP	21,921,441	0
Beacon Capital Strategic Partners V, LP	19,862,046	6,500,000
BlackRock Retail Opportunity Fund, LLC	11,348,251	6,000,000
Blackstone Real Estate Partners V, LP	53,810,368	2,346,930
Blackstone Real Estate Partners VI, LP	85,623,772	8,628,872
Capri Select Income II	6,587,817	0
Capri Urban Investors, LLC	16,059,509	4,424,070
CIM Fund III, LP	60,495,928	17,524,324
CIM Urban REIT, LLC	80,188,142	0
CIM VI (Urban REIT), LLC	757,075	24,071,250
City Lights Investments, LLC	117,254,561	6,500,000
Cobalt Industrial REIT	50,576,036	0
Cobalt Industrial REIT II	69,618,706	0
Coolidge Investment Partners, LP	95,510,000	0
CPI Capital Partners N.A., LP	11,268,754	0
Devon Real Estate Conversion Fund, LP	6,172,960	0
Domain Hotel Properties, LLC	628,626,988	0
Dynamic Retail Trust	53,539,803	0
Edens & Avant Investments, LP	510,799,356	50,000,000
Federal Street, LLC	23,965,396	0
Gateway Capital R/E Fund II, LP	87,972,071	1,276,875
Great Lakes Property Group Trust	240,340,545	0
Invesco Mortgage Recovery Feeder Fund	24,951,678	20,081,958
JBC Opportunity Fund III, LP	16,769,886	3,830,082
KBS/SM Fund III, LP	217,486,316	0
L & B Medical Properties Partners, LP	2,310,606	2,970,395
Landmark Real Estate Partners V, LP	37,006,289	4,973,727
LaSalle Asia Opportunity Fund II, LP	11,635,762	0
LaSalle Asia Opportunity Fund III, LP	48,634,083	20,000,000
Lion Industrial Trust	104,694,706	0
Lion Mexico Fund, LP	42,075,591	2,216,029
Lowe Hospitality Investment Partners	2,706,587	0
MERS Acquisitions, Ltd.	124,605,374	0
Morgan Stanley R/E Fund V - International	15,641,475	0
Morgan Stanley R/E Fund VI - International	37,599,065	0
Morgan Stanley R/E Fund V - U.S.	6,939,127	0
MSRE Mezzanine Partners LP	345,515	0
Morgan Stanley R/E Special Situations Fund III	68,076,121	0
MWT Holdings, LLC	705,493,980	43,075,000
Northpark-Land Associates, LLLP	25,534,150	0
Paladin Realty Brazil Investors III (USA), LP	22,811,397	14,003,604
Principal Separate Account	145,673,798	0
Rialto Real Estate Fund, LP	45,715,209	17,050,001
SM Brell II, LP	92,129,030	0
SM MGRA I, LLC	11,063,780	17,548,493
Stockbridge Real Estate Fund II-C, LP	24,949,627	2,737,500
Strategic LP	124,418,766	53,610,494
SWA Acquisitions, Ltd.	8,817,797	0
Trophy Property Development LP	150,222,292	11,250,000
True North High Yield Investment Fund II	27,352,536	21,948,455
Venture Center, LLC	40,336,355	0
Western National Realty Fund II, LP	13,915,113	8,288,063
	\$ 4,862,136,715	-
<b>Short Term Investments and Other</b>	<b>59,425,872</b>	<b>-</b>
<b>Total Real Estate Investments</b>	<b>\$ 4,921,562,587</b>	<b>\$ 395,856,122</b>

## INFRASTRUCTURE INVESTMENTS

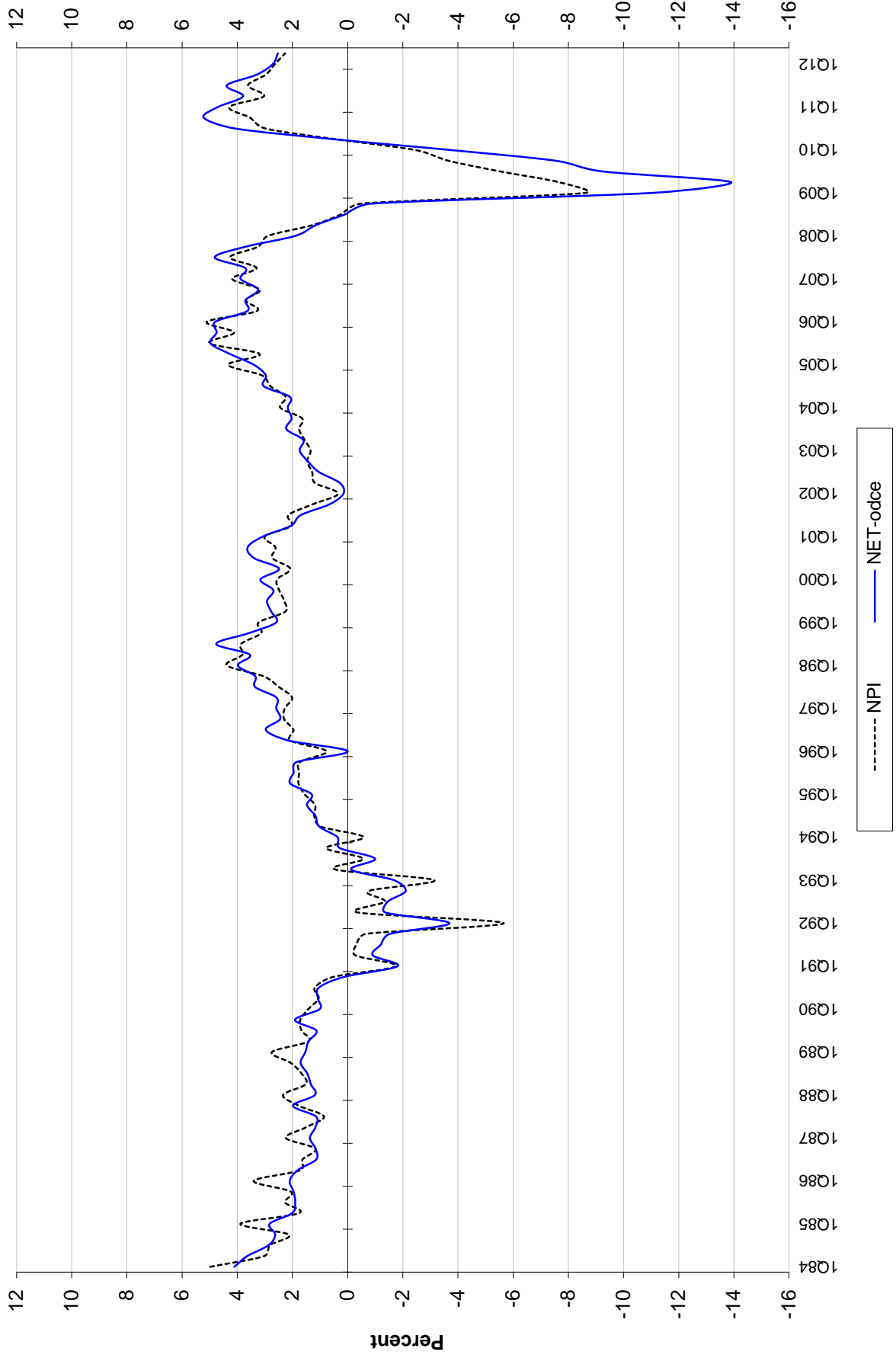
### Net Market Values by Ownership Entity

March 31, 2012

	Net Market Value	Unfunded Commitment
Customized Infrastructure Strategies, LP	\$ 45,972,771	\$ 60,139,598
JPMorgan AIRRO India Sidecar Fund US, LLC	<u>60,683,024</u>	7,322,301
	\$ 106,655,795	-
Short Term Investments and Other	<u>7,033,669</u>	-
<b>Total Infrastructure Investments</b>	<b>\$ 113,689,464</b>	<b>\$ 67,461,899</b>



### NCREIF Quarterly Returns NPI and NFI-ODCE





**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**ACTIVE DOMESTIC EQUITY  
REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**JUNE 14, 2012**



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



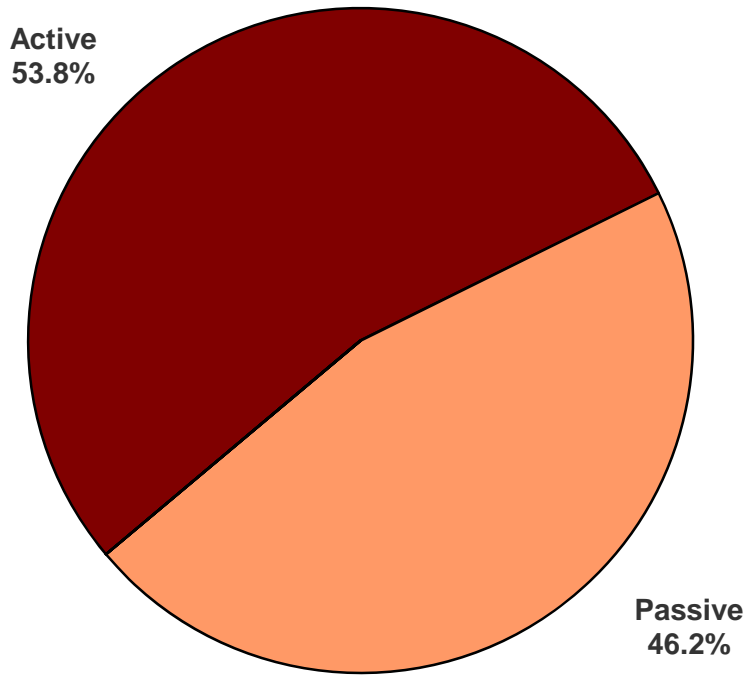
## EXECUTIVE SUMMARY

- Despite significant risks to the economic environment, equity markets look reasonably priced, with the S&P 500 poised to return roughly 9.7% over the long term versus 30-year Treasuries at 3.3%.
  - S&P 500 expected return composed of a 4.7% normalized dividend yield (including stock buybacks) and 5.0% long-term growth in book value.
- Within equities, large-cap stocks continue to look undervalued relative to small and mid-caps, particularly on a risk adjusted basis.
  - Normalized PE for the S&P 500 estimated to be roughly 14X versus the S&P 600 Small-Cap at 20X.
    - Normalized dividend yield of 4.7% for S&P 500 vs. 1.7% for S&P 600 Small-Cap.
- Defensive equities attractive 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 delivering higher normalized levels of both dividend yield (~15%) and earnings yield (~13%) than the S&P 500, with slightly less aggregate volatility.



# SMRS

## Domestic Equity Holdings By Category 3/31/12

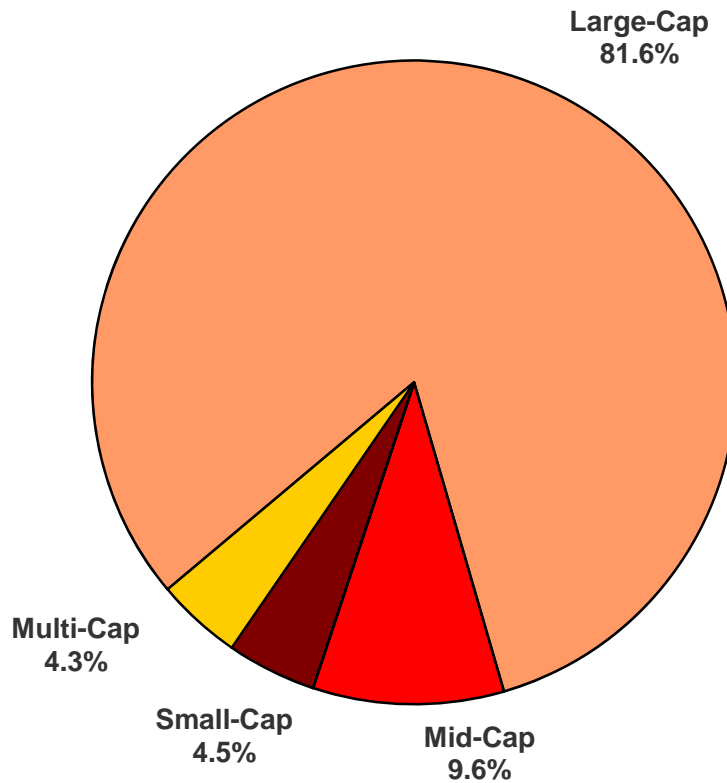


	Market Value in Millions			
	<u>3/31/2012</u>		<u>12/31/2011</u>	
Active	\$7,769	53.8%	\$8,660	59.4%
Passive	<u>6,666</u>	<u>46.2%</u>	<u>5,923</u>	<u>40.6%</u>
<b>Total Domestic Equity</b>	<b>\$14,435</b>	<b>100.0%</b>	<b>\$14,583</b>	<b>100.0%</b>



# SMRS

## Domestic Equity Holdings By Category 3/31/12



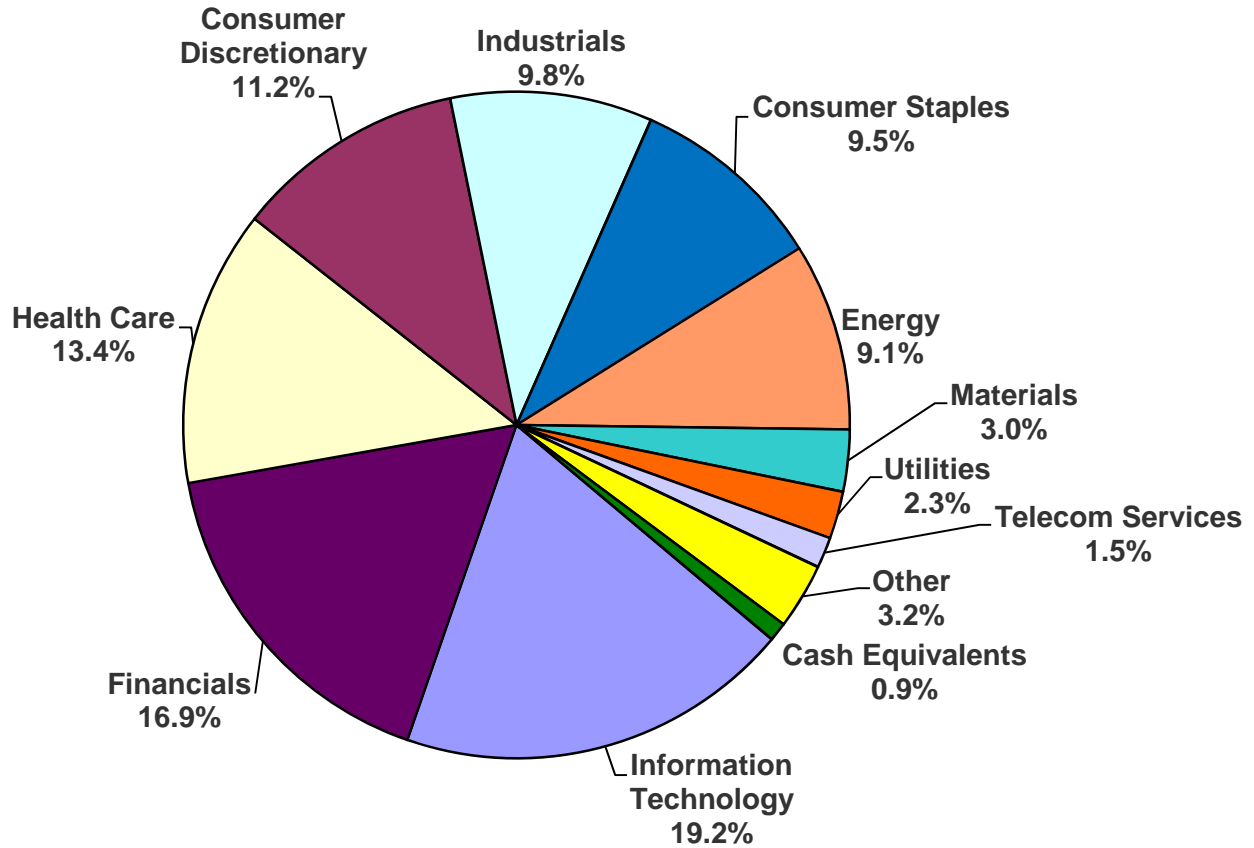
Market Value in Millions				
	3/31/2012		12/31/2011	
Large-Cap	\$11,783	81.6%	\$11,977	82.1%
Mid-Cap	1,385	9.6%	1,277	8.8%
Small-Cap	647	4.5%	848	5.8%
Multi-Cap	620	4.3%	481	3.3%
<b>Total Domestic Equity</b>	<b>\$14,435</b>	<b>100.0%</b>	<b>\$14,583</b>	<b>100.0%</b>



# SMRS

## All Domestic Equity Holdings By Category

3/31/2012



	Market Value in Millions			
	3/31/2012		12/31/2011	
Information Technology	\$2,764	19.2%	\$2,757	18.9%
Financials	2,437	16.9%	2,030	13.9%
Health Care	1,938	13.4%	2,131	14.6%
Consumer Discretionary	1,620	11.2%	1,588	10.9%
Industrials	1,414	9.8%	1,407	9.6%
Consumer Staples	1,369	9.5%	1,363	9.4%
Energy	1,318	9.1%	1,403	9.6%
Materials	424	3.0%	409	2.8%
Utilities	333	2.3%	394	2.7%
Telecom Services	215	1.5%	267	1.8%
Other	468	3.2%	476	3.3%
Total Investments	\$14,300	99.1%	\$14,225	97.5%
Cash Equivalents	135	0.9%	358	2.5%
<b>Total</b>	<b>\$14,435</b>	<b>100.0%</b>	<b>\$14,583</b>	<b>100.0%</b>



## ALL DOMESTIC EQUITIES COMPOSITE

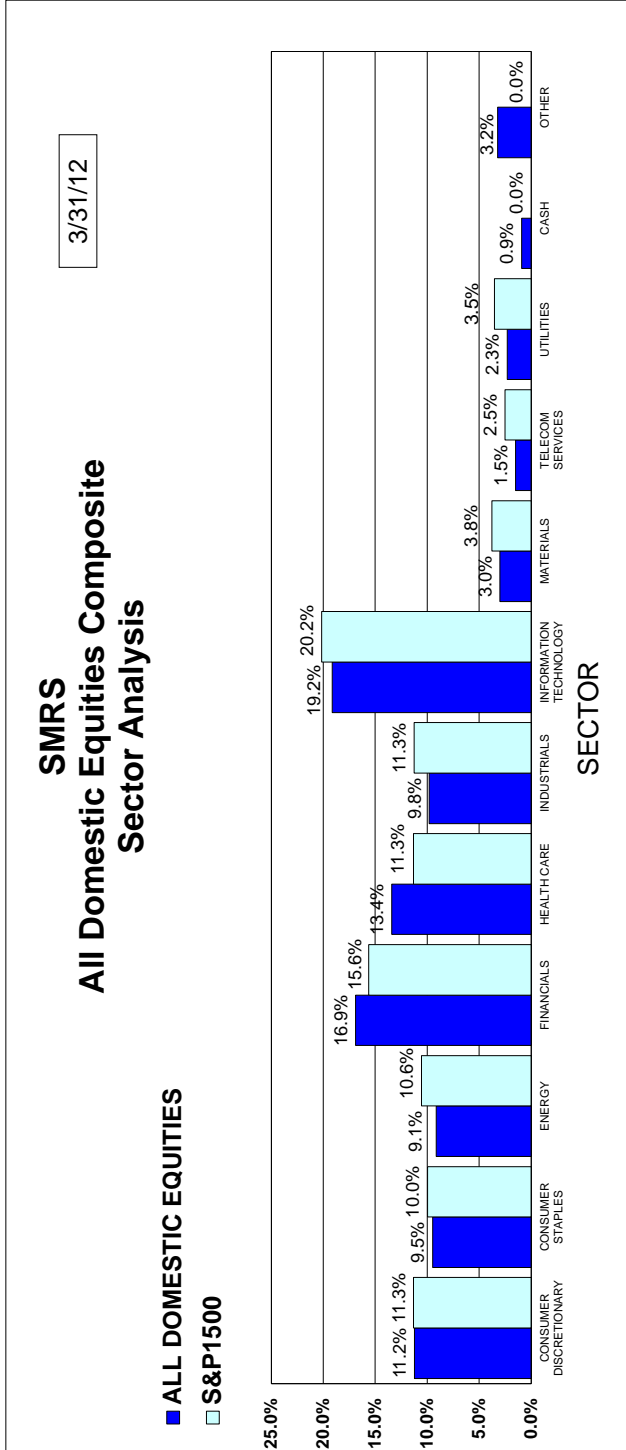
<b>Date:</b>	<u>3/31/2012</u>	<u>12/31/2011</u>	<u>9/30/2011</u>	<u>6/30/2011</u>
Assets (\$million):	\$14,435	\$14,583	\$13,446	\$17,971
Number of Securities:	1,388	1,399	1,402	1,436
Benchmark:	S&P 1500			
Description:	The Domestic Equities Composite combines both the SMRS' All Actively Managed Composite and its index funds.			

<b>Characteristics:</b>	<u>SMRS</u>	<u>S&amp;P 1500</u>
Weighted Average Capitalization (\$billion):	\$88.5	\$98.8
Trailing 12-month P/E:	15.2x	15.3x
Forecast P/E:	13.2x	13.7x
Price/Book:	2.0x	2.2x
Beta:	1.01	1.01
Dividend Yield:	1.8%	1.9%
3-5 Year EPS Growth Estimate:	11.5%	11.3%
Return on Equity:	19.8%	20.1%

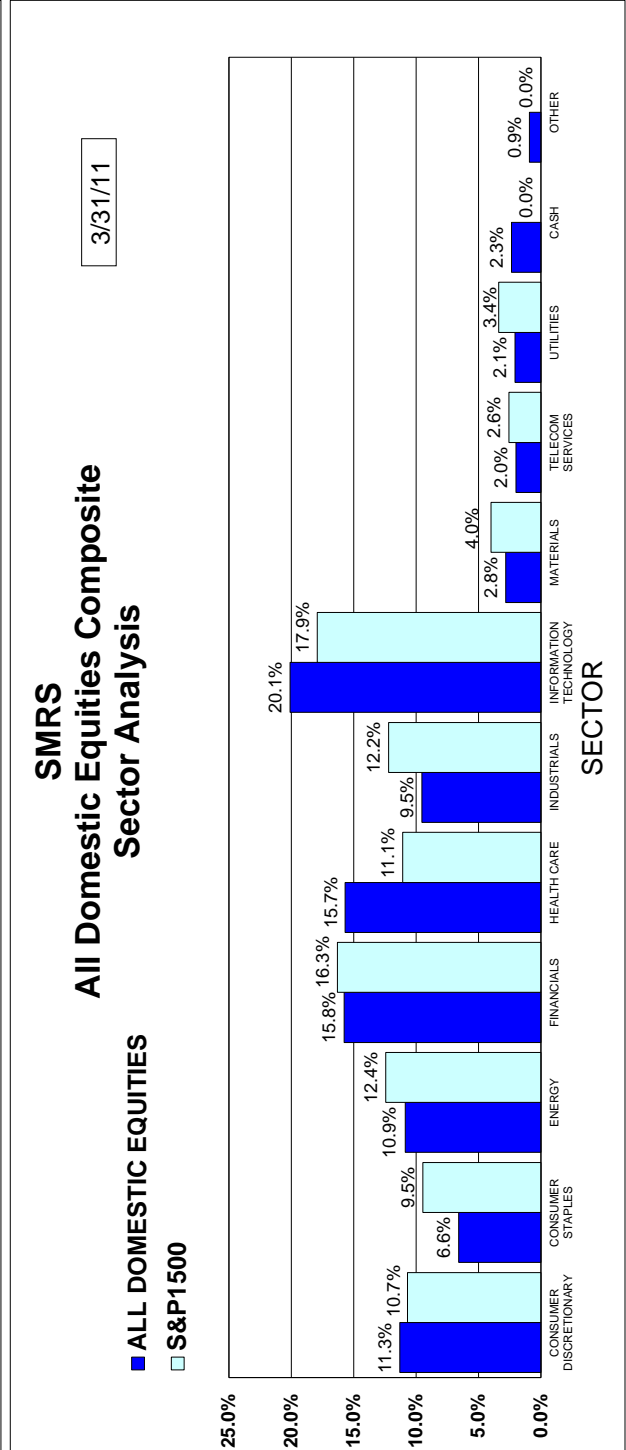
### TOP TEN HOLDINGS - All Domestic Equities 3/31/2012

	<u>Portfolio Weight</u>	<u>Total Shares</u>	<u>3/31/2012 Price</u>	<u>YTD12 Total Return</u>	<u>Market Value</u>
Apple Inc.	3.65%	878,929	\$599.55	48.04%	\$526,961,882
Google Inc. Cl A	1.62%	363,847	\$641.24	-0.72%	\$233,313,250
Johnson & Johnson	1.58%	3,447,975	\$65.96	1.47%	\$227,428,431
Exxon Mobil Corp.	1.55%	2,580,426	\$86.73	2.89%	\$223,800,347
Microsoft Corp.	1.38%	6,188,332	\$32.26	25.07%	\$199,604,649
SPDR S&P 500 ETF	1.37%	1,405,050	\$140.81	12.69%	\$197,845,091
Merck & Co. Inc.	1.20%	4,506,863	\$38.40	2.97%	\$173,063,539
Pfizer Inc.	1.20%	7,628,141	\$22.65	5.72%	\$172,739,253
Abbott Laboratories	1.16%	2,733,668	\$61.29	9.94%	\$167,546,512
Procter & Gamble Co.	<u>1.10%</u>	2,358,249	\$67.21	1.55%	<u>\$158,497,915</u>
<b>TOTAL</b>	<u>15.80%</u>				<u>\$2,280,800,869</u>

03/31/12  
 \$14,434.68  
 (\$ MILLION)



03/31/11  
 \$18,047.69  
 (\$ MILLION)

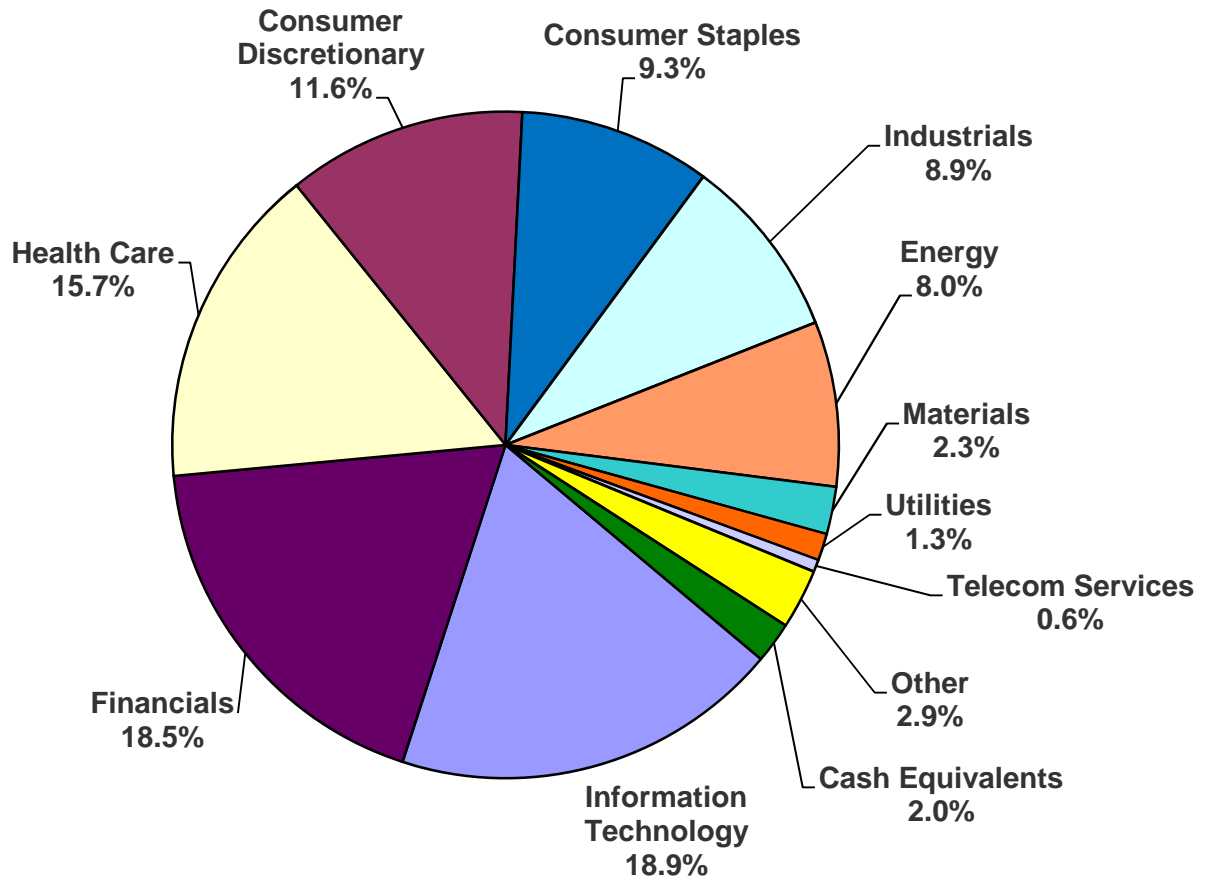




# SMRS

## All Active Domestic Equity Holdings By Category

3/31/2012



	Market Value in Millions			
	3/31/2012		12/31/2011	
Information Technology	\$1,467	18.9%	\$1,776	20.5%
Financials	1,441	18.5%	1,260	14.6%
Health Care	1,220	15.7%	1,495	17.3%
Consumer Discretionary	903	11.6%	988	11.4%
Consumer Staples	718	9.3%	751	8.7%
Industrials	692	8.9%	772	8.9%
Energy	621	8.0%	697	8.0%
Materials	180	2.3%	183	2.1%
Utilities	101	1.3%	103	1.2%
Telecom Services	48	0.6%	57	0.7%
Other	221	2.9%	200	2.3%
Total Investments	\$7,612	98.0%	\$8,282	95.7%
Cash Equivalents	157	2.0%	378	4.3%
<b>Total</b>	<b>\$7,769</b>	<b>100.0%</b>	<b>\$8,660</b>	<b>100.0%</b>

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

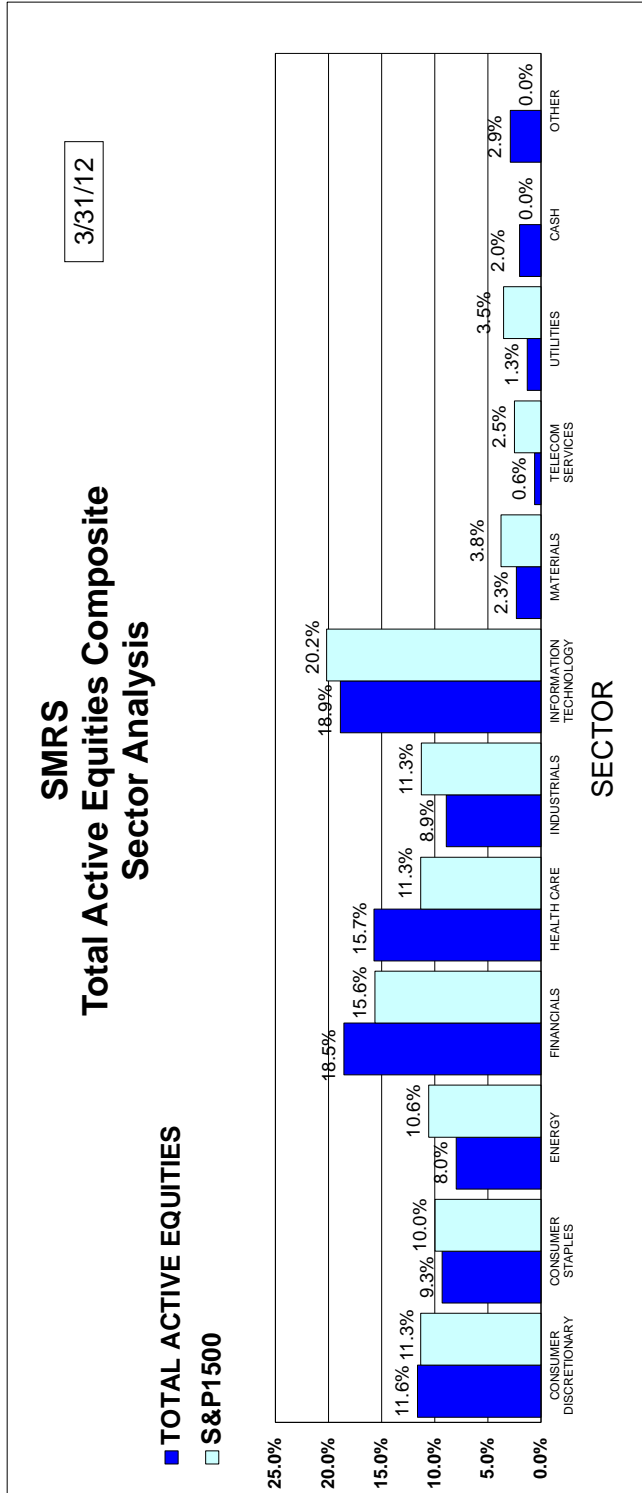
<b>Date:</b>	<u><b>3/31/2012</b></u>	<u><b>12/31/2011</b></u>	<u><b>9/30/2011</b></u>	<u><b>6/30/2011</b></u>
Assets (\$million):	\$7,769	\$8,660	\$8,111	\$11,863
Number of Securities:	1,069	1,052	1,059	1,107
Benchmark:	S&P 1500			
Description:	The Actively Managed Composite is designed to add consistent 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>	<u><b>SMRS</b></u>	<u><b>S&amp;P 1500</b></u>
Weighted Average Capitalization (\$billion):	\$76.7	\$98.8
Trailing 12-month P/E:	15.1x	15.3x
Forecast P/E:	12.8x	13.6x
Price/Book:	1.9x	2.2x
Beta:	1.02	1.01
Dividend Yield:	1.7%	1.9%
3-5 Year EPS Growth Estimate:	11.8%	11.5%
Return on Equity:	19.3%	20.1%

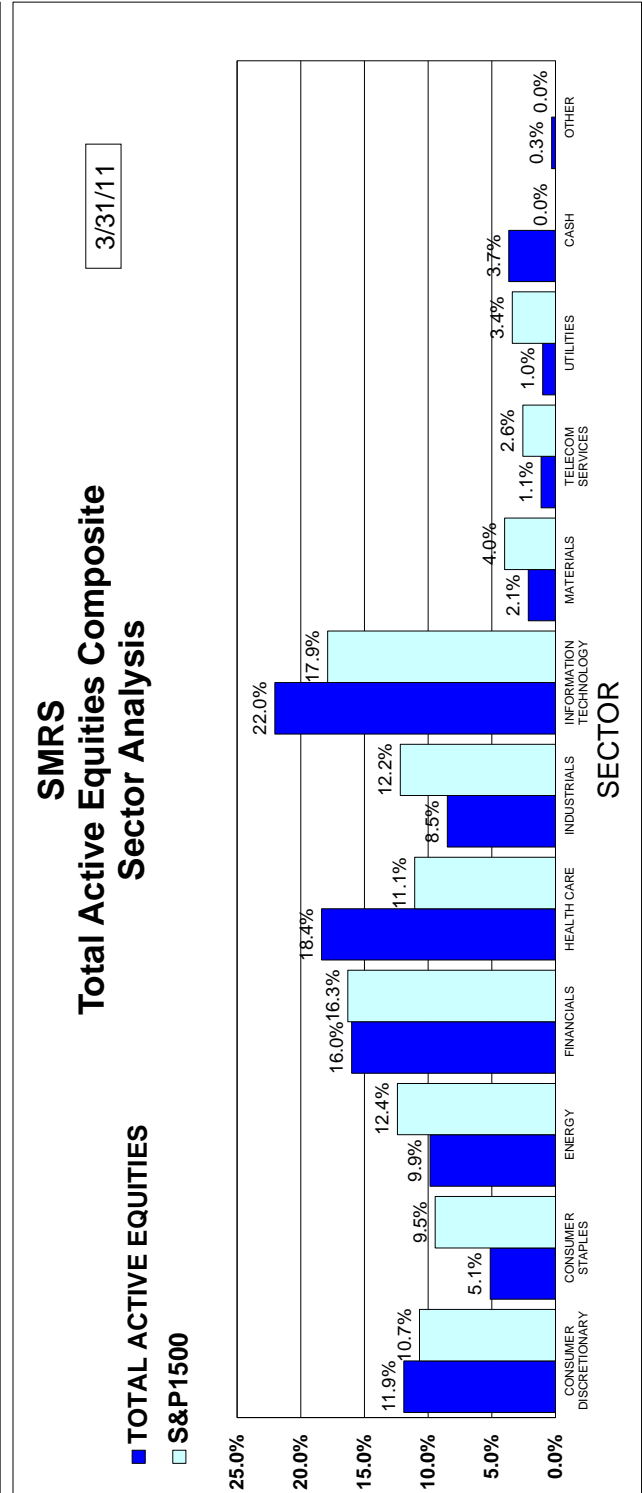
**TOP TEN HOLDINGS - All Actively Managed  
3/31/2012**

	<u><b>Portfolio Weight</b></u>	<u><b>Total Shares</b></u>	<u><b>3/31/2012 Price</b></u>	<u><b>YTD12 Total Return</b></u>	<u><b>Market Value</b></u>
Apple Inc.	3.51%	454,632	\$599.55	48.04%	\$272,574,616
Google Inc. Cl A	2.05%	248,443	\$641.24	-0.72%	\$159,311,589
Johnson & Johnson	1.87%	2,198,729	\$65.96	1.47%	\$145,028,165
Abbott Laboratories	1.59%	2,018,143	\$61.29	9.94%	\$123,691,984
Amgen Inc.	1.50%	1,715,252	\$67.97	6.41%	\$116,585,678
Merck & Co. Inc.	1.41%	2,852,624	\$38.40	2.97%	\$109,540,762
Morgan Stanley	1.36%	5,391,709	\$19.64	30.16%	\$105,893,165
Citigroup Inc.	1.27%	2,693,329	\$36.55	38.96%	\$98,441,175
PepsiCo Inc.	1.27%	1,482,221	\$66.35	0.82%	\$98,345,363
Microsoft Corp.	<u>1.16%</u>	2,789,901	\$32.26	25.07%	<u>\$89,988,257</u>
<b>TOTAL</b>	<u><b>16.98%</b></u>				<u><b>\$1,319,400,754</b></u>

03/31/12  
 \$7,768.93  
 (\$ MILLION)



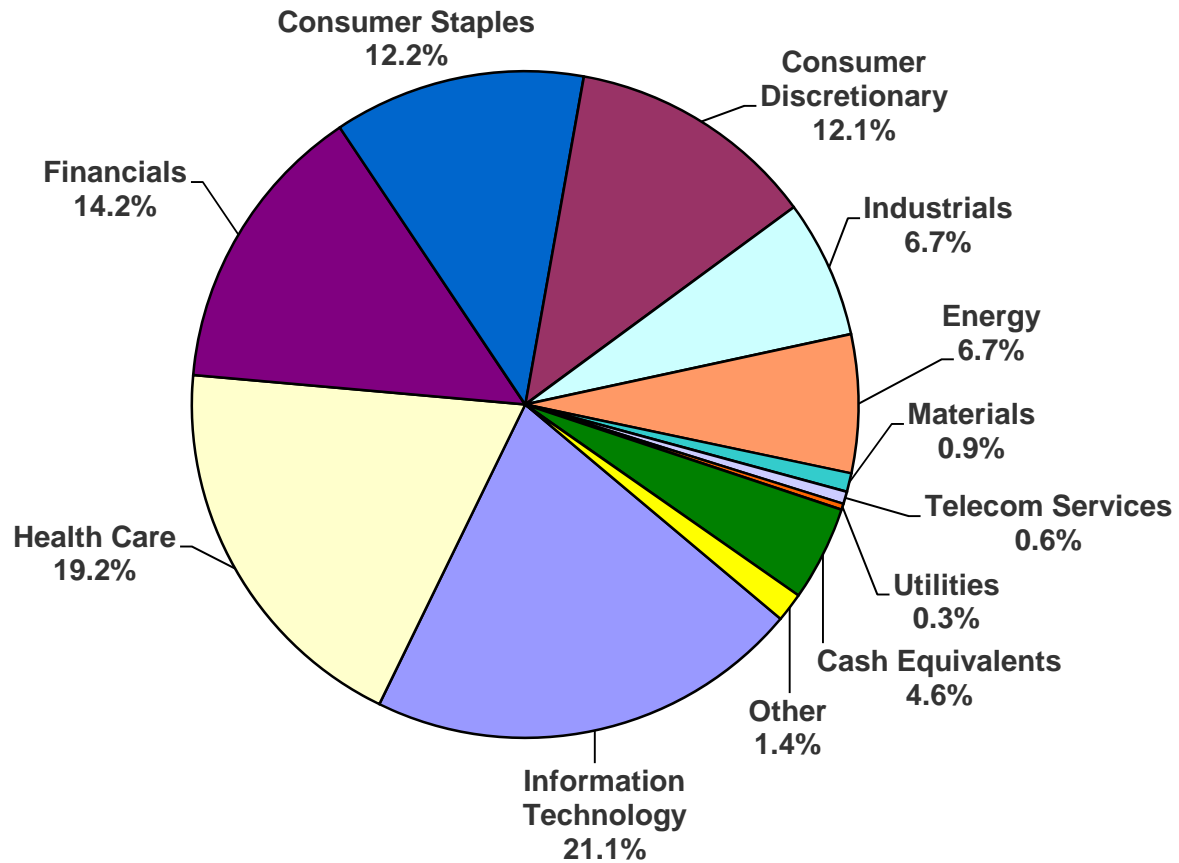
03/31/11  
 \$11,944.31  
 (\$ MILLION)





# SMRS

## Domestic Active Equity - Large-Cap All Internal Domestic Equity Holdings By Category 3/31/12



	Market Value in Millions			
	3/31/2012		12/31/2011	
Information Technology	\$870	21.1%	\$1,059	23.2%
Health Care	794	19.2%	992	21.7%
Financials	586	14.2%	599	13.1%
Consumer Staples	505	12.2%	511	11.2%
Consumer Discretionary	500	12.1%	569	12.5%
Industrials	276	6.7%	283	6.2%
Energy	276	6.7%	279	6.1%
Materials	35	0.9%	0	0.0%
Telecom Services	25	0.6%	33	0.7%
Utilities	13	0.3%	0	0.0%
Other	58	1.4%	0	0.0%
Total Investments	\$3,938	95.4%	\$4,325	94.7%
Cash Equivalents	191	4.6%	244	5.3%
<b>Total</b>	<b>\$4,129</b>	<b>100.0%</b>	<b>\$4,569</b>	<b>100.0%</b>

<b>SMRS LARGE-CAP INTERNAL ACTIVE COMPOSITE</b>
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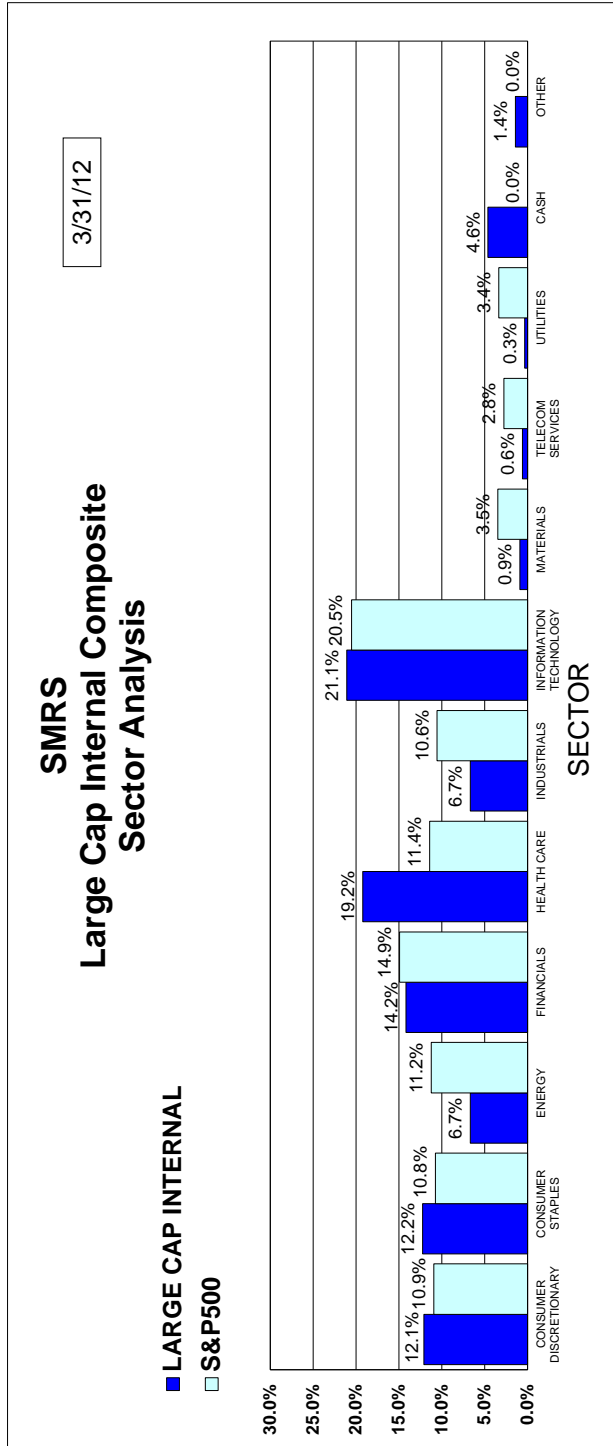
<b>Date:</b>	<u>3/31/2012</u>	<u>12/31/2011</u>	<u>9/30/2011</u>	<u>6/30/2011</u>
Assets (\$million):	\$4,129	\$4,569	\$4,467	\$7,238
Number of Securities:	157	92	90	93
Benchmark:	S&P 500			
Description:	The Large-Cap Internal Active portfolio represents a composite of the division's internally managed active portfolios. This currently includes Large-Cap Core, Large-Cap Growth, Large-Cap Value and Large-Cap Dividend Growth.			

<b>Characteristics:</b>	<u>SMRS</u>	<u>S&amp;P 500</u>
Weighted Average Capitalization (\$billion):	\$107.0	\$111.5
Trailing 12-month P/E:	15.6x	15.0x
Forecast P/E:	12.9x	13.4x
Price/Book:	2.0x	2.2x
Beta:	0.98	1.00
Dividend Yield:	1.8%	2.0%
3-5 Year EPS Growth Estimate:	11.7%	11.0%
Return on Equity:	22.1%	21.1%

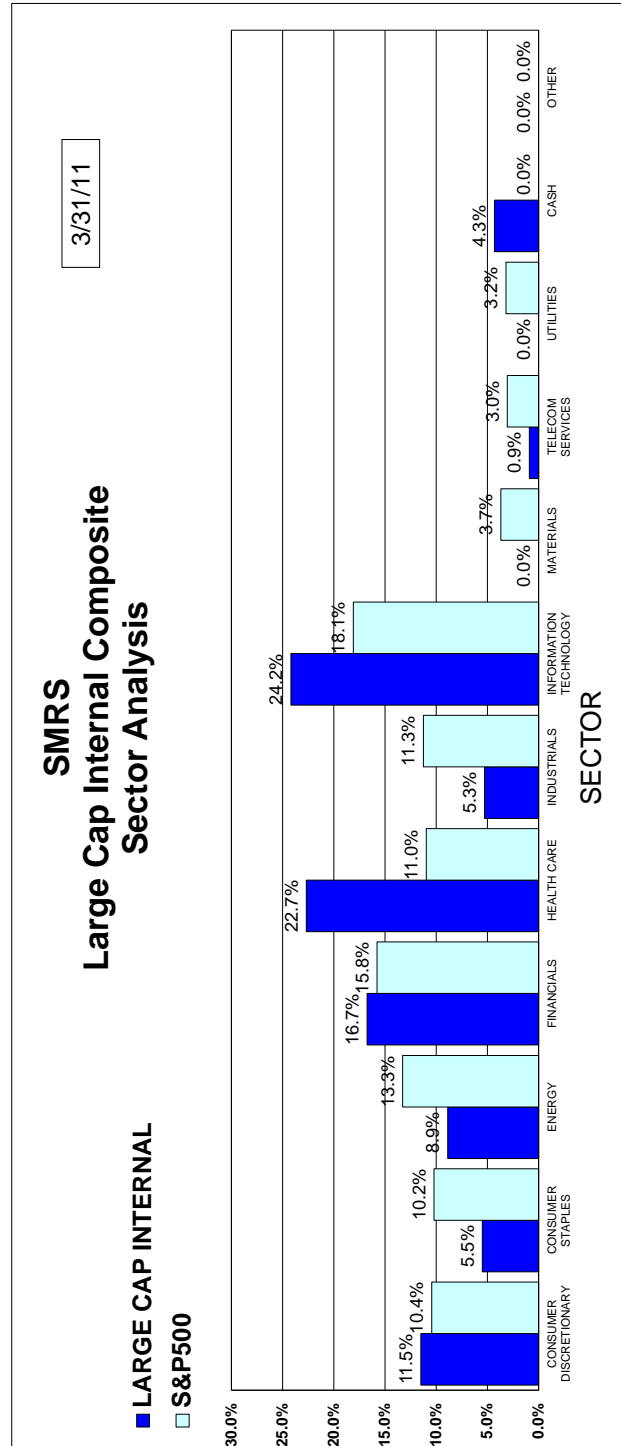
**TOP TEN HOLDINGS - Large-Cap Internal Active  
3/31/2012**

	<u>Portfolio Weight</u>	<u>Total Shares</u>	<u>3/31/2012 Price</u>	<u>YTD12 Total Return</u>	<u>Market Value</u>
Apple Inc.	6.24%	429,906	\$599.55	48.04%	\$257,750,142
Google Inc. Cl A	3.53%	227,049	\$641.24	-0.72%	\$145,592,901
Johnson & Johnson	3.21%	2,010,513	\$65.96	1.47%	\$132,613,437
Abbott Laboratories	2.54%	1,709,095	\$61.29	9.94%	\$104,750,433
Amgen Inc.	2.52%	1,528,033	\$67.97	6.41%	\$103,860,403
Morgan Stanley	2.50%	5,261,109	\$19.64	30.16%	\$103,328,181
PepsiCo Inc.	2.24%	1,393,815	\$66.35	0.82%	\$92,479,625
Merck & Co. Inc.	2.16%	2,327,143	\$38.40	2.97%	\$89,362,291
Citigroup Inc.	1.98%	2,240,093	\$36.55	38.96%	\$81,875,399
Lockheed Martin Corp.	<u>1.85%</u>	849,079	\$89.86	12.33%	<u>\$76,298,239</u>
<b>TOTAL</b>	<u>28.77%</u>				<u>\$1,187,911,051</u>

03/31/12  
 \$4,128.85  
 (\$ MILLION)



03/31/11  
 \$7,331.43  
 (\$ MILLION)

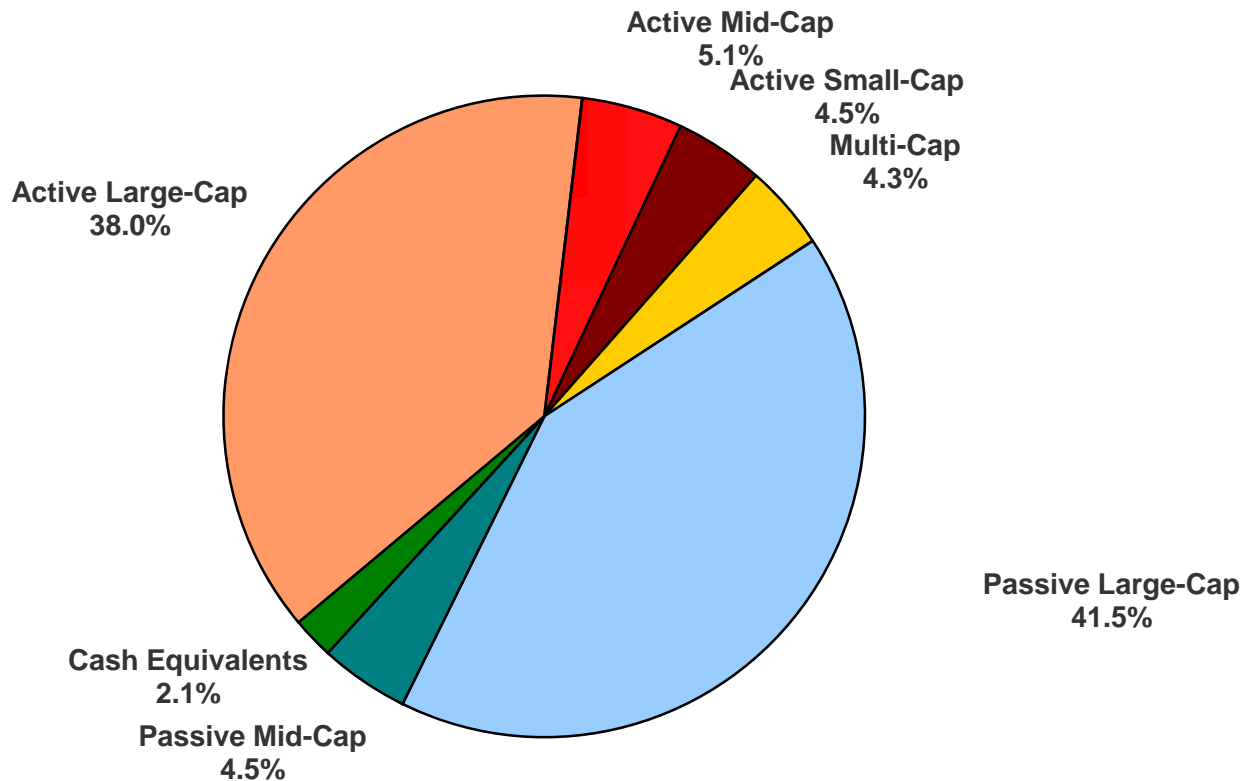






# SMRS

## Domestic Equity Holdings By Category 3/31/12



Market Value in Millions				
	3/31/2012		12/31/2011	
<b>Active</b>				
Large-Cap	\$5,484	38.0%	\$6,250	42.9%
Mid-Cap	739	5.1%	708	4.9%
Small-Cap	648	4.5%	848	5.8%
Multi-Cap	619	4.3%	586	4.0%
<b>Total Active Equity</b>	<b>\$7,490</b>	<b>51.9%</b>	<b>\$8,392</b>	<b>57.6%</b>
<b>Passive</b>				
Large-Cap	\$5,999	41.5%	\$5,344	36.6%
Mid-Cap	645	4.5%	566	3.9%
<b>Total Passive Equity</b>	<b>\$6,644</b>	<b>46.0%</b>	<b>\$5,910</b>	<b>40.5%</b>
<b>Total Investments</b>	<b>\$14,134</b>	<b>97.9%</b>	<b>\$14,302</b>	<b>98.1%</b>
Cash Equivalents	301	2.1%	281	1.9%
<b>Total Domestic Equity</b>	<b>\$14,435</b>	<b>100.0%</b>	<b>\$14,583</b>	<b>100.0%</b>

**SMRS DOMESTIC EQUITIES**  
**March 31, 2012**

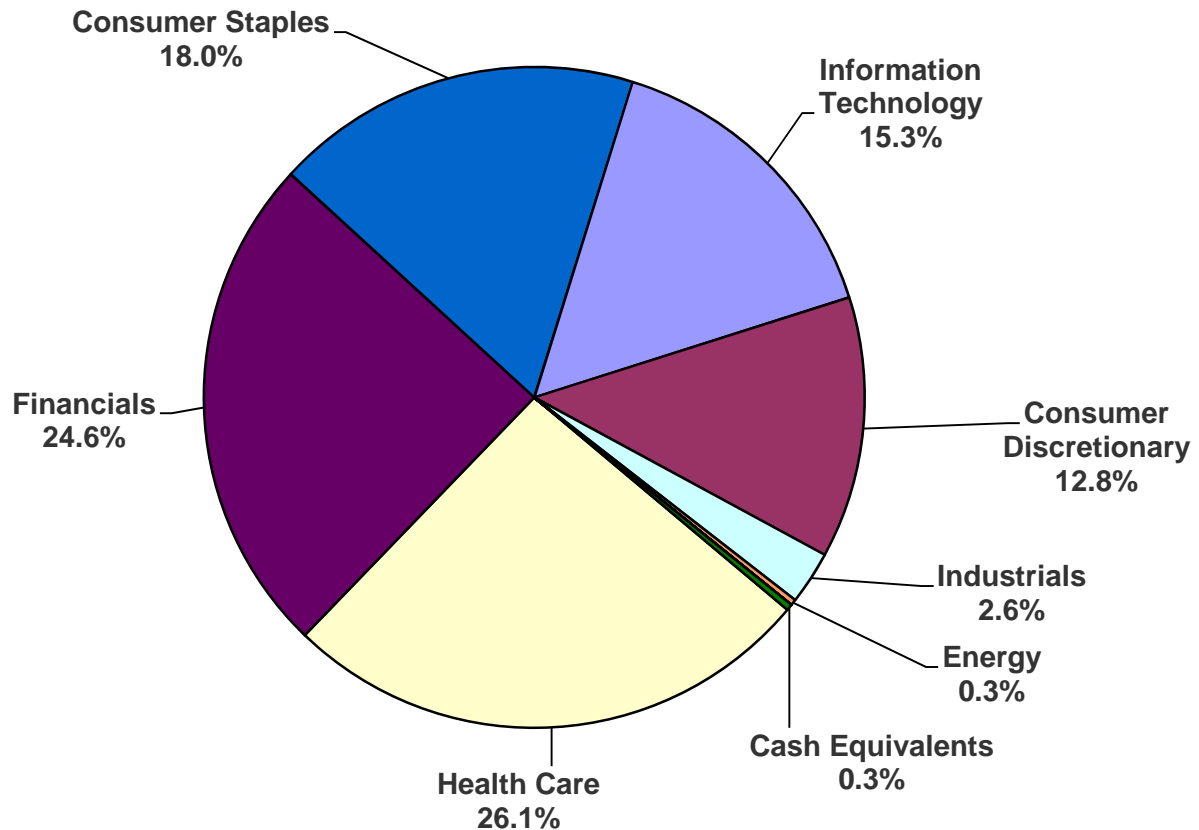
	CONCENTRATED			<u>TOTAL</u>	<u>%</u>	<u>S&amp;P 1500</u>
	INDEX	CORE	HIGH ALPHA			
	(in thousands)					
<b>Large-Cap</b>						
Index S&P 500	\$6,019,675	\$1,641,677	\$1,318,076	\$6,019,675		
Large-Cap Core			867,605	1,641,677		
Large-Cap Growth			122,718	1,318,076		
Large-Cap Value			266,444	867,605		
Large-Cap Dividend Growth			183,649	122,718		
Edgewood Large-Cap Growth			572,042	266,444		
Aletheia Large-Cap Growth			202,612	183,649		
LSV Large-Cap Value			208,494	572,042		
Wasatch Advisors Large-Cap Value			229,824	202,612		
Epoch Large-Cap Value			178,775	208,494		
Diamond Hill Large-Cap Value			93,373	229,824		
Absolute Return Income Fund				178,775		
Tactical Asset Allocation				<u>93,373</u>		
Total				\$11,904,964	84.6%	88.4%
<b>Mid-Cap</b>						
S&P 400 Index	\$646,081	\$78,766	\$211,416	\$646,081		
Artisan Mid-Cap Value			100,109	211,416		
Champlain Mid-Cap Core				78,766		
Cramer Rosenthal McGlynn Mid-Cap Value				100,109		
Los Angeles Capital Mid-Cap Plus Core				71,988		
Munder Mid-Cap Core Growth				69,067		
Rainier Mid-Cap Growth				107,260		
Seizert Capital Partners Mid-Cap Core				132,602		
Wellington Management Mid-Cap Growth				<u>100,487</u>		
Total				\$1,517,776	10.8%	7.8%
<b>Small-Cap</b>						
Champlain Small-Cap Core			\$55,172	55,172		
Donald Smith Small-Cap Value			166,404	166,404		
Fisher Small-Cap Value		\$219,389		219,389		
GW Capital Small-Cap Value			46,134	46,134		
Northpointe Small-Cap Value		57,986		57,986		
Opus Small-Cap Value			36,201	36,201		
Pier Small-Cap Growth			66,257	<u>66,257</u>		
Total				\$647,543	4.6%	3.8%
<b>Manager of Managers</b>						
Artucks Asset Management				\$164,480	100.0%	100.0%
Bivium Capital Partners				148,549		
Leading Edge Investment Advisors				<u>51,342</u>		
Total				\$364,371		
<b>TOTAL</b>	\$6,665,756	\$2,378,735	\$5,025,792	\$14,434,654		



# SMRS

## Domestic Active Equity - Large-Cap Core Equity Holdings By Category

3/31/12



	Market Value in Millions			
	3/31/2012		12/31/2011	
Health Care	\$428	26.1%	\$560	30.3%
Financials	404	24.6%	372	20.0%
Consumer Staples	296	18.0%	331	17.9%
Information Technology	251	15.3%	272	14.7%
Consumer Discretionary	210	12.8%	258	13.9%
Industrials	43	2.6%	49	2.7%
Energy	5	0.3%	6	0.3%
Telecom Services	0	0.0%	0	0.0%
Utilities	0	0.0%	0	0.0%
Materials	0	0.0%	0	0.0%
Other	0	0.0%	0	0.0%
Total Investments	\$1,637	99.7%	\$1,848	99.8%
Cash Equivalents	5	0.3%	4	0.2%
<b>Total</b>	<b>\$1,642</b>	<b>100.0%</b>	<b>\$1,852</b>	<b>100.0%</b>

## SMRS LARGE-CAP CORE PORTFOLIO

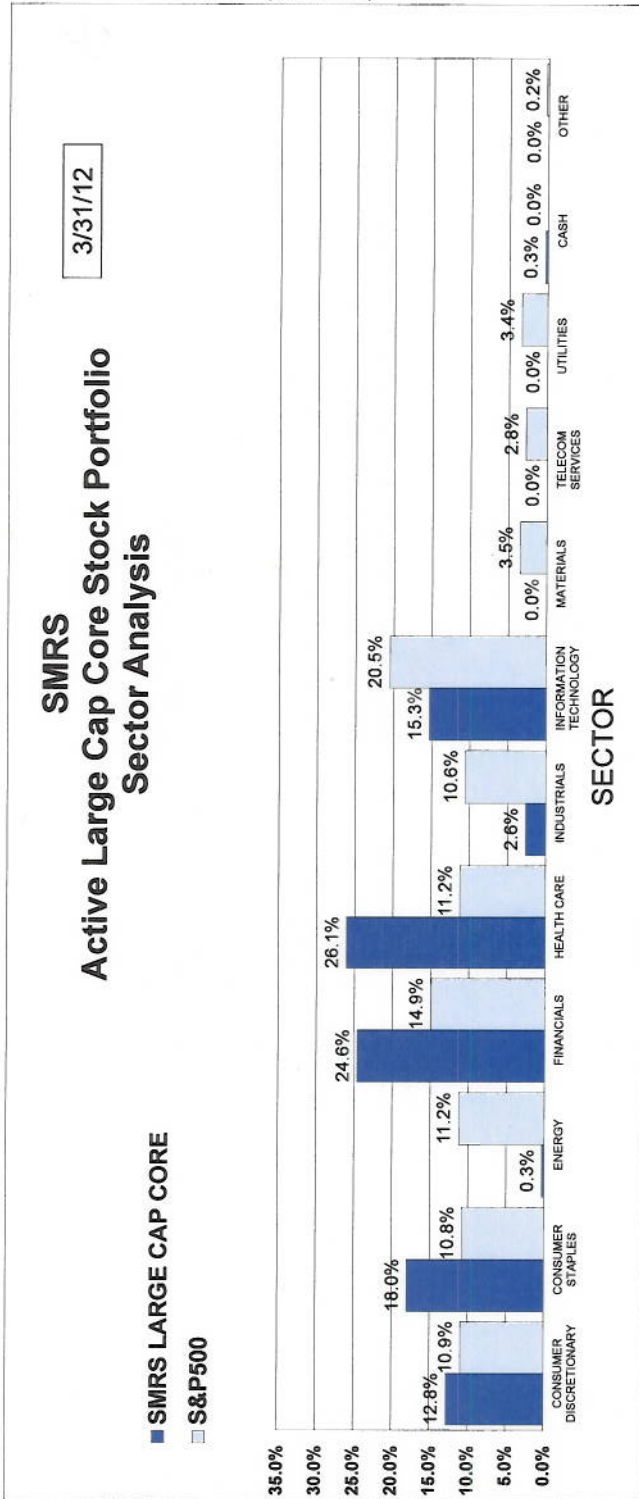
<b>Date:</b>	<u>3/31/2012</u>	<u>12/31/2011</u>	<u>9/30/2011</u>	<u>6/30/2011</u>
Assets (\$million):	\$1,642	\$1,852	\$1,824	\$3,094
Number of Securities:	34	35	36	37
Benchmark:	S&P 500			
Description:	The Large-Cap Core portfolio looks to add alpha by constructing a portfolio of stocks with attractive risk adjusted returns. Portfolio allocations are the result of security analysis and a risk controlled portfolio construction discipline.			

<b>Characteristics:</b>	<u>SMRS</u>	<u>S&amp;P 500</u>
Weighted Average Capitalization (\$billion):	\$122.2	\$111.5
Trailing 12-month P/E:	15.7x	15.0x
Forecast P/E:	12.6x	13.4x
Price/Book:	1.7x	2.2x
Beta:	0.94	1.00
Dividend Yield:	2.0%	2.0%
3-5 Year EPS Growth Estimate:	10.8%	11.2%
Return on Equity:	22.4%	21.1%

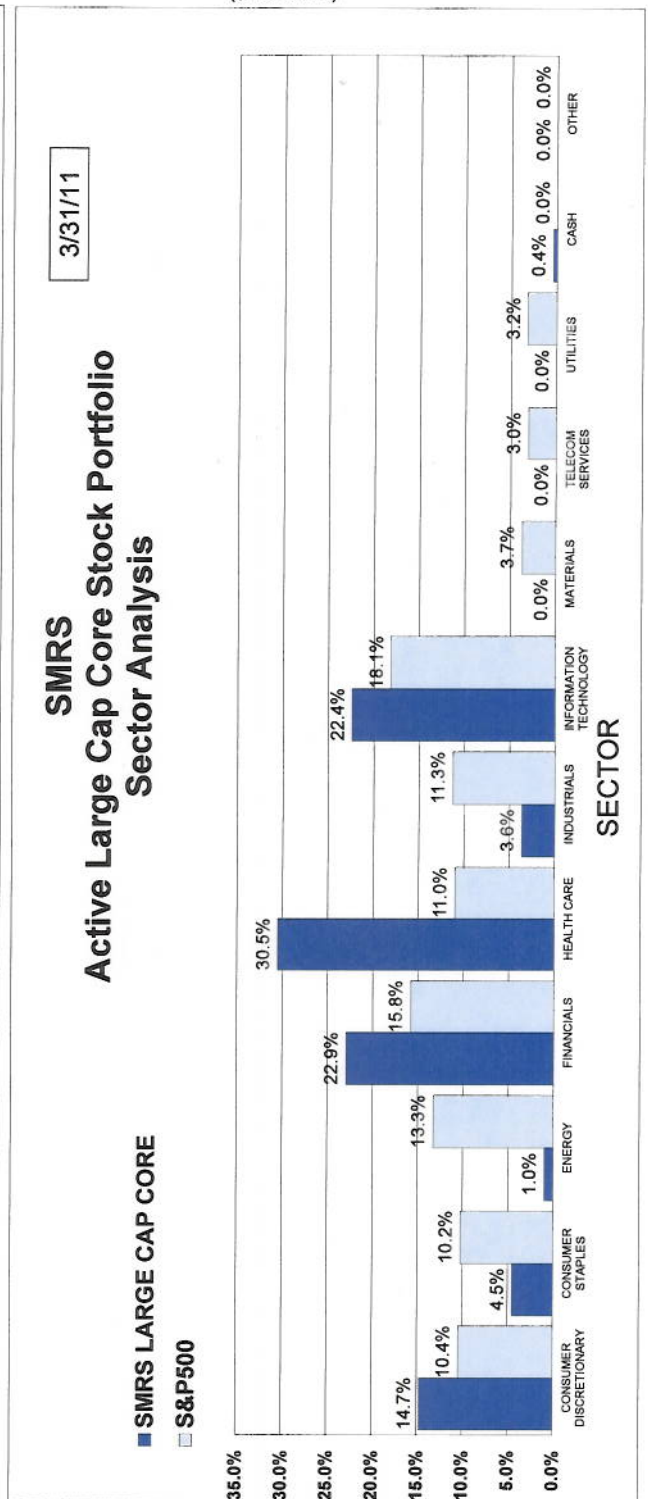
### TOP TEN HOLDINGS - CORE 3/31/2012

	<u>Portfolio Weight</u>	<u>Total Shares</u>	<u>3/31/2012 Price</u>	<u>YTD12 Total Return</u>	<u>Market Value</u>
Apple Inc.	8.89%	243,606	\$599.55	48.04%	\$146,053,977
Google Inc. Cl A	5.74%	147,049	\$641.24	-0.72%	\$94,293,701
Abbott Laboratories	4.99%	1,338,148	\$61.29	9.94%	\$82,015,091
Citigroup Inc.	4.99%	2,240,093	\$36.55	38.96%	\$81,875,399
Johnson & Johnson	4.82%	1,199,827	\$65.96	1.47%	\$79,140,589
Merck & Co. Inc.	4.64%	1,985,806	\$38.40	2.97%	\$76,254,950
Amgen Inc.	4.49%	1,085,411	\$67.97	6.41%	\$73,775,386
General Mills Inc.	4.48%	1,865,215	\$39.45	-1.63%	\$73,582,732
Morgan Stanley	4.43%	3,700,909	\$19.64	30.16%	\$72,685,853
Goldman Sachs Group Inc.	<u>4.42%</u>	583,429	\$124.37	37.94%	<u>\$72,561,065</u>
<b>TOTAL</b>	<u>51.90%</u>				<u>\$852,238,742</u>

03/31/12  
\$1,641.68  
(\$ MILLION)



03/31/11  
\$3,209.50  
(\$ MILLION)

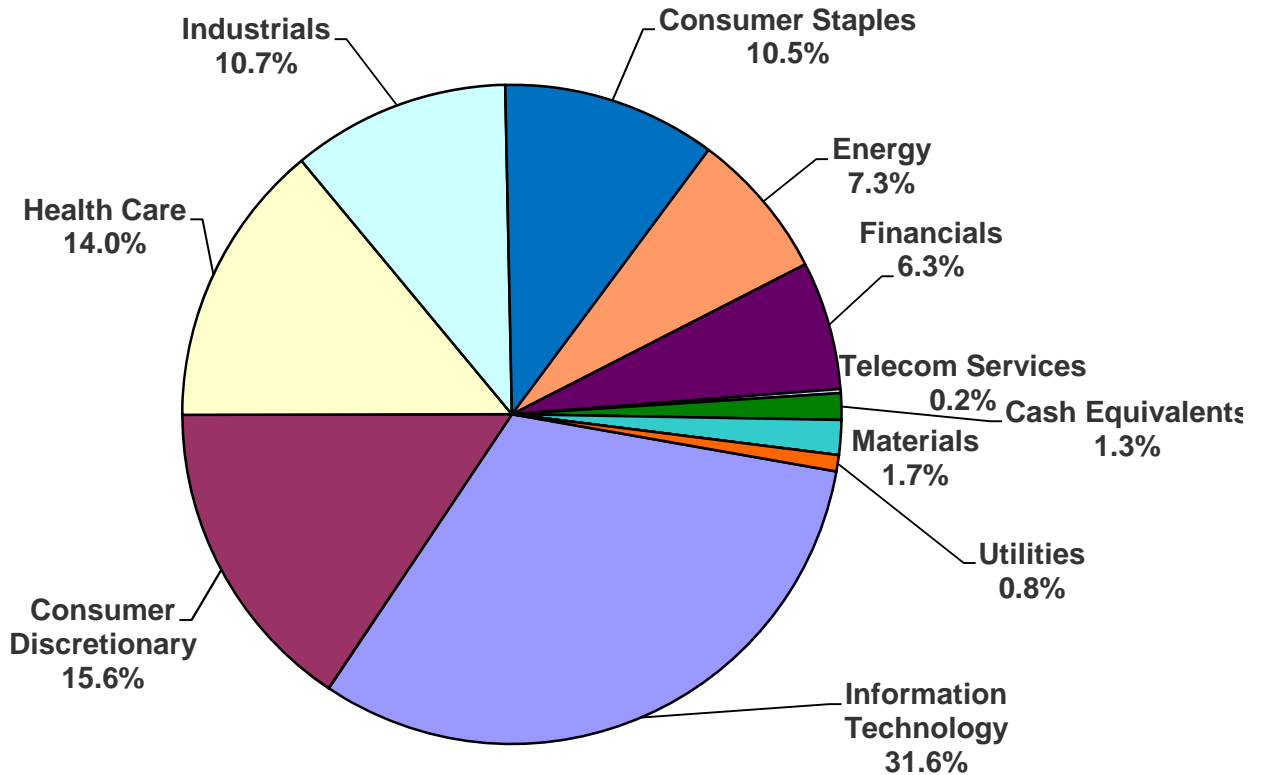




# SMRS

## Domestic Active Equity - Large-Cap Growth Holdings By Category

3/31/12



	Market Value in Millions			
	3/31/2012		12/31/2011	
Information Technology	\$416	31.6%	\$464	37.1%
Consumer Discretionary	206	15.6%	202	16.2%
Health Care	184	14.0%	152	12.2%
Industrials	142	10.7%	140	11.2%
Consumer Staples	138	10.5%	71	5.7%
Energy	96	7.3%	86	6.9%
Financials	83	6.3%	89	7.1%
Telecom Services	3	0.2%	19	1.5%
Materials	22	1.7%	0	0.0%
Utilities	11	0.8%	0	0.0%
Other	0	0.0%	0	0.0%
Total Investments	\$1,301	98.7%	\$1,223	97.9%
Cash Equivalents	17	1.3%	26	2.1%
<b>Total</b>	<b>\$1,318</b>	<b>100.0%</b>	<b>\$1,249</b>	<b>100.0%</b>

## SMRS LARGE-CAP GROWTH PORTFOLIO

<b>Date:</b>	<u>3/31/2012</u>	<u>12/31/2011</u>	<u>9/30/2011</u>	<u>6/30/2011</u>
Assets (\$million):	\$1,318	\$1,249	\$1,284	\$2,103
Number of Securities:	37	37	36	43
Benchmark:	S&P 500/Citigroup Growth Index			
Description:	The Large-Cap Growth portfolio invests in companies that have above-average and sustainable growth in revenues, earnings, and cash flow; identifiable catalysts; and reasonable valuations relative to fundamentals. The portfolio seeks to minimize risk through diversification and an active risk management program.			

<b>Characteristics:</b>	<u>SMRS</u>	<u>S&amp;P 500/Citi Growth</u>
Weighted Average Capitalization (\$billion):	\$105.7	\$133.7
Trailing 12-month P/E:	17.8x	16.6x
Forecast P/E:	15.4x	14.8x
Price/Book:	3.0x	3.7x
Beta:	1.05	0.95
Dividend Yield:	1.3%	1.8%
3-5 Year EPS Growth Estimate:	13.9%	12.7%
Return on Equity:	24.7%	27.9%

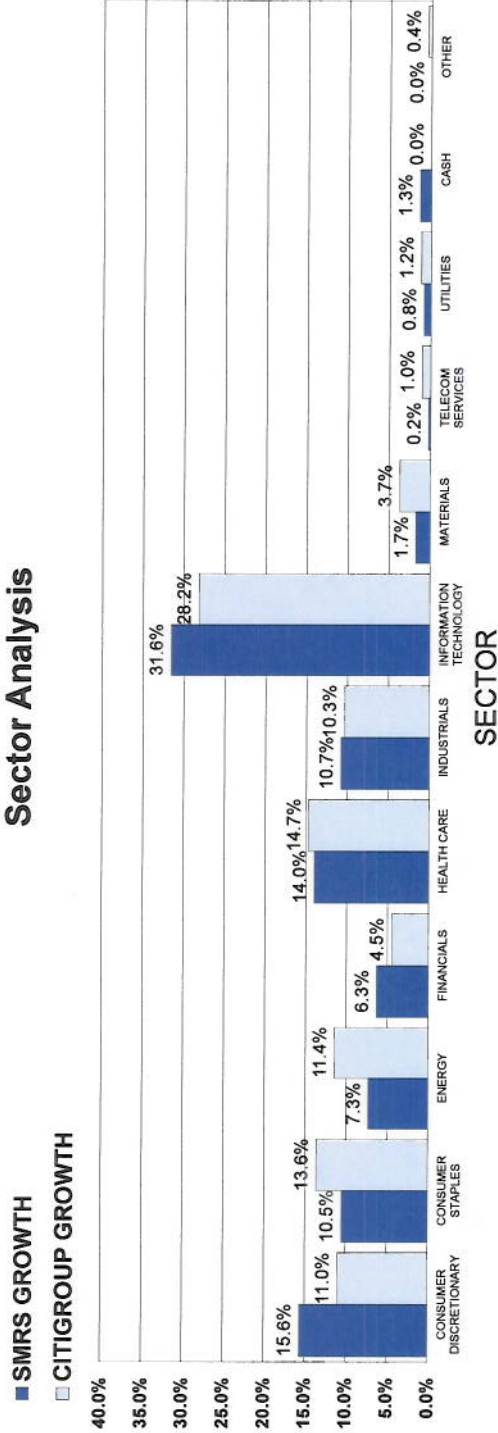
### TOP TEN HOLDINGS - GROWTH 3/31/2012

	<u>Portfolio Weight</u>	<u>Total Shares</u>	<u>3/31/2012 Price</u>	<u>YTD12 Total Return</u>	<u>Market Value</u>
Apple Inc.	7.96%	175,000	\$599.55	48.04%	\$104,921,250
Coca-Cola Co.	5.67%	1,009,000	\$74.01	6.54%	\$74,676,090
McDonald's Corp.	4.30%	577,600	\$98.10	-1.54%	\$56,662,560
Google Inc. Cl A	3.89%	80,000	\$641.24	-0.72%	\$51,299,200
Celgene Corp.	3.47%	590,000	\$77.52	14.67%	\$45,736,800
Allergan Inc.	3.41%	471,300	\$95.43	8.83%	\$44,976,159
TJX Cos.	3.28%	1,087,800	\$39.71	23.37%	\$43,196,538
United Technologies Corp.	3.26%	518,300	\$82.94	14.14%	\$42,987,802
Precision Castparts Corp.	3.09%	235,600	\$172.90	4.94%	\$40,735,240
Visa Inc.	<u>2.89%</u>	322,600	\$118.00	16.44%	<u>\$38,066,800</u>
<b>TOTAL</b>	<u>41.22%</u>				<u>\$543,258,439</u>

03/31/12  
 \$1,318.08  
 (\$ MILLION)

**SMRS**  
**Active Growth Stock Portfolio**  
**Sector Analysis**

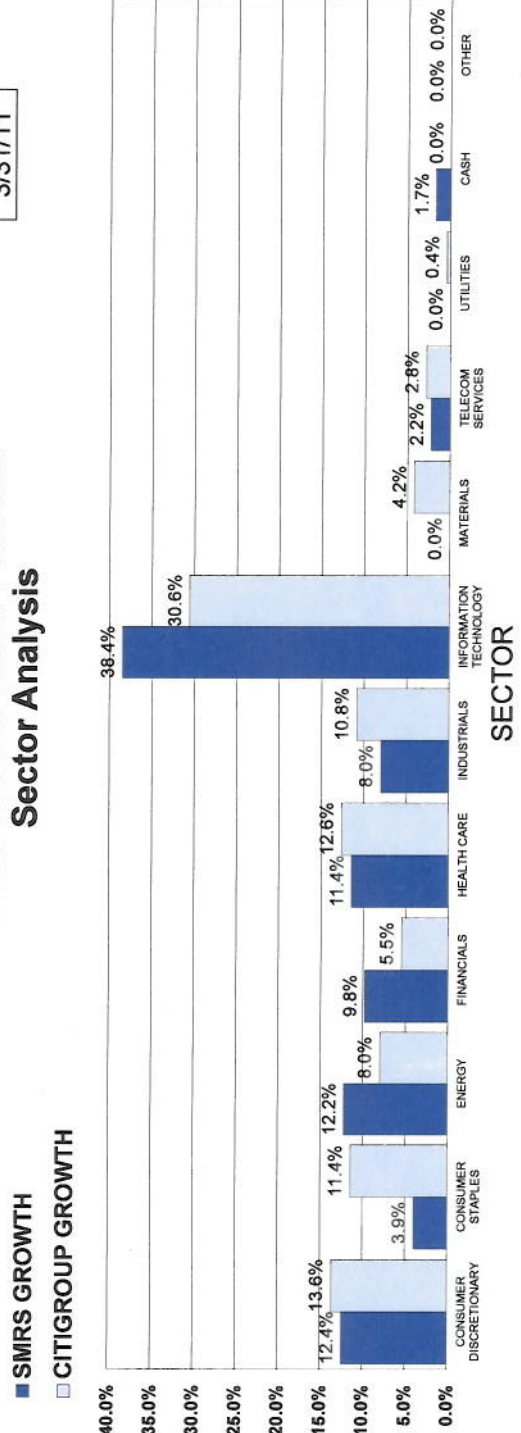
3/31/12



03/31/11  
 \$2,106.07  
 (\$ MILLION)

**SMRS**  
**Active Growth Stock Portfolio**  
**Sector Analysis**

3/31/11



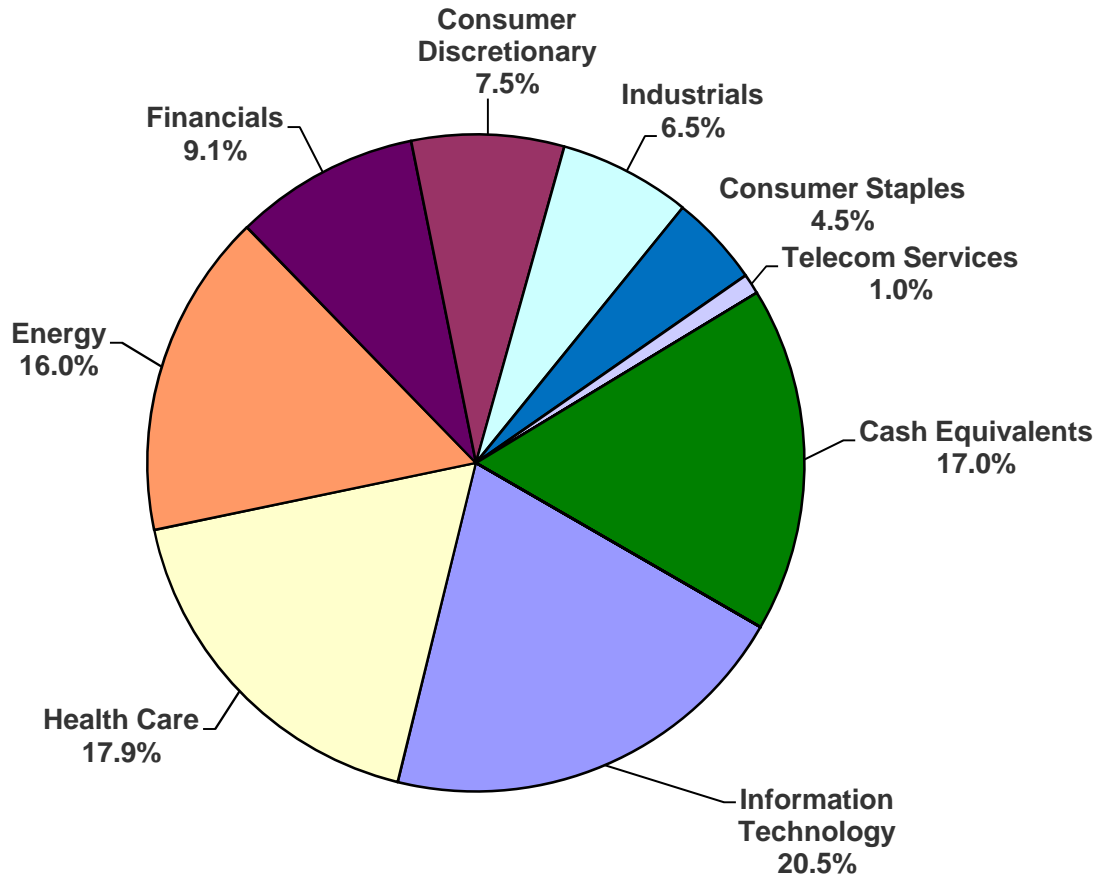




# SMRS

## Domestic Active Equity - Large-Cap Value Holdings By Category

3/31/12



	Market Value in Millions			
	3/31/2012		12/31/2011	
Information Technology	\$178	20.5%	\$260	21.7%
Health Care	155	17.9%	221	18.5%
Energy	139	16.0%	171	14.2%
Financials	79	9.1%	103	8.6%
Consumer Discretionary	65	7.5%	75	6.3%
Industrials	57	6.5%	77	6.4%
Consumer Staples	39	4.5%	79	6.6%
Telecom Services	9	1.0%	13	1.1%
Materials	0	0.0%	0	0.0%
Utilities	0	0.0%	0	0.0%
Other	0	0.0%	0	0.0%
<b>Total Investments</b>	<b>\$721</b>	<b>83.0%</b>	<b>\$999</b>	<b>83.4%</b>
Cash Equivalents	147	17.0%	199	16.6%
<b>Total</b>	<b>\$868</b>	<b>100.0%</b>	<b>\$1,198</b>	<b>100.0%</b>

<b>SMRS LARGE-CAP VALUE PORTFOLIO</b>
---------------------------------------

<b>Date:</b>	<u>3/31/2012</u>	<u>12/31/2011</u>	<u>9/30/2011</u>	<u>6/30/2011</u>
Assets (\$million):	\$868	\$1,198	\$1,172	\$1,805
Number of Securities:	35	34	35	38
Benchmark:	S&P 500/Citigroup Value Index			
Description:	Large-cap stocks selling at market prices that are significantly less than their underlying business value. Focus on companies with above average normalized returns on equity, strong balance sheets and business models with good long-term prospects.			

<b>Characteristics:</b>	<u>SMRS</u>	<u>S&amp;P 500/Citi Value</u>
Weighted Average Capitalization (\$billion):	\$77.7	\$85.5
Trailing 12-month P/E:	12.6x	13.5x
Forecast P/E:	10.5x	12.0x
Price/Book:	1.6x	1.5x
Beta:	0.95	1.06
Dividend Yield:	2.1%	2.3%
3-5 Year EPS Growth Estimate:	11.0%	9.5%
Return on Equity:	15.8%	14.0%

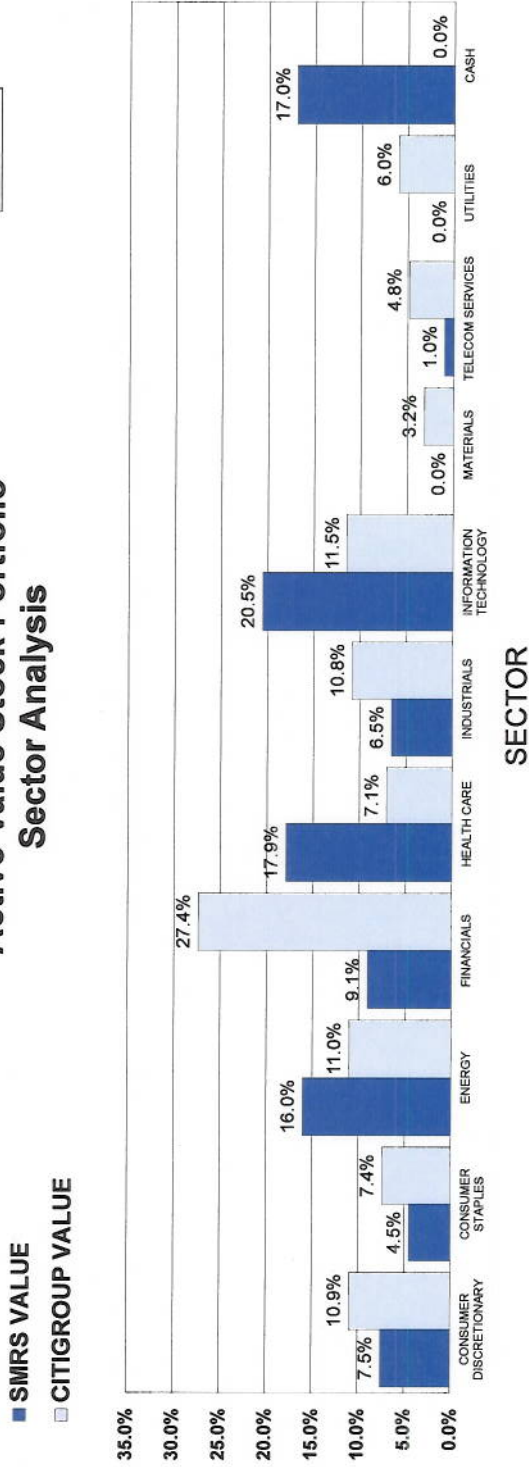
**TOP TEN HOLDINGS - VALUE**  
**3/31/2012**

	<u>Portfolio Weight</u>	<u>Total Shares</u>	<u>3/31/2012 Price</u>	<u>YTD12 Total Return</u>	<u>Market Value</u>
Microsoft Corp.	5.54%	1,491,885	\$32.26	25.07%	\$48,120,751
Cisco Systems Inc.	5.16%	2,119,683	\$21.15	17.36%	\$44,831,295
Hewlett-Packard Co.	3.59%	1,308,443	\$23.83	-7.03%	\$31,180,197
Amgen Inc.	3.47%	442,622	\$67.97	6.41%	\$30,085,017
Kohl's Corp.	3.37%	585,000	\$50.03	2.05%	\$29,267,550
Arrow Electronics Inc.	3.35%	691,795	\$41.97	12.19%	\$29,034,636
Johnson & Johnson	3.32%	437,486	\$65.96	1.47%	\$28,856,577
UnitedHealth Group Inc.	3.25%	478,736	\$58.94	16.64%	\$28,216,700
Apache Corp.	3.17%	274,126	\$100.44	11.06%	\$27,533,215
Ingram Micro Inc. (Cl A)	<u>2.85%</u>	1,331,386	\$18.56	2.03%	<u>\$24,710,524</u>
<b>TOTAL</b>	<u>37.08%</u>				<u>\$321,836,462</u>

03/31/12  
\$867.60  
(\$ MILLION)

**SMRS**  
**Active Value Stock Portfolio**  
**Sector Analysis**

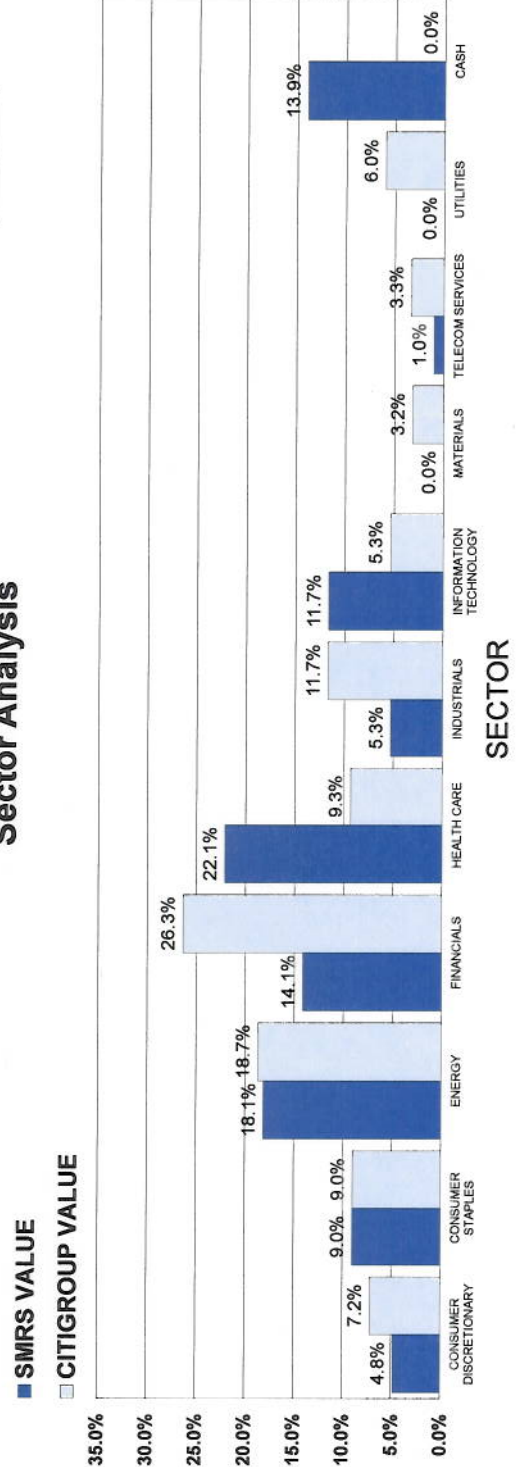
3/31/12



03/31/11  
\$1,867.41  
(\$ MILLION)

**SMRS**  
**Active Value Stock Portfolio**  
**Sector Analysis**

3/31/11



## ACTIVE MID-CAP STOCK PORTFOLIO

<b>Date:</b>	<u>3/31/2012</u>	<u>12/31/2011</u>	<u>9/30/2011</u>	<u>6/30/2011</u>	<u>Change</u>
Assets (\$million):	\$739.1	\$708.3	\$649.8	\$1,128.5	\$30.8
Unique Securities:	551	521	522	554	
Benchmark:	S&P 400				
Description:	The S&P Mid-Cap 400 Index tracks a diverse basket of solid, medium sized U.S. firms with good track records that are simply not large enough to be included in the much larger S&P 500 Index. The index is market-weighted, and stocks are chosen based on market capitalization, liquidity and industry representation, with an average size of between \$1-7 billion.				

<b>Characteristics:</b>	<u>SMRS</u>	<u>S&amp;P 400</u>
Weighted Average Capitalization (\$million):	\$15,308.9	\$3,963.9
Trailing 12-month P/E:	15.1x	18.4x
Forecast P/E:	13.4x	16.0x
Price/Book:	1.9x	2.0x
Beta:	0.94	1.03
Dividend Yield:	1.26%	1.37%
3-5 Year EPS Growth Estimate:	12.6%	14.8%
Return on Equity:	16.0%	13.2%

<u>Managers</u>	<u>3/31/2012</u>	<u>% of Total</u>
Artisan Mid-Cap Value	\$ 211,415,927	28.60%
Champlain Investment Partners Mid-Cap Core	\$ 78,765,697	10.66%
Cramer Rosenthal McGlynn Mid-Cap Value	\$ 100,108,759	13.54%
Los Angeles Capital Mid-Cap Plus Core	\$ 71,988,495	9.74%
Munder Mid-Cap Core Growth	\$ 69,067,253	9.34%
Rainier Mid-Cap Growth	\$ 107,259,851	14.51%
Wellington Management Mid-Cap Growth	<u>\$ 100,486,925</u>	<u>13.60%</u>
	<u>\$ 739,092,906</u>	<u>100.00%</u>

03/31/12

\$739.09

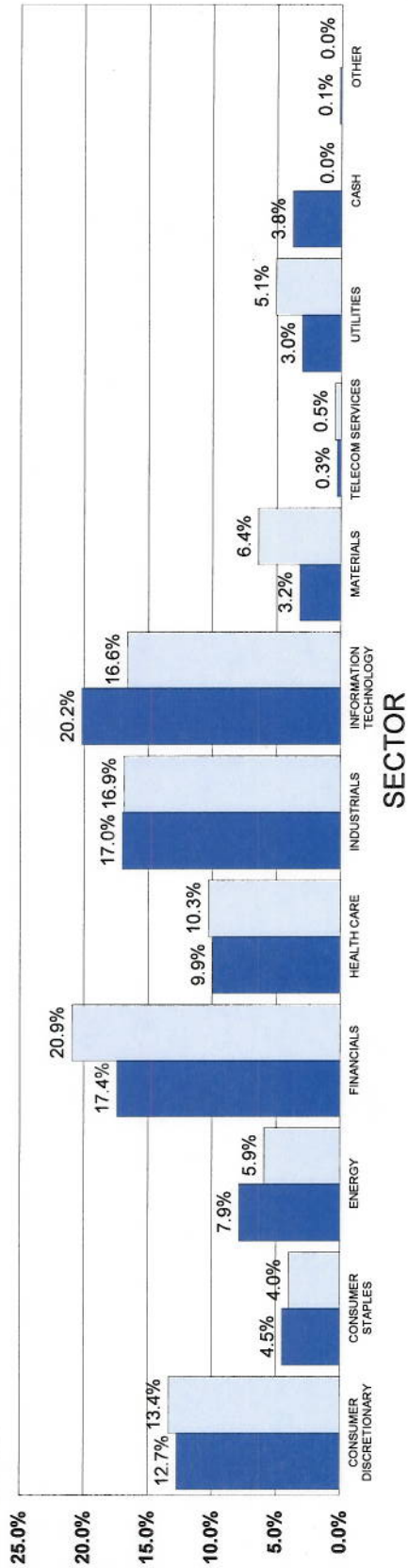
(\$ MILLION)

3/31/12

### SMRS Mid-Cap Portfolio Composite Sector Analysis

■ SMRS MID CAP COMPOSITE

□ S&P400



## ACTIVE SMALL-CAP STOCK PORTFOLIO

<b>Date:</b>	<b><u>3/31/2012</u></b>	<b><u>12/31/2011</u></b>	<b><u>9/30/2011</u></b>	<b><u>6/30/2011</u></b>	<b><u>Change</u></b>
--------------	-------------------------	--------------------------	-------------------------	-------------------------	----------------------

Assets (\$million):	\$647.5	\$847.6	\$739.6	\$961.2	-\$200.1
---------------------	---------	---------	---------	---------	----------

Unique Securities:	433	432	433	438	
--------------------	-----	-----	-----	-----	--

Benchmark:	S&P 600
------------	---------

Description:	The S&P Small-Cap 600 Index invests in a basket of small-cap equities with market capitalizations ranging from \$60 million to \$3 billion. Standard and Poor's adds new stocks to the index based not only on size, but also on financial viability, liquidity, adequate float size, and other trading requirements. This ensures that the index is comprised of higher-quality firms than the Russell 2000. The S&P Small-Cap 600 Index is market value weighted, and relatively evenly distributed.
--------------	--

<b>Characteristics:</b>	<b><u>SMRS</u></b>	<b><u>S&amp;P 600</u></b>
-------------------------	--------------------	---------------------------

Weighted Average Capitalization (\$million):	\$2,075.2	\$1,302.1
--	-----------	-----------

Trailing 12-month P/E:	16.1x	18.9x
------------------------	-------	-------

Forecast P/E:	13.9x	17.0x
---------------	-------	-------

Price/Book:	1.5x	1.8x
-------------	------	------

Beta:	0.94	1.02
-------	------	------

Dividend Yield:	1.09%	1.19%
-----------------	-------	-------

3-5 Year EPS Growth Estimate:	14.1%	13.0%
-------------------------------	-------	-------

Return on Equity:	10.6%	11.9%
-------------------	-------	-------

<b><u>Managers</u></b>	<b><u>3/31/2012</u></b>	<b><u>% of Total</u></b>
Champlain Small-Cap Core	\$ 55,171,655	8.52%
Donald Smith Small-Cap Value	\$ 166,404,480	25.70%
Fisher Small-Cap Value	\$ 219,389,150	33.88%
GW Capital Small-Cap Value	\$ 46,133,676	7.12%
Northpointe Capital Small-Cap Core	\$ 57,985,899	8.95%
Opus Capital Small-Cap Value	\$ 36,200,609	5.59%
Pier Capital Small-Cap Growth	\$ 66,257,355	10.23%
	<u>\$ 647,542,825</u>	<u>100.00%</u>

03/31/12

\$647.54

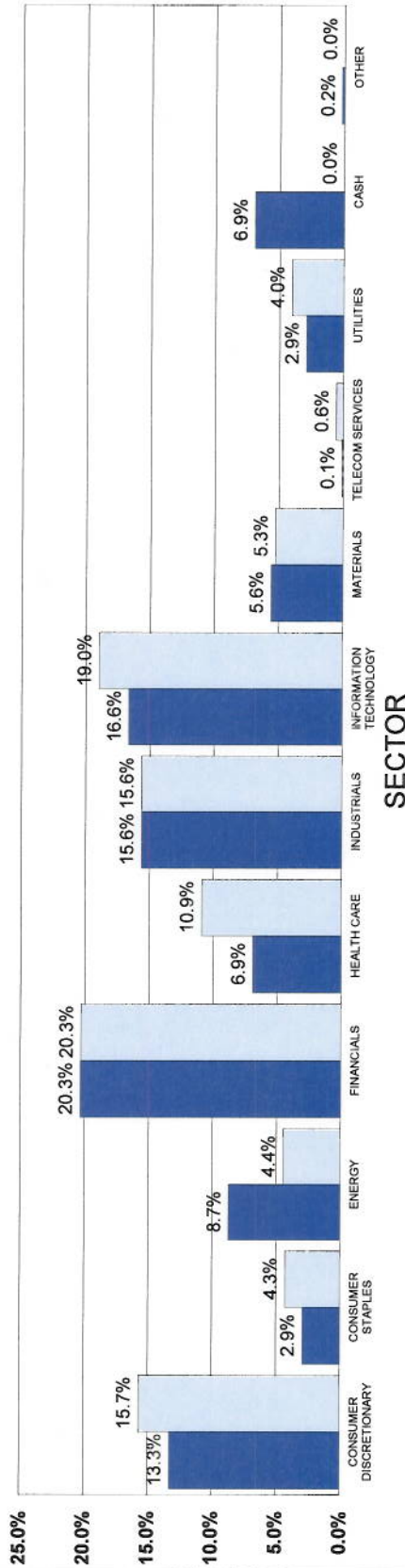
(\$ MILLION)

3/31/12

### SMRS Small-Cap Portfolio Composite Sector Analysis

■ SMRS SMALL CAP COMPOSITE

□ S&P600



## **Sector/Industry Outlook**

### *Defensive Equities*

- Defensive equities (Consumer Staples, Healthcare, Utilities) are attractive relative to both bonds and equity indices.
  - For example, the Consumer Staples sector offers roughly the same expected return as the S&P 500 (9.7%), with significantly less exposure to systemic risk.
    - Higher long-term return than S&P 600 with more than 50% less volatility.
    - Less volatility than the 30-year Treasury bond, which is yielding 3.3%.
    - Roughly the same volatility as junk bonds, which are yielding 7.2%.
  - Private equity investors can leverage such defensive investments in order to generate significantly higher (gross) returns than the S&P 500 at a similar level of risk.
  - Risk-averse investors can combine defensive equities with cash, and generate higher risk-adjusted returns than corporate or treasury bonds.
  - Healthcare sector attractive for similar reasons. Utilities least interesting of the defensive sectors.
- For those who cannot take advantage of the private equity leverage model, Financials are the most attractive of the riskier sectors/asset classes.
  - Significantly higher expected yield to maturity than S&P 600 index (12% vs. 8.7%), with roughly the same level of downside risk.
- Technology sector also offers a slightly greater risk adjusted return than the S&P 500.

## **Internal Portfolio Review and Outlook**

### **S&P 500 Valuation**

- Estimated yield to maturity (bond equivalent return) on the S&P 500 stayed roughly flat at 9.7% in Q1, reflecting both market appreciation and slightly more optimistic model assumptions.
  - Yield to maturity estimate for S&P 500 based on normalized dividend yield (including share repurchases) of 4.7%, plus long-term growth of 5.0%.
- Meanwhile the 30-year U.S. Treasury yield increased to 3.3%.



- Should investors begin demanding a sharply higher rate of return from U.S. sovereign assets due to the country's debt burden, both economic growth and stocks would be negatively impacted.
- However, at 6.4%, the equity risk premium remains wide relative to historical standards, discounting the significant economic risks present in the market, and leaving room for interest rates to rise gradually.
- S&P 400 Mid-Cap and the S&P 600 Small-Cap indices continue to appear rich relative to the S&P 500 Large-Cap benchmark, particularly on a risk-adjusted basis.
  - Normalized price to earnings of 20X, 18X and 14X respectively on S&P 600, S&P 400 and S&P 500 indices.
  - Normalized dividend yields of 1.7%, 2.0% and 4.7% respectively on S&P 600, S&P 400 and S&P 500 indices.
  - Estimated yield to maturity of 8.7%, 9.0% and 9.7% on S&P 600, S&P 400 and S&P 500 indices.

### **Internal Active Equity Positioning**

- The internal active equity portfolio is estimated to have a yield to maturity of 10.2%, which compares favorably to the S&P 500 at 9.7%. This has been accomplished with slightly less exposure to systematic risk than the benchmark.
  - The internal active equity portfolio's estimated normalized earnings yield is 7.9% compared to the S&P 500 at 7.0%.
- The internal active equity portfolio's normalized dividend yield, including share repurchases, is estimated to be 5.4%, versus the S&P 500 at 4.7%.
- Internal Actively Managed Composite overweight the Healthcare, Financial and Consumer Staples sectors.

This portfolio is positioned to outperform the S&P 500 over the medium term in either an up or a down market for the following reasons:

- Favorable valuation characteristics of the portfolio versus the benchmark.
- High quality nature and strong competitive positions of most companies owned.
- Overall risk profile similar to that of the S&P 500

## Internal Active Portfolio, Equity Return Expectations (3/31/2012)

### 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>10.2%</b>	<b>5.2%</b>	<b>5.0%</b>
S&P 500 Large-Cap	9.7%	4.7%	5.0%
S&P 400 Mid-Cap	9.0%	2.0%	7.0%
S&P 600 Small-Cap	8.7%	1.7%	7.0%
US 30 Year Treasury	3.3%	3.3%	0.0%

### Trailing 12 Month and Normalized Earnings Characteristics

	<u>TTM Price/Earnings</u>	<u>Normal Price/Earnings</u>	<u>Normal Earnings Yield</u>
<b>SAD Internal Active Equity</b>	<b>14.2</b>	<b>12.7</b>	<b>7.9%</b>
S&P 500 Large-Cap	14.2	14.2	7.0%
S&P 400 Mid-Cap	17.8	17.9	5.6%
S&P 600 Small-Cap	20.2	17.5	5.7%

### 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>65%</b>	<b>5.2%</b>
S&P 500 Large-Cap	7.0%	67%	4.7%
S&P 400 Mid-Cap	5.6%	36%	2.0%
S&P 600 Small-Cap	5.7%	30%	1.7%

### Third Party Valuation Matrix

	<u>Morningstar</u>	<u>Valueline</u>	<u>Internal Model</u>
<b>SAD Internal Active Equity</b>	<b>23.0%</b>	<b>19.6%</b>	<b>24.9%</b>
<u>S&amp;P 500</u>	<u>12.3%</u>	<u>12.1%</u>	<u>9.7%</u>
<i>Excess Return</i>	10.7%	7.5%	15.2%
S&P 400	4.1%	4.2%	-4.7%
S&P 600	10.5%	3.8%	-6.2%

### Portfolio & Benchmark Risk Estimates

	<u>Portfolio Standard Deviation</u>	<u>Valueline Sharpe Ratio *****</u>	<u>Internal Model Sharpe Ratio *****</u>
SAD Internal Active Equity	22.79%	0.85	1.09
S&P 500	23.18%	0.52	0.41
S&P 400	29.43%	0.14	-0.16
S&P 600	32.29%	0.11	-0.19

\* Earnings Yield = Earnings/Price

\*\* Includes Share Buybacks

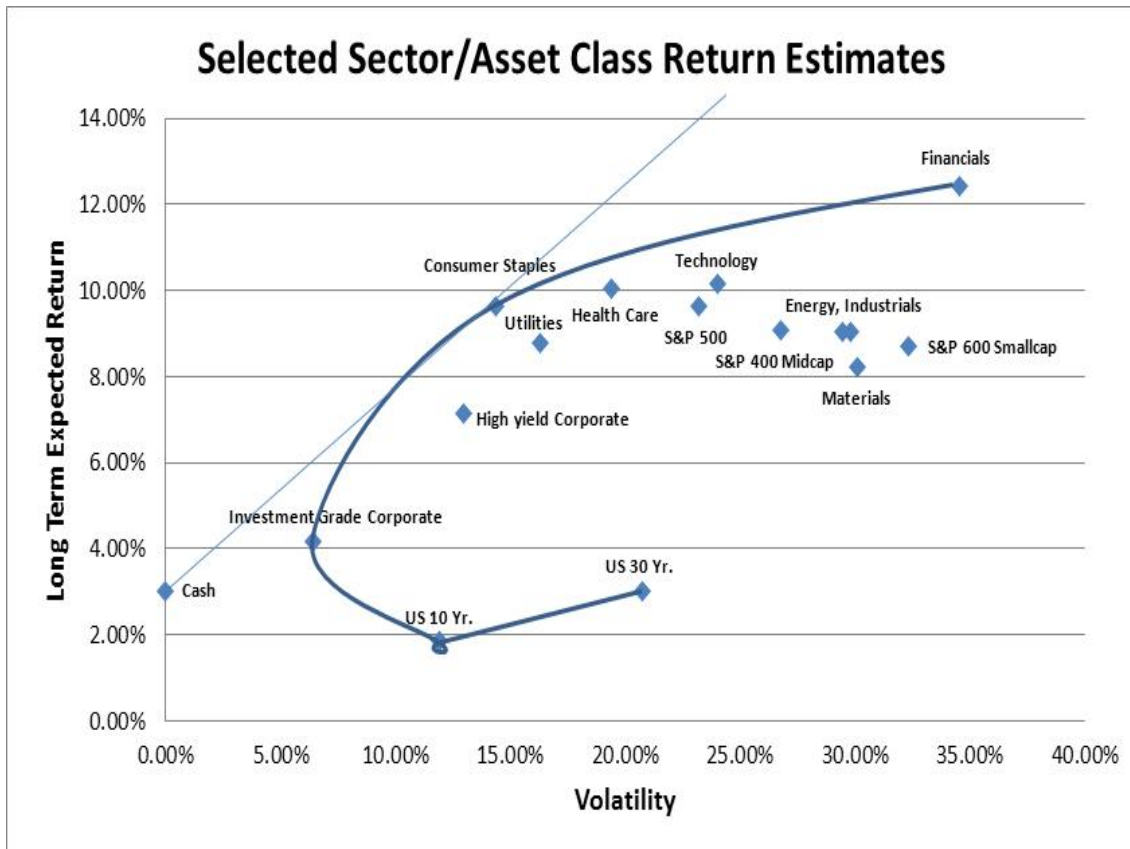
\*\*\* LT Growth Rate Calculation: Return on Equity \* (1-Dividend Payout Ratio)

\*\*\*\* Yield to Maturity Formula: Dividend Yield + LT Growth Rate

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

# Estimated Returns and Risk Across Bonds and Equities

Chart 1



# Financial Sector Health & Valuation Metrics

Chart 2

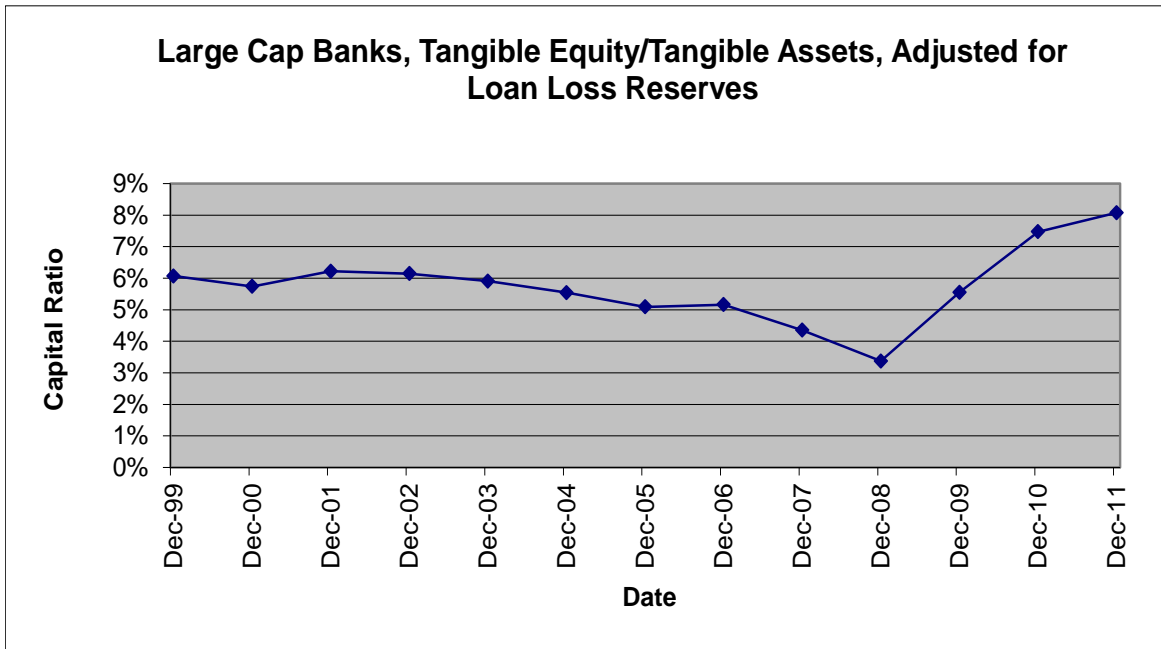
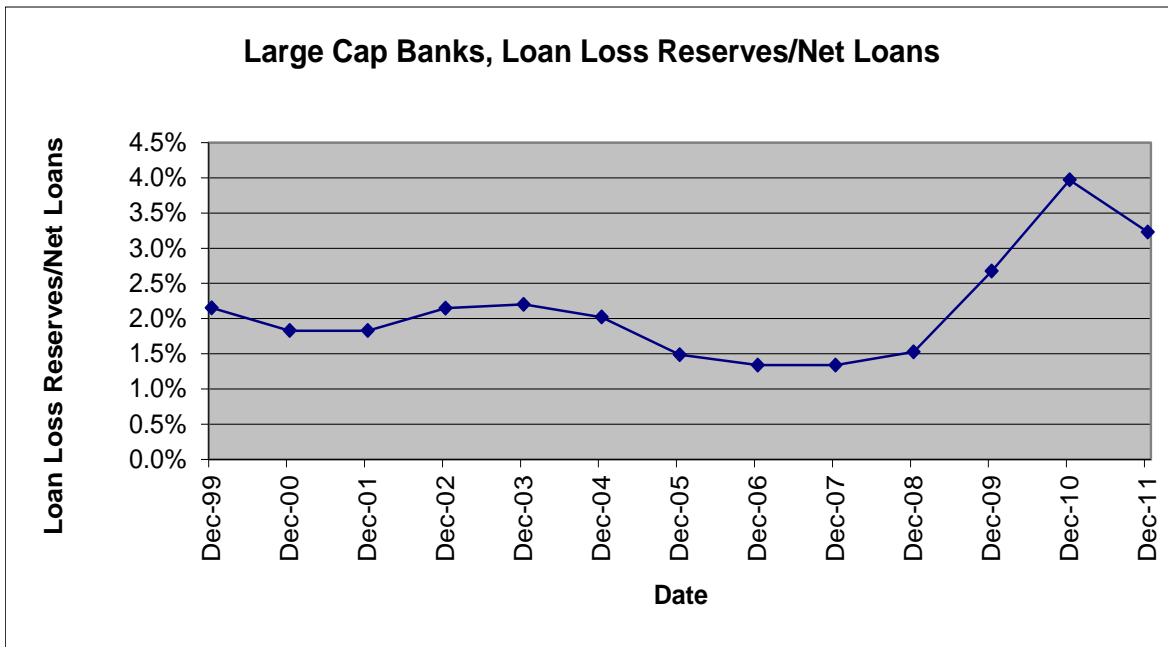
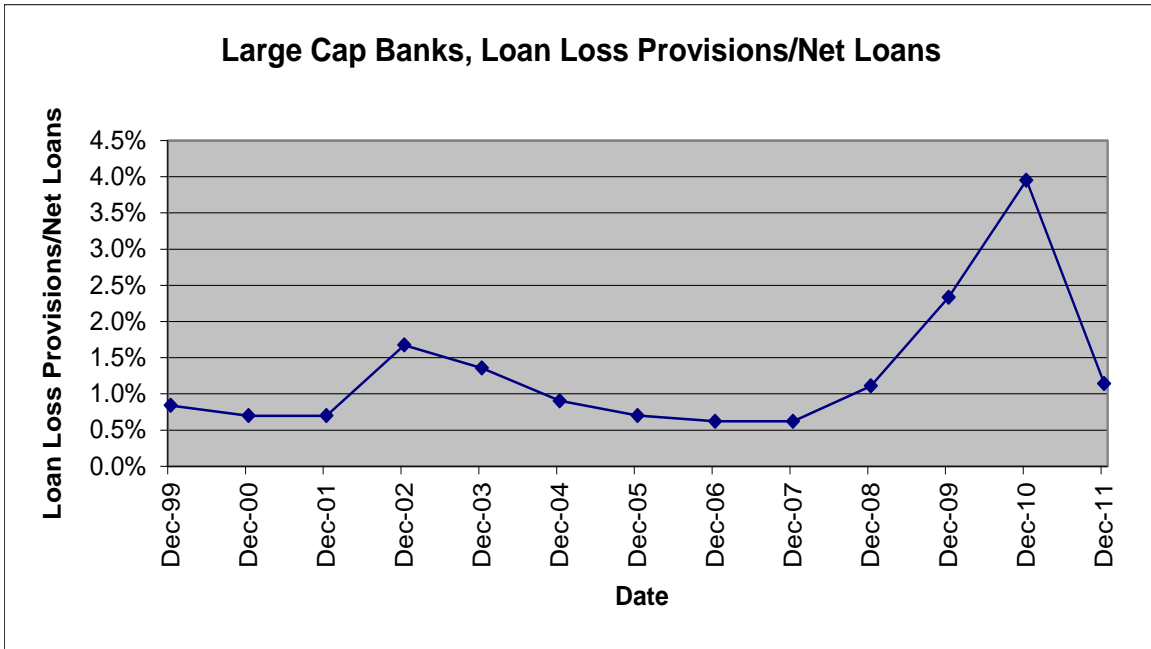


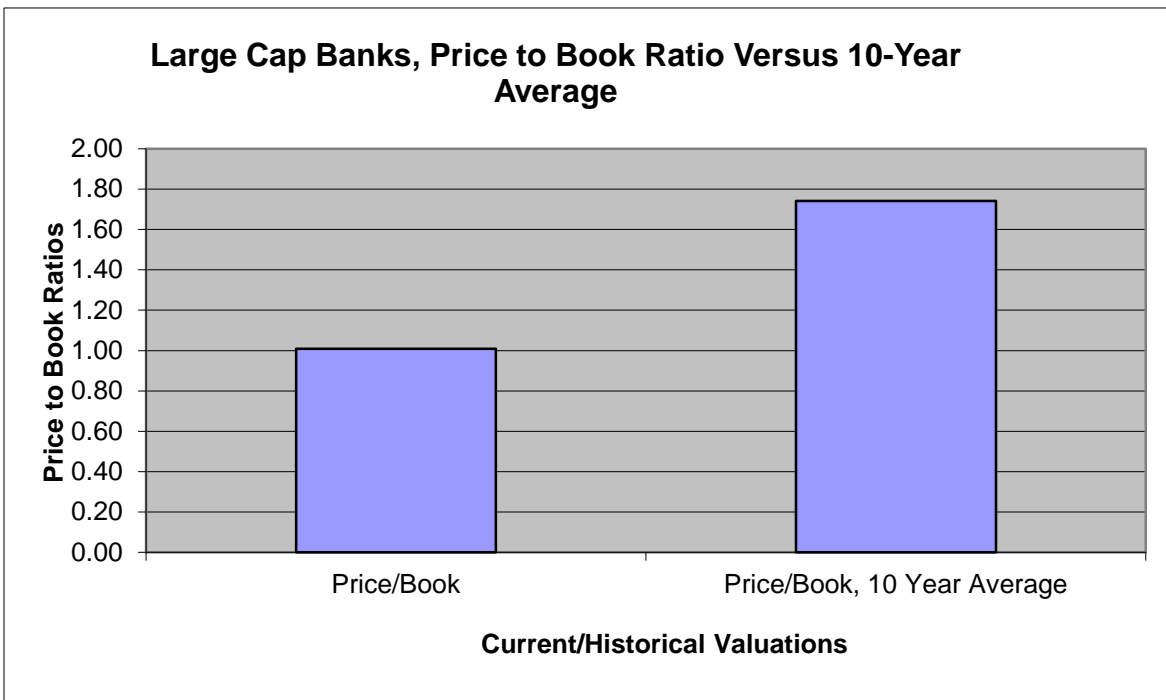
Chart 3



**Chart 4**



**Chart 5**



## US/China Money Supply Growth Comparison

Chart 6

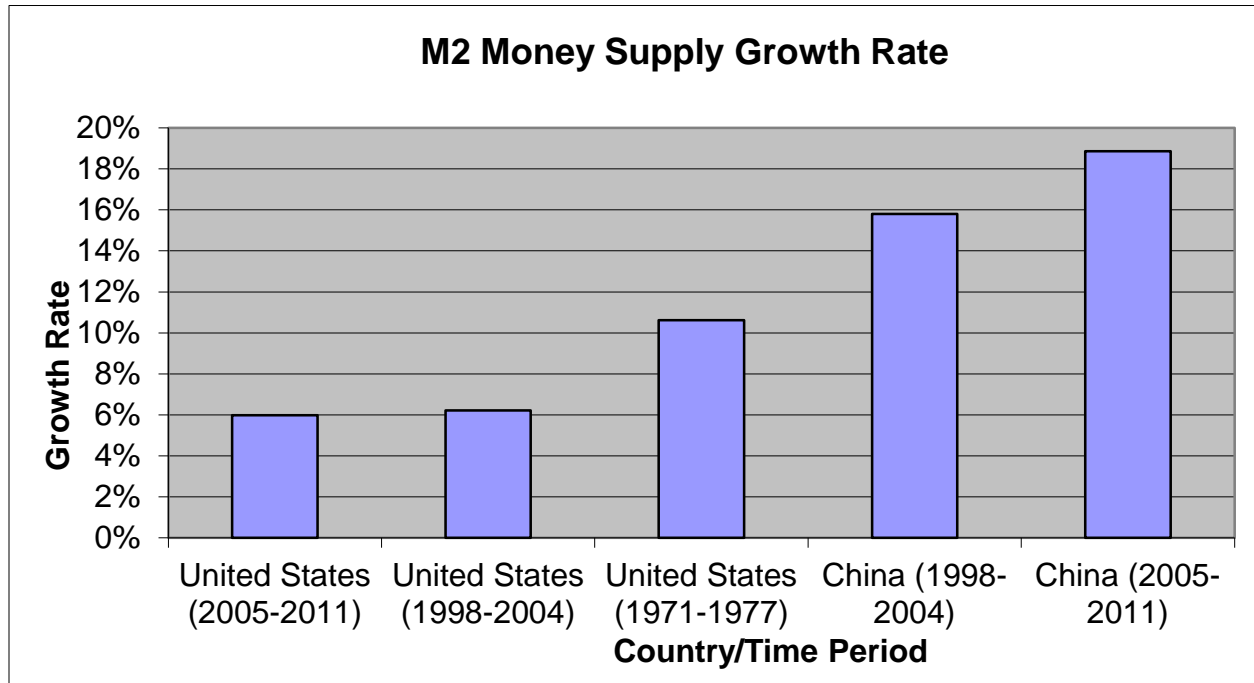
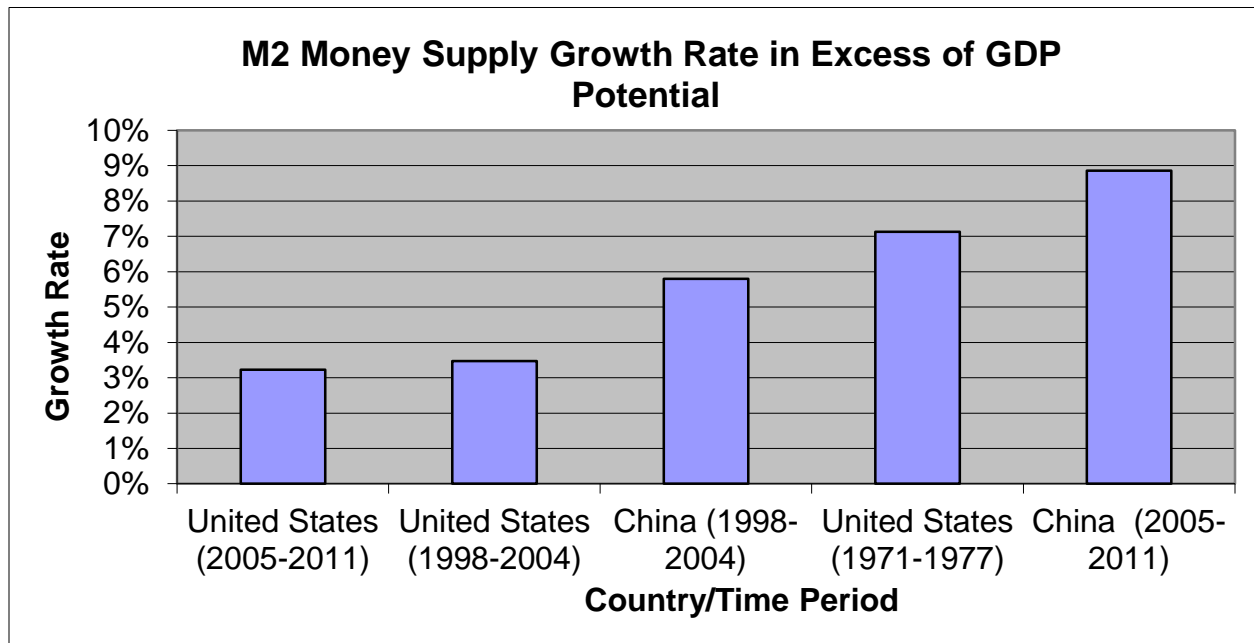
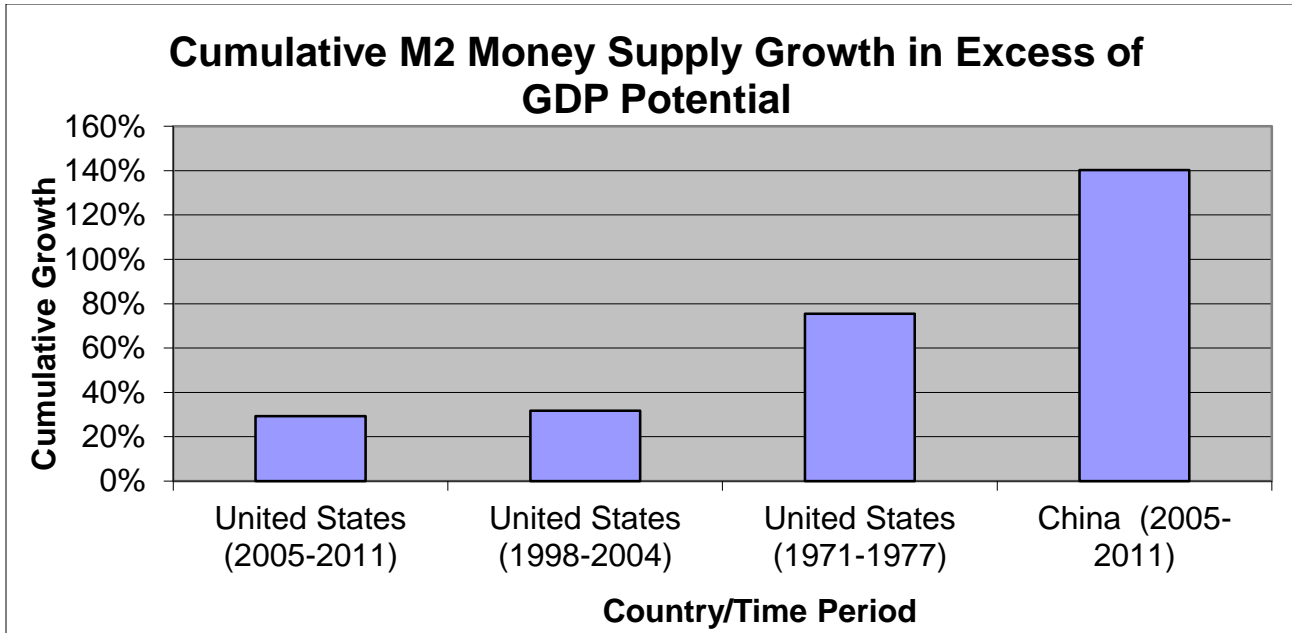


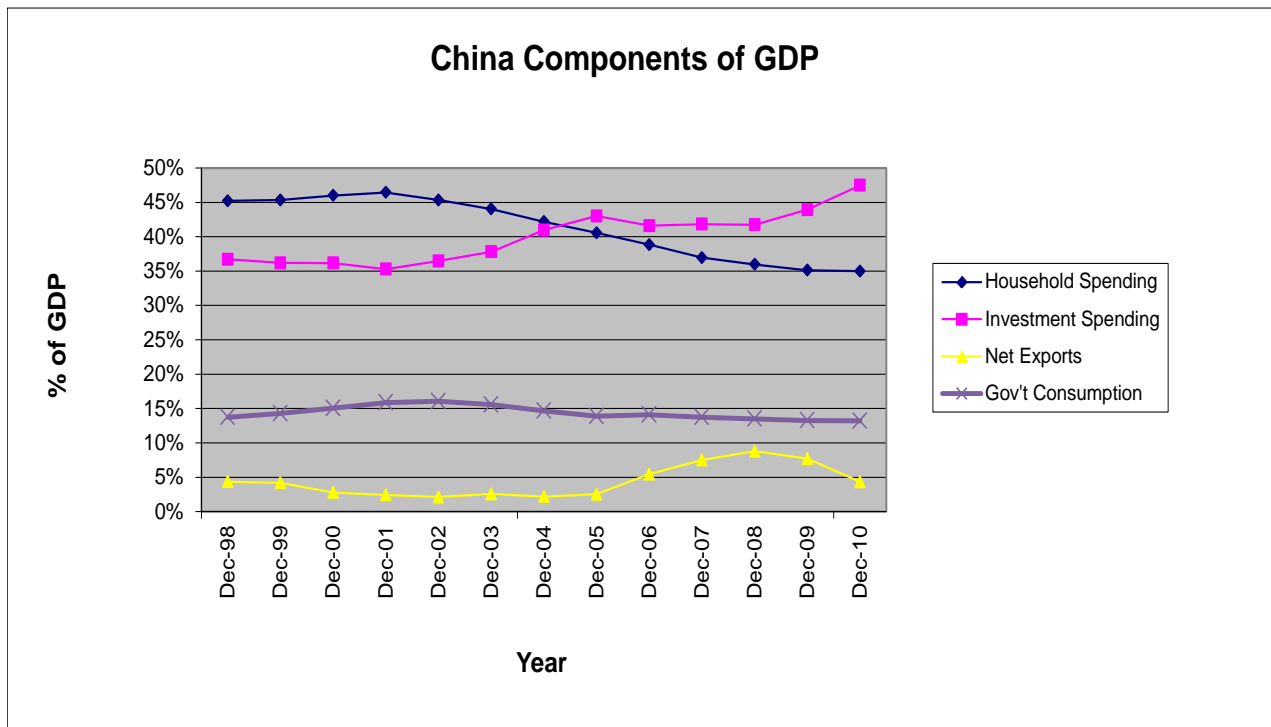
Chart 7



**Chart 8**



**Chart 9**



## SMRS Internal/External Manager Performance as of 3/31/2011

### 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>\$5,491,185</b>	<b>7.31%</b>	<b>22.03%</b>	<b>1.52%</b>	<b>N/A</b>	
S&P 500		8.54%	23.42%	2.01%	N/A	
<i>Internal Large-Cap Active</i>	<i>\$3,828,119</i>	<i>7.99%</i>	<i>22.40%</i>	<i>1.88%</i>	<i>N/A</i>	
S&P 500		8.54%	23.42%	2.01%	N/A	
<i>External Large Cap Active</i>	<i>\$1,479,416</i>	<i>6.38%</i>	<i>20.10%</i>	<i>N/A</i>	<i>20.10%</i>	<i>4/1/2009</i>
S&P 500		8.54%	23.42%	N/A	23.42%	
<b><u>SMRS Large Cap Core Funds</u></b>						
<i>SMRS Large Cap Core</i>	<i>\$1,642,145</i>	<i>5.53%</i>	<i>23.13%</i>	<i>N/A</i>	<i>1.09%</i>	<i>7/31/2007</i>
S&P 500		8.54%	23.42%	N/A	1.52%	
<b><u>SMRS Large Cap Value Funds</u></b>						
<i>SMRS Internal Large Cap Value</i>	<i>\$867,898</i>	<i>5.56%</i>	<i>19.62%</i>	<i>-1.36%</i>	<i>-2.05%</i>	<i>7/31/2007</i>
S&P 500 Value Index		5.26%	23.18%	-0.83%	-1.27%	
<i>External Large Cap Value Composite</i>	<i>\$1,212,972</i>	<i>3.89%</i>	<i>N/A</i>	<i>N/A</i>	<i>10.83%</i>	<i>12/31/2009</i>
S&P 500 Value Index		5.26%	N/A	N/A	12.14%	
LSV Large Cap Value	\$572,042	3.59%	N/A	N/A	12.14%	12/31/2009
S&P 500 Value Index		5.26%	N/A	N/A	12.14%	
Wasatch Advisors	\$202,612	-0.94%	N/A	N/A	7.22%	12/31/2009
S&P 500 Value Index		5.26%	N/A	N/A	12.14%	
Epoch Large Cap Value	\$208,494	5.73%	N/A	N/A	12.01%	12/31/2009
S&P 500 Value Index		5.26%	N/A	N/A	12.14%	
Diamond Hill Large Cap	\$229,824	7.06%	N/A	N/A	10.41%	12/31/2009
S&P 500 Value Index		5.26%	N/A	N/A	12.14%	
<b><u>SMRS Large Cap Growth Funds</u></b>						
<i>SMRS Internal Large Cap Growth</i>	<i>\$1,318,076</i>	<i>13.32%</i>	<i>23.54%</i>	<i>5.12%</i>	<i>5.64%</i>	<i>1/1/2005</i>
S&P 500 Growth Index		11.82%	23.76%	4.80%	5.06%	
<i>External Large Cap Growth Composite</i>	<i>\$266,444</i>	<i>9.93%</i>	<i>21.50%</i>	<i>N/A</i>	<i>21.50%</i>	<i>4/1/2009</i>
S&P 500 Growth Index		11.82%	23.76%	N/A	23.76%	
Edgewood Large Cap Growth	\$266,444	12.33%	20.33%	N/A	20.33%	4/1/2009
S&P 500 Growth Index		11.82%	23.76%	N/A	23.76%	



### 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>\$739,093</b>	<b>3.79%</b>	<b>26.33%</b>	<b>3.47%</b>	<b>7.22%</b>	5/1/2005
S&P 400 Mid-Cap Index		1.98%	28.55%	4.78%	8.27%	
<b>SMRS Mid-Cap Core Funds</b>						
Champlain Investment Partners, Mid Cap	\$78,766	4.87%	25.13%	N/A	23.18%	1/31/2009
S&P 400 Mid Cap Index		1.98%	28.55%	N/A	26.25%	
LA Capital Mid-Cap Core	\$71,988	1.88%	27.44%	4.19%	8.86%	5/1/2005
S&P 400 Mid Cap Index		1.98%	28.55%	4.78%	8.27%	
Munder Mid-Cap Core Growth	\$69,067	3.81%	26.09%	N/A	26.09%	3/31/2009
S&P 400 Mid Cap Index		1.98%	28.55%	N/A	28.55%	
<b>SMRS Mid-Cap Value Funds</b>						
Artisan Mid-Cap Value	\$211,416	6.47%	27.15%	6.19%	9.36%	5/1/2005
S&P 400 Value Index		1.13%	27.19%	2.73%	7.03%	
Cramer Rosenthal Mid-Cap Value	\$100,109	3.67%	22.57%	4.49%	8.40%	5/1/2005
S&P 400 Value Index		1.13%	27.19%	2.73%	7.03%	
<b>SMRS Mid-Cap Growth Funds</b>						
Rainier Mid-Cap Growth	\$107,260	5.49%	26.06%	2.43%	5.47%	1/1/2006
S&P 400 Growth Index		2.88%	29.93%	6.83%	7.61%	
Wellington Mid-Cap Growth	\$100,487	-2.13%	30.53%	3.37%	5.93%	1/1/2006
S&P 400 Growth Index		2.88%	29.93%	6.83%	7.61%	

### 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>\$647,543</b>	<b>-3.27%</b>	<b>26.91%</b>	<b>4.76%</b>	<b>8.11%</b>	<b>10/1/2001</b>
S&P 600 Small-Cap Index		5.03%	29.22%	3.62%	9.85%	
<b>SMRS Small Cap Core Managers</b>						
Champlain Small-Cap Core	\$55,172	5.13%	26.06%	7.75%	7.85%	1/31/2007
S&P 600 Index		5.03%	29.22%	3.62%	3.73%	
Northpointe Small Cap	\$57,986	-4.56%	23.90%	-0.53%	4.86%	10/1/2004
S&P 600 Value/Core Index Blend		2.90%	27.32%	1.79%	6.59%	
<b>SMRS Small Cap Value Managers</b>						
Fisher Small-Cap Value	\$219,389	-1.11%	30.42%	5.56%	9.52%	9/30/2004
S&P 600 Value Index		4.68%	28.05%	2.14%	6.83%	
Donald Smith & Co.	\$166,404	-2.74%	27.23%	7.34%	7.28%	1/31/2007
S&P 600 Value Index		4.68%	28.05%	2.14%	2.08%	
GW Capital Small Cap Value	\$46,134	-8.92%	26.99%	1.27%	1.72%	1/31/2007
S&P 600 Value Index		4.68%	28.05%	2.14%	2.08%	
Opus Capital Small-Cap Value	\$36,201	0.06%	26.13%	1.76%	2.18%	1/31/2007
S&P 600 Value Index		4.68%	28.05%	2.14%	2.08%	
<b>SMRS Small Cap Growth Managers</b>						
Pier Small-Cap Growth	\$66,257	-7.76%	25.62%	6.18%	5.71%	1/31/2007
S&P 600 Growth Index		5.54%	30.50%	5.13%	5.42%	

### 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	\$164,480	6.46%	23.98%	N/A	1.24%	11/1/2007
S&P 1500 Super Composite		7.84%	24.03%	N/A	0.46%	
Bivium Capital Partners	\$148,549	6.49%	24.92%	N/A	0.78%	11/1/2007
S&P 1500 Super Composite		7.84%	24.03%	N/A	0.46%	
Leading Edge Investment Advisors	\$51,342	4.21%	23.31%	N/A	0.91%	11/1/2007
S&P 1500 Super Composite		7.84%	24.03%	N/A	0.46%	
SMRS Internal All Cap GARP	\$122,869	N/A	N/A	N/A	14.05%	5/1/2011
S&P 1500 Super Composite		N/A	N/A	N/A	4.74%	
Seizert Capital Partners	\$132,602	5.87%	N/A	N/A	18.16%	11/1/2009
S&P 1500/S&P 400 Blend		7.03%	N/A	N/A	22.73%	

### 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>
Absolute Return Income Fund	\$178,824	11.56%	21.34%	N/A	17.61%	

### Total Domestic Equity Assets by Category \*

<u>Asset Category</u>	<u>Market Value</u>	<u>% of Total</u>	<u>S&amp;P 1500</u>
Internal Large-Cap	\$3,921,492	27%	
External Large-Cap	\$1,663,065	12%	
Large-Cap Passive	\$6,019,713	42%	
<i>Total Large Cap Equity</i>	<i>\$11,604,270</i>	<i>80%</i>	<i>88%</i>
Mid-Cap Active	\$739,093	5%	
Mid-Cap Passive	\$646,081	4%	
<i>Total Mid-Cap Equity</i>	<i>\$1,385,174</i>	<i>10%</i>	<i>8%</i>
<i>Small-Cap Active</i>	<i>\$647,543</i>	<i>4%</i>	<i>4%</i>
<i>All-Cap Active &amp; Balanced Funds</i>	<i>\$798,666</i>	<i>6%</i>	
<b><i>Total Domestic Equity</i></b>	<b><i>\$14,435,653</i></b>	<b><i>100%</i></b>	

\* Market Values reflect both equity and cash balances within funds in respective asset categories

# 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 mngs that ranked below median...		Avg no. of consecutive Qs spent below median <sup>(2)</sup>	No. mngs who recovered from "down period" by 09.30.2010 <sup>(3)</sup> , <sup>(4)</sup>	Avg rank of the recovered mngs 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.

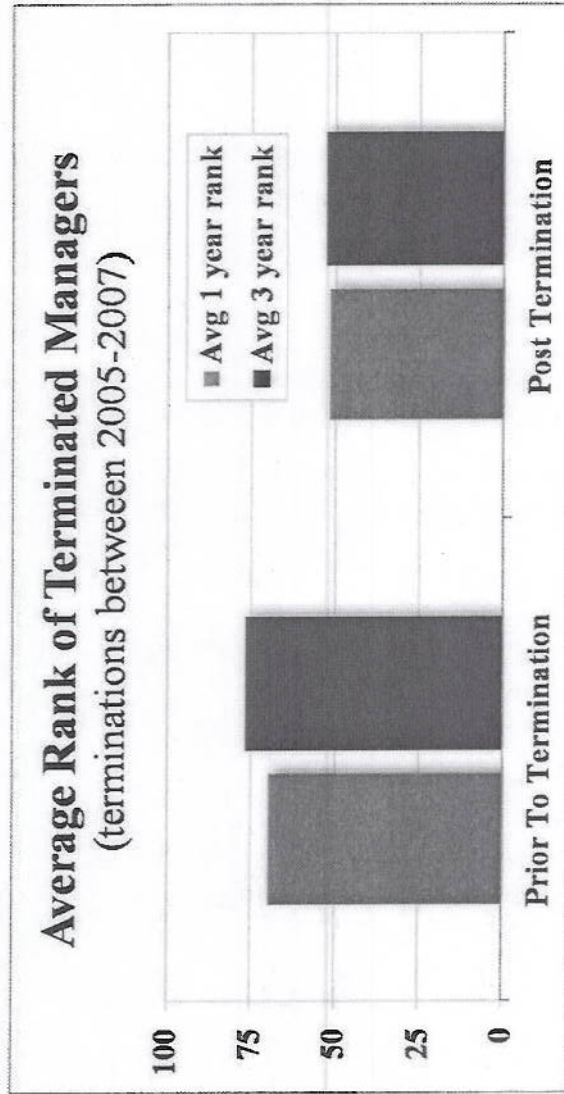
(4) "Down period" is classified as four or more consecutive quarters of below median ranks.

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.



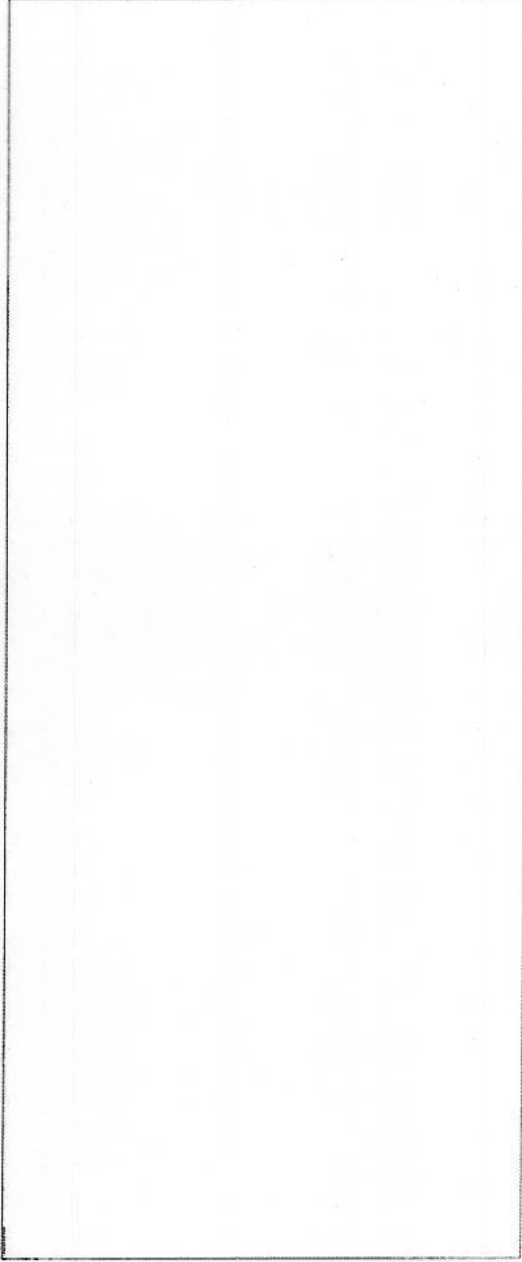
Source: R.V. Kuhns & Associates, Inc., 2010. Client data for 36 performance based terminations of managers from 2005 to 2007.



# "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**

**JUNE 14, 2012**



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





## EXECUTIVE SUMMARY

### General Overview

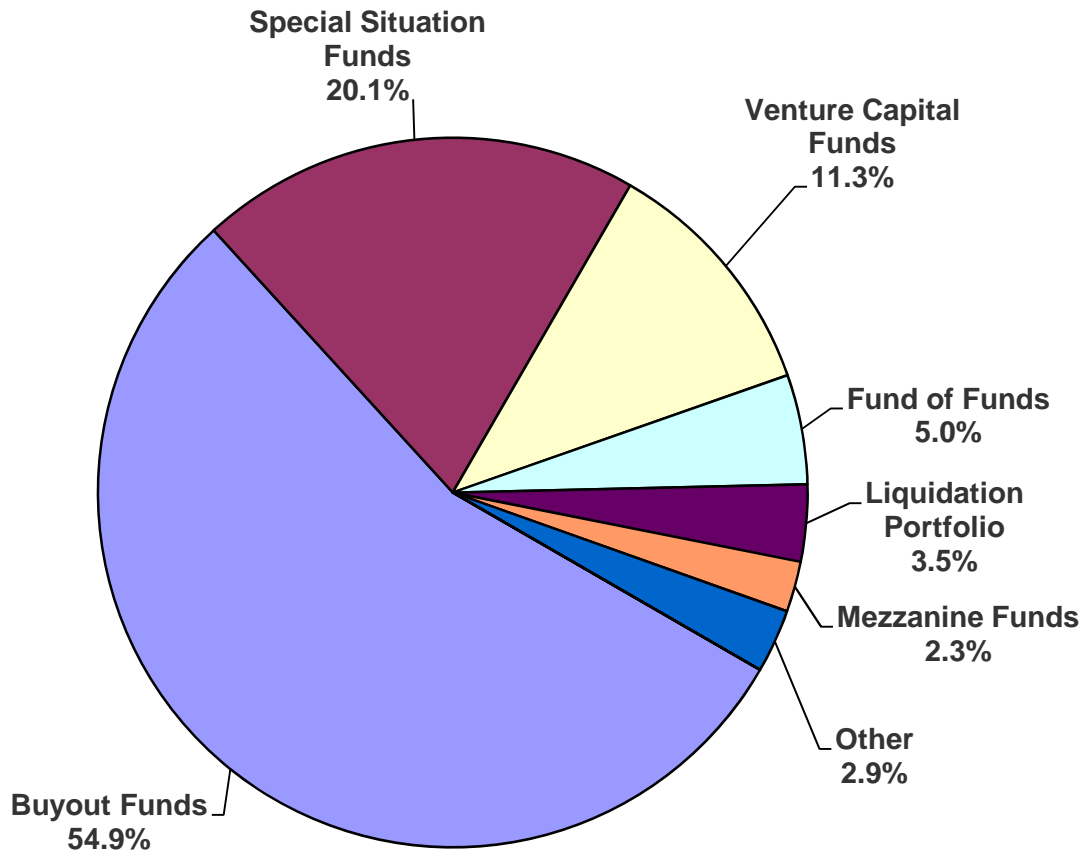
- Macro-economic uncertainty will remain the dominant theme for 2012. The U.S. budget deficit crisis and the European sovereign debt crisis will continue to foster volatility in both public and private markets.
- Buyout deal volume during the first quarter hit its lowest level since 2009, but lenders do not expect the deal drought to last. In the first quarter, deal volume did not keep pace with improved credit markets, in part because private equity firms were hesitant to overpay in what appeared to be a seller's market. Instead, firms tapped the debt markets to amend existing credit agreements and for dividend recaps. Expect this trend to continue. Despite efforts over the last few years to extend maturities and pay down debt, more than \$250 billion in financial sponsor-backed loans in the U.S. will come due in 2012 and 2013.
- The industrial sector was the most popular place for private equity-backed acquisitions in the first quarter. This suggests sponsors are looking for more cyclical plays as the economy improves. Sellers, including large companies that want to divest non-core businesses, are lately more confident they can get acceptable bids for these assets as the economy improves. Financing remained relatively modest while purchase price multiples remained high. Sponsors still have to put up significant equity to close deals, with equity checks hovering in the range of 35% - 45% of the deal price. The average debt multiple was 4.5x EBITDA, while the average purchase price multiple was 8.6x EBITDA. Exit opportunities were plentiful in the first quarter as U.S. based financial sponsors completed about 85 exits via M&A and approximately 15 IPOs.
- Fundraising remains extremely competitive. The current supply of funds in the market continues to overwhelm demand. As large institutional investors concentrate their portfolios and adopt a core/non-core view of the world, the fundraising gap between funds is widening. Funds with marquee names and stellar performance have no difficulty raising funds. The flip side is that less than half the funds in the market are getting any traction.
- InvestMichigan Update: 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

3/31/12



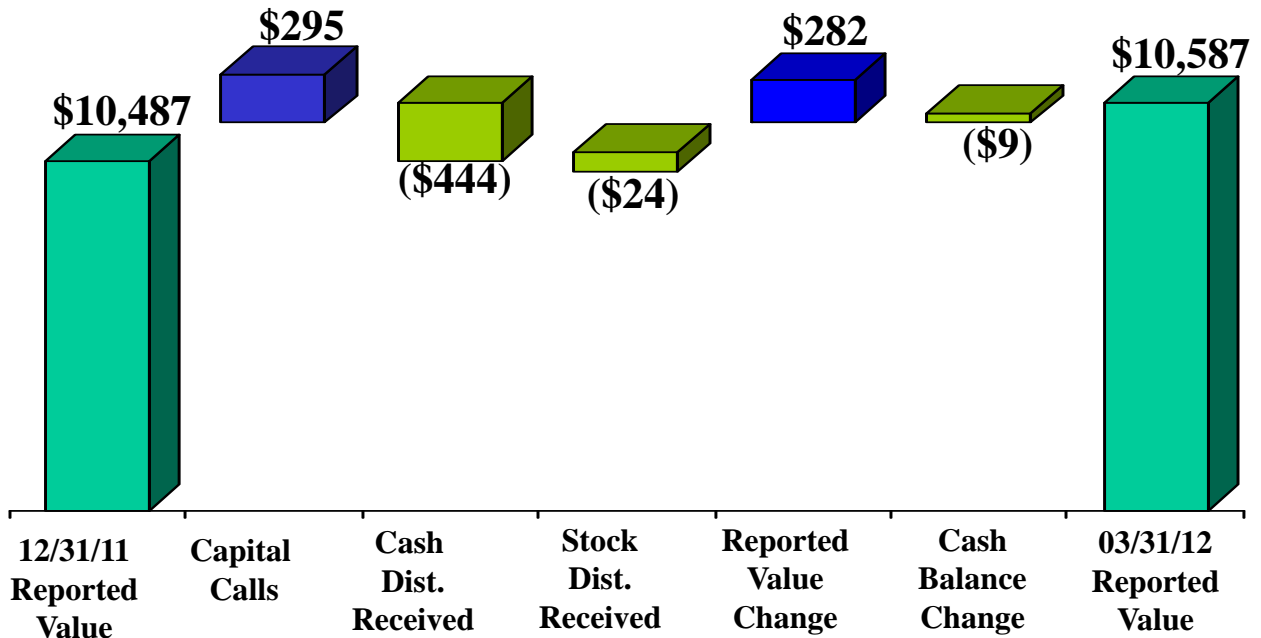
Market Value in Millions				
	<u>3/31/2012</u>		<u>12/31/2011</u>	
Buyout Funds	\$5,813	54.9%	\$5,677	54.1%
Special Situation Funds	2,128	20.1%	2,121	20.2%
Venture Capital Funds	1,195	11.3%	1,182	11.3%
Fund of Funds	534	5.0%	553	5.3%
Liquidation Portfolio	370	3.5%	416	4.0%
Mezzanine Funds	245	2.3%	244	2.3%
Other	302	2.9%	294	2.8%
<b>Total</b>	<b>\$10,587</b>	<b>100.0%</b>	<b>\$10,487</b>	<b>100.0%</b>

(\$ Millions)

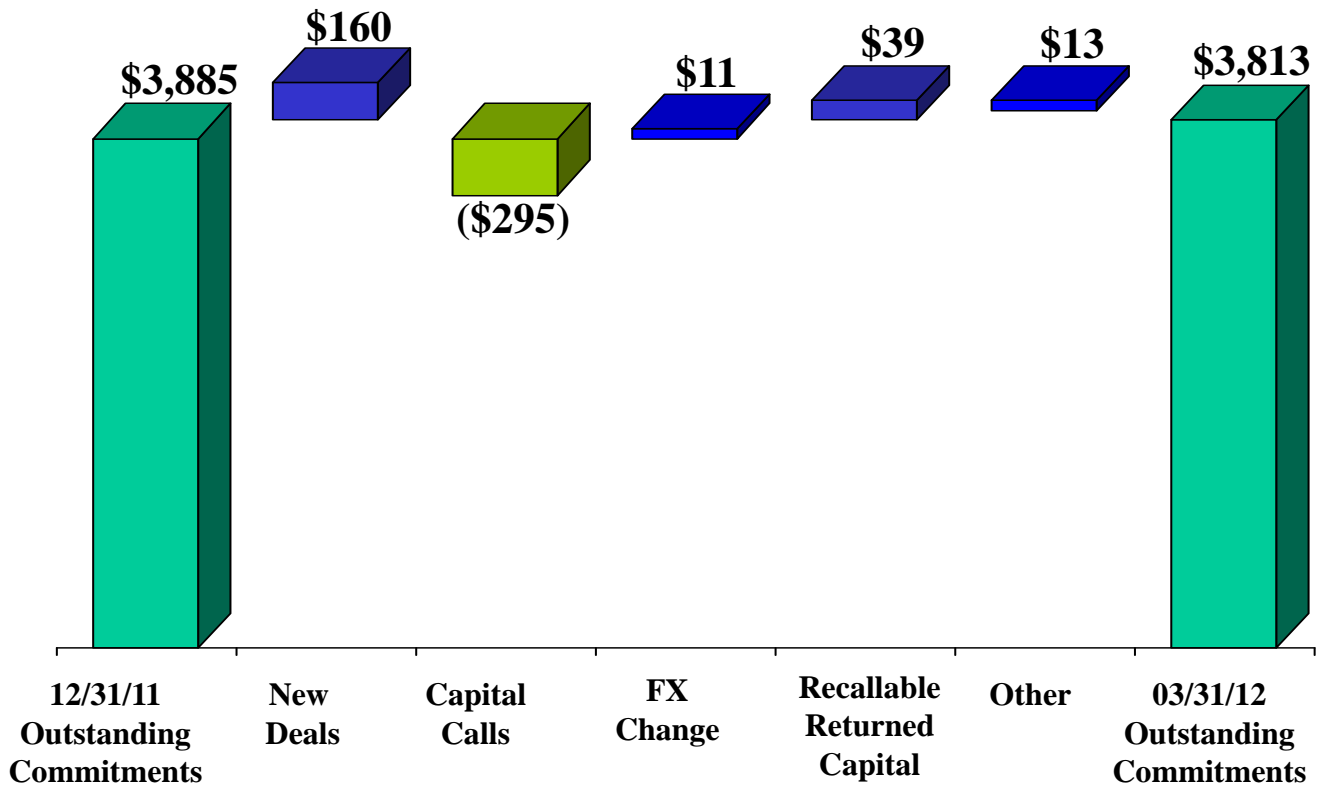
# Alternative Investments Division

As of March 31, 2012

## Invested Commitments



## Outstanding Commitments



(\$ Millions)

# Alternative Investments Division

As of March 31, 2012

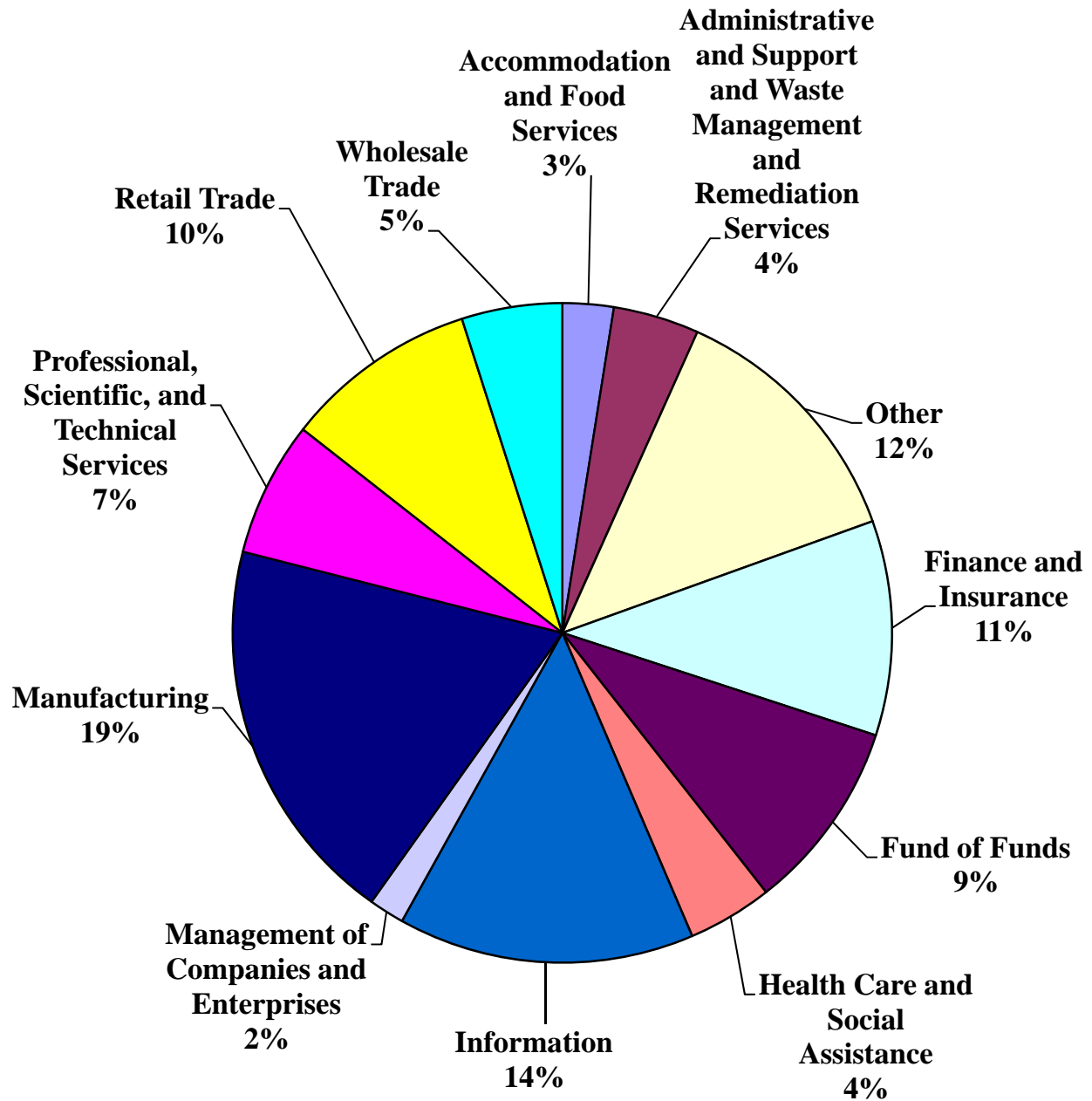
## Portfolio Profile

<u>Asset Type</u>	<u>Reported Value</u>	<u>Outstanding Commitment</u>	<u>Total Exposure</u>
Buyout	\$ 5,813	\$ 2,387	\$ 8,200
Venture Capital	1,195	321	1,516
Special Situations	2,023	676	2,699
Fund of Funds	534	209	743
Hedge Funds - Equity	40	-	40
Liquidation Portfolio	370	13	383
Active Small Cap - Stock Dist	14	-	14
<b>Total Alternative Equities</b>	<b>\$ 9,989</b>	<b>\$ 3,606</b>	<b>\$ 13,595</b>
Mezzanine Debt	\$ 245	\$ 183	\$ 428
Special Situations	105	24	129
Hedge Funds - Fixed Income	113	-	113
Cash	135	-	135
<b>Total Alternative Fixed Income</b>	<b>\$ 598</b>	<b>\$ 207</b>	<b>\$ 805</b>
<b>Total Alternative Investments</b>	<b>\$ 10,587</b>	<b>\$ 3,813</b>	<b>\$ 14,400</b>

# Alternative Investments Division

As of March 31, 2012

## Investments By Industry

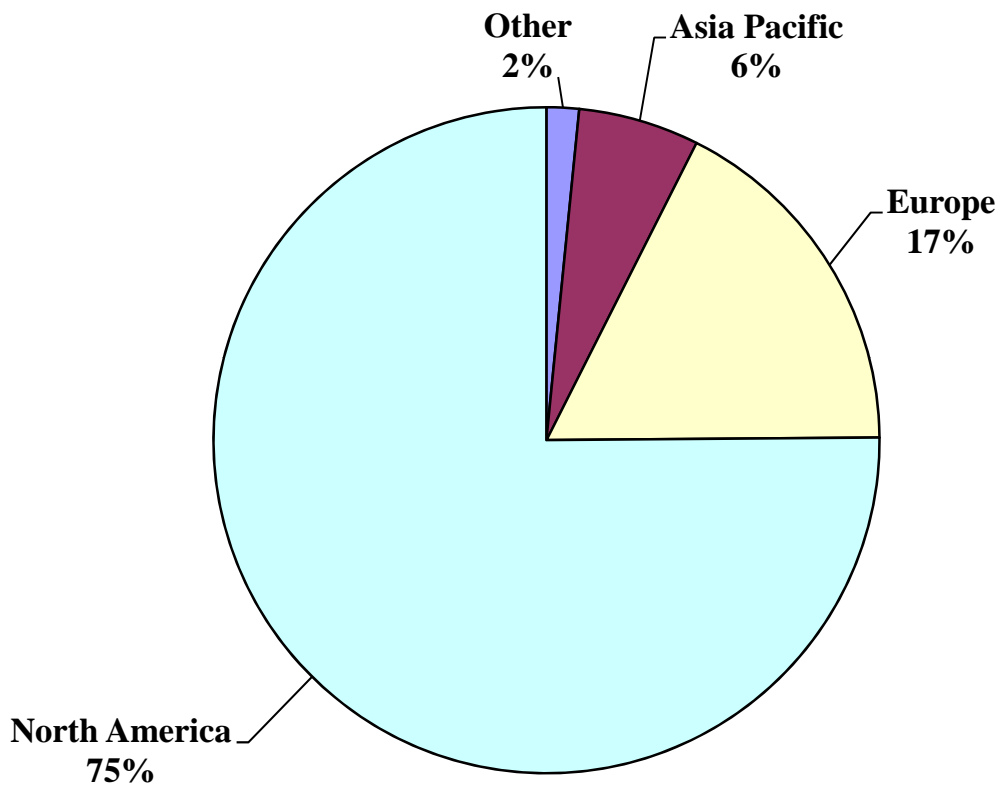


These numbers are based on the most recent available General Partner Data; primarily 12/31/2011 and are subject to change.

# Alternative Investments Division

As of March 31, 2012

## Investments By Region

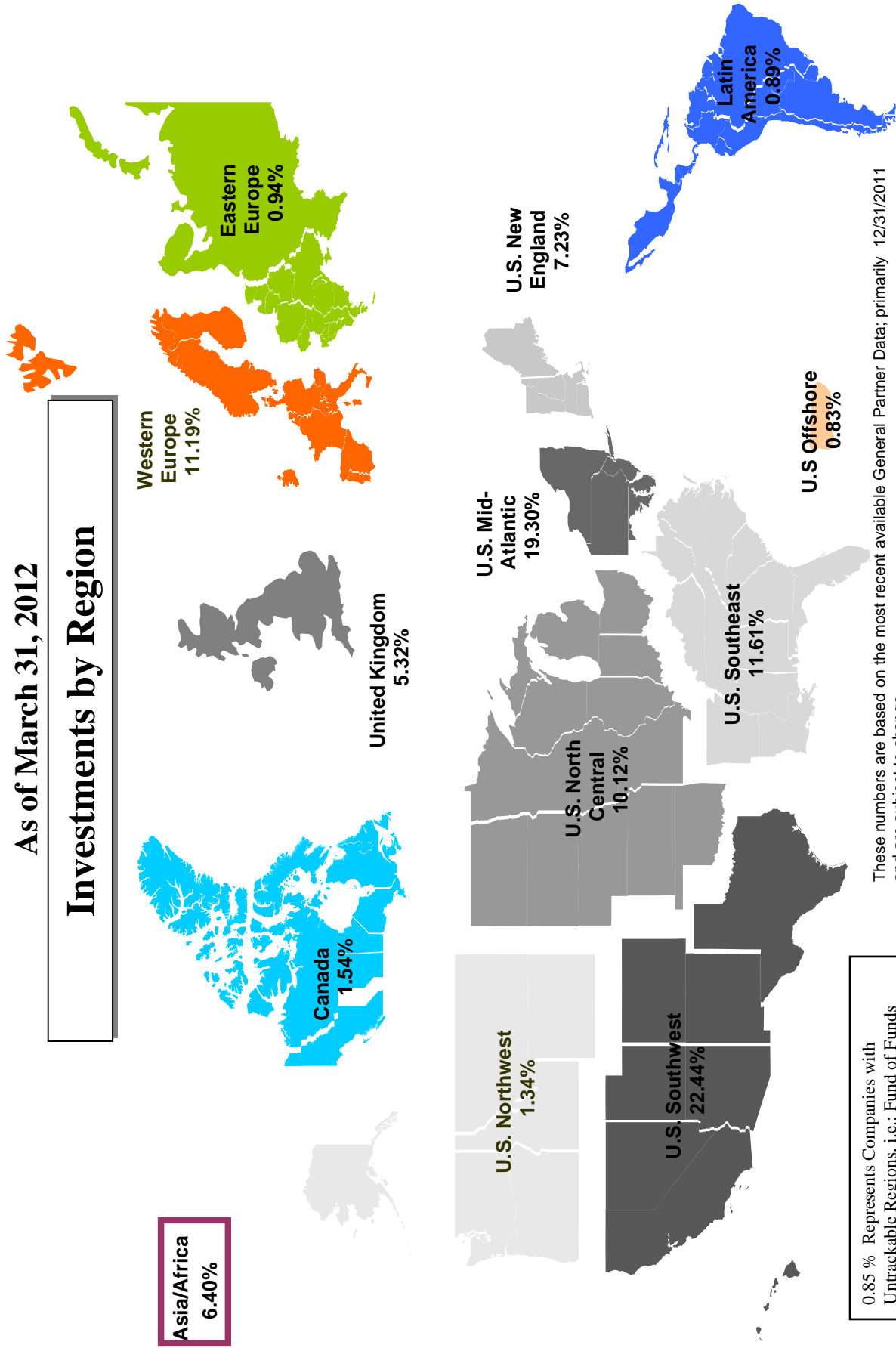


These numbers are based on the most recent available General Partner Data; primarily 12/31/2011 and are subject to change.

# Alternative Investments Division

As of March 31, 2012

## Investments by Region



0.85 % Represents Companies with Untrackable Regions, i.e.; Fund of Funds

These numbers are based on the most recent available General Partner Data; primarily 12/31/2011 and are subject to change.

(\$ Millions)

## Alternative Investments Division

As of March 31, 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	\$ 3,597	\$ 1,305	\$ 4,902	34%
Small Middle Market Buyout	2,216	1,082	3,298	23%
<b>Buyout Total</b>	<b>\$ 5,813</b>	<b>\$ 2,387</b>	<b>\$ 8,200</b>	<b>57%</b>
Early Stage Venture Capital	\$ 552	\$ 132	\$ 684	5%
Late-Stage Venture Capital	198	88	286	2%
Multi-Stage Venture Capital	445	101	546	4%
<b>Venture Capital Total</b>	<b>\$ 1,195</b>	<b>\$ 321</b>	<b>\$ 1,516</b>	<b>11%</b>
Co-Investment Funds	\$ 549	\$ 31	\$ 580	4%
Global Opportunity Funds	692	76	768	5%
Secondary Funds	157	161	318	2%
Distressed	316	131	447	4%
Special Situations	309	277	586	4%
Natural Resources	-	-	-	0%
<b>Special Situations Total</b>	<b>\$ 2,023</b>	<b>\$ 676</b>	<b>\$ 2,699</b>	<b>19%</b>
<b>Fund of Funds</b>	<b>\$ 534</b>	<b>\$ 209</b>	<b>\$ 743</b>	<b>5%</b>
<b>Hedge Funds – Equity</b>	<b>\$ 40</b>	<b>\$ -</b>	<b>\$ 40</b>	<b>0%</b>
<b>Liquidation Portfolio</b>	<b>\$ 370</b>	<b>\$ 13</b>	<b>\$ 383</b>	<b>2%</b>
<b>Active Small Cap - Stock Dist.</b>	<b>\$ 14</b>	<b>\$ -</b>	<b>\$ 14</b>	<b>0%</b>
<b>Total Alternative Equities</b>	<b>\$ 9,989</b>	<b>\$ 3,606</b>	<b>\$ 13,595</b>	<b>94%</b>
<b>Mezzanine Debt</b>	<b>\$ 245</b>	<b>\$ 183</b>	<b>\$ 428</b>	<b>3%</b>
<b>Special Situations</b>	<b>105</b>	<b>24</b>	<b>129</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>135</b>	<b>-</b>	<b>135</b>	<b>1%</b>
<b>Total Alternative Fixed Income</b>	<b>\$ 598</b>	<b>\$ 207</b>	<b>\$ 805</b>	<b>6%</b>
<b>Total Alternative Investments</b>	<b>\$ 10,587</b>	<b>\$ 3,813</b>	<b>\$ 14,400</b>	<b>100%</b>



(\$ Millions)

## Alternative Investments Division

As of March 31, 2012

### Top 10 Sponsors

<u>Asset Type</u>	<u>Reported Value</u>	<u>Outstanding Commitment</u>	<u>Total</u>
Kohlberg Kravis & Roberts	\$ 762	\$ 298	\$ 1,060
Credit Suisse Group	809	173	982
Glencoe Capital	639	116	755
Carlyle Group	546	191	737
Blackstone Capital Partners	407	323	730
Warburg Pincus Capital	596	17	613
TPG Group	396	163	559
Providence Equity Partners	395	63	458
Green Equity Investors	355	81	436
Apax Partners, Inc.	293	115	408
<b>Top 10 Total Value</b>	<b>\$ 5,198</b>	<b>\$ 1,540</b>	<b>\$ 6,738</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	4.1%	8.1%	17.1%	7.8%	14.7%
Venture Capital	1.4%	14.1%	14.6%	9.7%	4.2%
Special Situations	3.6%	5.8%	15.4%	4.4%	7.8%
Fund of Funds	-0.4%	6.4%	6.7%	6.4%	7.7%
Hedge Funds	-0.6%	-2.2%	13.7%	3.8%	5.2%
Mezzanine Debt	6.6%	12.6%	27.4%	16.1%	8.6%

\*These numbers are based on most recent available General Partner reported data; primarily 12/31/2011 and are subject to change.

# Alternative Investments Division

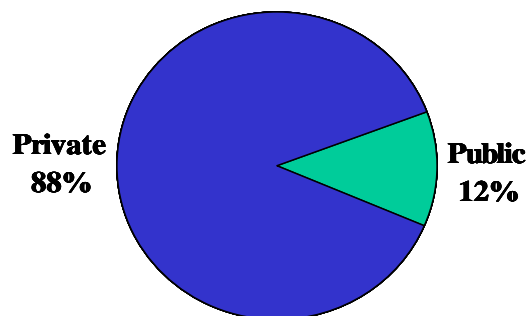
As of March 31, 2012

## 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	15	27
1998	86	22	108
1999	229	63	292
2000	336	60	396
2001	521	66	587
2002	752	16	768
2003	412	35	447
2004	693	67	760
2005	1,427	146	1,573
2006*	2,921	633	3,554
2007	1,595	519	2,114
2008	1,131	1,012	2,143
2009	108	118	226
2010	140	145	285
2011	62	732	794
2012	-	160	160
Cash	135	-	135
Act. Small Cap - Stock Dist	14	-	14
<b>Total</b>	<b>\$10,587</b>	<b>\$3,813</b>	<b>\$14,400</b>

\* Liquidation portfolio is 2006 vintage

## Public/Private Exposure



(\$ Millions)

## Alternative Investments Division

As of March 31, 2012

### Summary Of Transactions

<u>Month</u>	<u>Capital Calls*</u>	<u>Distributions Received</u>	<u>Net Cash Flow</u>
April 2011	\$81	\$200	\$119
May	104	284	180
June	<u>124</u>	<u>227</u>	<u>103</u>
<b>Total Quarter</b>	<b>\$309</b>	<b>\$711</b>	<b>\$402</b>
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>
<b>Trailing Twelve Month</b>	<b><u>\$1,426</u></b>	<b><u>\$2,250</u></b>	<b><u>\$824</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 (\$1.298149/ €)	€840	€303	€1,143	1,522
Pound (\$1.554099/ £)	£8	£3	£11	18
Yen (\$0.012997/ ¥)	¥0	¥0	¥0	0

**Net Market Values by Ownership Entity**  
**March 31, 2012**

Fund Name	ARV	Unfunded Commitment
Accel Europe I, L.P.	\$ 19,101,256	\$ 1
Accel Europe II	23,492,399	3,300,000
Accel Growth Fund II, L.P.	1,543,382	10,440,000
Accel IX, L.P.	128,284,127	3,000,000
Accel VI, L.P.	3,132,697	-
Accel VII, L.P.	3,027,694	5,000,000
Accel VIII, L.P.	6,046,680	4,782,499
Accel VI-S	4,747,066	652,611
Accel X, L.P.	13,161,215	2,050,000
Accel XI, L.P.	1,365,283	6,560,000
Advent Global Private Equity III	1,248,867	20
Advent Global Private Equity IV	3,082,988	-
Advent Global Private Equity V	127,890,134	10,500,000
Advent International GPE VI-A LP	155,688,797	53,500,000
Affinity Asia Pacific Fund II, L.P.	298,791	5,288,237
Affinity Asia Pacific Fund III, L.P.	138,532,375	58,865,588
APA Excelsior IV, L.P.	307,750	-
APA Excelsior V	1,406,624	545,625
Apax Europe Fund VI	74,972,503	-
Apax Europe V, L.P.	7,906,996	-
Apax Europe VII, L.P.	146,589,779	12,484,678
Apax Excelsior VI	15,025,076	1,614,434
Apax US VII	46,419,891	491,302
Apax VIII - A, L.P.	-	99,877,425
Arboretum Ventures II	3,088,032	1,695,096
Arboretum Ventures III, L.P.	1,969,012	12,735,000
Ares Corporate Opportunities Fund II	69,008,829	15,397,726
Ares Corporate Opportunities Fund III, LP	74,279,894	37,103,513
ARGUS Capital Partners	5,669,756	2,813,672
Austin Ventures VIII, L.P.	18,058,793	-
Avenue International Ltd	112,555,826	-
Avenue Special Situations Fund IV, L.P.	5,870,887	-
Avenue Special Situations Fund V, L.P.	13,323,770	-
Avenue Special Situations Fund VI (B), L.P.	41,133,068	4,645,568
<b>Axiom Asia Private Capital Fund III, L.P.</b>	<b>-</b>	<b>35,000,000</b>
Banc Fund VI	17,983,750	-
Banc Fund VII	22,558,625	-
Banc Fund VIII	8,517,301	11,600,000
Battery Ventures V, L.P.	392,533	-
Battery Ventures VI, L.P.	9,032,073	-
Battery Ventures VII, L.P.	10,809,180	755,556
Battery Ventures VIII	33,802,810	1,475,133
BC European Capital IX	9,320,548	86,552,178
BC European Capital VII, L.P.	6,224,390	-
BC European Capital VIII, L.P.	169,918,460	15,620,829
Berkshire Fund IV, L.P.	3,032,871	1,898,016
Berkshire Fund V, L.P.	9,265,295	1,900,578

**Net Market Values by Ownership Entity**  
**March 31, 2012**

Fund Name	ARV	Unfunded Commitment
Berkshire Fund VI, L.P.	76,018,780	5,914,946
Berkshire Fund VII, L.P.	123,594,406	27,228,039
Berkshire Fund VIII, L.P.	6,889,027	117,474,592
Blackstone Capital Partners IV	124,160,135	7,927,460
Blackstone Capital Partners V	219,409,918	24,899,466
Blackstone Capital Partners VI, LP	33,758,428	264,466,961
Blackstone Capital Partners V-S	19,499,869	724,367
Blackstone Mezzanine Partners	9,345,904	14,141,621
Blackstone Partners III, L.P.	1,250,974	10,428,693
Bridgepoint Europe IV	44,892,806	25,620,149
Brockway Moran & Partners Fund III	11,166,980	4,971,232
Carlyle Asia Fund	21,272,605	5,278,440
Carlyle Europe Partners	7	2,167,603
Carlyle Europe Partners II	32,960,787	4,843,569
Carlyle Europe Partners III	93,882,590	34,592,161
Carlyle Partners II, L.P.	3,874,456	-
Carlyle Partners III, L.P.	15,339,653	14,184,834
Carlyle Partners IV, L.P.	180,607,612	16,009,296
Carlyle Partners V L.P.	198,408,180	114,393,290
Castle Harlan Partners IV	13,276,131	6,678,666
Castle Harlan Partners V	12,172,923	50,936,222
CCMP Capital Investors II	123,023,758	45,150,235
Clarus Life Sciences II, L.P.	24,135,881	22,145,000
Clarus Lifesciences I	25,653,758	4,079,460
Clearstone Venture Partners (idealab)	405,300	-
Clearstone Venture Partners II (idealab)	4,840,200	-
Clearstone Venture Partners III	22,248,802	1,612,000
CMEA Ventures VI	16,267,311	2,750,000
CMEA Ventures VII, L.P.	22,851,096	11,600,000
Coller International Partners III, L.P.	1,209,245	2,400,000
Coller International Partners IV	33,705,841	14,000,000
Coller International Partners V, L.P.	122,285,044	45,100,000
Coller International Partners VI, L.P.	-	100,000,000
CSFB Fund Co-Investment Program	1,621,570	251,260
CSG / DLJ Fund Program II	118,379,740	24,893,998
CSG Fund Investment Program III - 2004	114,539,069	14,658,682
CSG Fund Investment Program III - 2006	111,631,638	49,754,728
CSG Fund Investment Program V, L.P.	52,215,578	69,000,451
CSG Seasoned Primary Fund Investment Program	369,693,189	13,435,437
DLJ Fund Investment Program I	41,166,454	1,107,372
DLJ Investment Partners II	810,362	9,910,342
DLJ Investment Partners III	29,804,106	83,062,838
DLJ Merchant Banking Partners III, L.P.	21,146,566	3,182,427
DLJ Merchant Banking Ptrs II, L.P.	3,470,055	1,856,746
Doughty Hanson & Co IV	137,447,405	4,920,681
Doughty Hanson & Co V	133,220,477	44,065,596
Doughty Hanson Co. III L.P.	18,380,586	3,102,822
EDF Ventures III	5,554,346	513,517
Energy Investors III	20,483	-
Essex Woodlands Health IV	3,711,600	-

**Net Market Values by Ownership Entity**  
**March 31, 2012**

Fund Name	ARV	Unfunded Commitment
Essex Woodlands Health V	10,724,869	-
Essex Woodlands Health Ventures Fund VIII	32,339,607	34,875,000
Essex Woodlands Health VI	15,130,627	1,812,500
Essex Woodlands Health VII	70,806,830	7,500,000
FirstMark Capital Fund II (fka: Pequot PEFII)	983,588	-
FirstMark Capital III (fka: Pequot PEFIII)	12,967,253	272,000
FirstMark Capital IV (fka: Pequot PEFIV)	23,705,501	4,354,578
Flagship Ventures Fund 2004	23,553,025	-
Flagship Ventures Fund 2007, L.P.	47,571,566	6,075,000
Flagship Ventures Fund IV, L.P.	1,854,637	12,750,000
Fox Paine Capital Fund II, LP	56,106,890	16,337,658
Frontenac VII	10,541	-
Frontenac VIII	6,724,756	1,800,000
Glencoe Capital Michigan Opportunities Fund, LP	74,746,831	78,599,316
Glencoe Capital Partners II	4,651,312	355,381
Glencoe Capital Partners III	12,837,931	6,255,973
Glencoe Stockwell Fund	434,751,937	-
Glencoe Stockwell Fund II, L.P.	111,963,508	30,726,398
Globespan Capital Partners IV (Jafco)	15,106,896	1,130,000
Globespan Capital Partners V, LP	66,573,315	11,137,500
Green Equity Investors III	9,307,656	8,978,083
Green Equity Investors IV	100,065,793	2,305,568
Green Equity Investors V	245,988,264	69,616,508
Grotech Partners V	811,625	-
Grotech Partners VI	14,395,387	-
GSO Capital Opportunities Fund II, L.P.	8,223,581	31,704,165
H.I.G. Bayside Debt & LBO Fund II, LP	6,747,002	12,300,000
H.I.G. Brightpoint Capital Partners II	40,325,080	-
H.I.G. Capital Partners IV, L.P.	14,522,272	10,374,167
H.I.G. Europe Capital Partners L.P.	19,129,738	10,520,422
HarbourVest Int'l II Partnership	262,327	799,999
HarbourVest Int'l III Direct	4,589,078	1,000,000
HarbourVest Int'l III Partnership	11,481,170	2,000,000
HarbourVest IV Partnership Fund LP	245,985	600,000
HarbourVest Partners V - Direct Fund LP	532,255	-
HarbourVest V Partnership	2,229,088	300,000
HarbourVest VI - Direct Fund LP	8,865,854	750,000
HarbourVest VI Partnership	43,671,706	3,000,000
Healthcare Venture V	1,186,155	-
Healthcare Venture VI	1,019,471	-
Healthcare Venture VII	6,263,013	487,500
Healthcare Venture VIII	16,406,949	11,700,000
InterWest Partners IX	12,419,708	3,200,000
JAFCO America Technology Fund III	2,023,441	-
JP Morgan Chase 1998 Pool Participation Fund	3,778,965	1,604,605
JP Morgan Chase 1999/2000 Pool Participation Fund	3,093,310	4,045,424
JP Morgan Partners Global Investors	41,246,721	2,774,580
JPMorgan Global Investors Selldown	32,514,825	5,259,232
Kelso Investment Associates VII	80,331,773	6,496,890
Kelso Investment Associates VIII	67,342,683	67,907,087

**Net Market Values by Ownership Entity**  
**March 31, 2012**

Fund Name	ARV	Unfunded Commitment
Khosla Ventures III, L.P.	45,017,842	12,000,000
Khosla Ventures IV, L.P.	7,103,684	42,500,000
KKR 1987 Fund	1	-
KKR 1993 Fund	96,886	-
KKR 1996 Fund	4,616,992	-
KKR 1996 Secondary Fund	577,059	10,841
KKR 2006 Fund, L.P.	254,213,445	23,101,200
KKR Asia	91,859,964	27,815,000
KKR China Growth Fund	20,111,723	34,725,000
KKR E2 Investors (Annex) Fund	11,851,480	18,145,079
KKR European Fund II	101,309,786	-
KKR European Fund III	54,889,268	68,896,921
KKR European Fund LP 1	30,418,042	307,605
KKR Millennium Fund	191,675,764	-
<b>KKR North America Fund XI, L.P.</b>	-	<b>125,000,000</b>
Lightspeed Venture Partners VI	11,959,208	3,299,089
Lightspeed Venture Partners VII	35,330,904	2,960,436
Lion Capital Fund I (HME II)	6,853,113	13,477,787
Lion Capital Fund II	45,032,559	8,694,271
Lion Capital Fund III, L.P.	20,394,409	52,676,218
Long Point Capital Fund	1	66,927
Long Point Capital Fund II	8,224,171	1,530,630
Matlin Patterson Global Opportunities Partners	68,773	-
MatlinPatterson Global Opportunities Partners II	4,376,579	92,719
MatlinPatterson Global Opportunities Partners III	42,169,407	19,244,516
Menlo Ventures IX, L.P.	14,866,806	-
Menlo Ventures VIII	2,512,308	-
Menlo Ventures X, L.P.	23,367,966	8,000,000
Menlo Ventures XI, L.P.	3,787,373	16,000,000
MeriTech Capital Partners II, L.P.	4,763,990	2,150,000
Meritech Capital Partners III, L.P.	130,655,980	1,200,000
Meritech Capital Partners IV, L.P.	6,258,760	13,500,000
MeriTech Capital Partners, L.P.	1,903,838	6,187,500
Michigan Growth Capital Partners, LP	127,085,559	52,688,846
MPM BioVentures III	7,052,483	-
New Leaf Ventures II, L.P.	14,612,253	16,100,000
Nordic Capital VI, L.P.	32,671,868	-
Nordic Capital VII	38,940,806	21,158,576
North Castle Partners III	5,389,646	19,839
NV Partners II	1,266,365	479,147
Oak Investment Partners X, L.P.	17,041,985	-
Oak Investments Partners IX, L.P.	3,203,546	-
OCM Opportunities Fund VII (B), L.P.	31,400,838	25,250,000
OCM Opportunities Fund VII, L.P.	32,988,986	-
OCM Opportunities Fund VIII B, L.P.	11,154,850	26,250,000
OCM Opportunities Fund VIII, L.P.	38,880,757	-
OCM Principal Opportunities Fund IV	46,406,233	5,002,377
One Liberty Fund III	843,547	-
One Liberty Fund IV	1,791,809	-
One Liberty Ventures 2000	11,549,692	-

**Net Market Values by Ownership Entity**  
**March 31, 2012**

Fund Name	ARV	Unfunded Commitment
Paine & Partners Capital Fund III, LP	91,432,824	45,983,684
Parthenon Investors II	19,174,216	3,417,779
Parthenon Investors III	76,025,558	9,519,478
Parthenon Investors IV, L.P.	-	40,000,000
Peninsula Capital Fund III	6,493,058	1,400,000
Peninsula Capital Fund IV	25,174,741	2,335,213
Permira Europe III LP	7,381,007	339,583
Permira Europe IV	111,425,170	19,176,466
Phoenix Equity Partners IV	13,455,186	4,621,219
Primus Capital Fund IV	47,676	500,000
Primus Capital Fund V	16,829,094	712,500
Providence Equity Partners V, L.P.	115,096,316	12,760,567
Providence Equity Partners VI, L.P.	279,602,570	49,891,189
Questor Partners Fund II	14,526,134	5,794,612
RFE Investment Partners VII, LP	19,155,083	3,093,332
RFE Investment Partners VIII, L.P.	2,917,829	27,082,171
RFE IV Venture	493,646	-
RFE V Ventures	87,821	397,091
RFE VI Ventures	1,064,057	3,211,623
Riverside Micro Cap Fund I, LP	65,125,200	4,826,880
Riverside Micro-Cap Fund II, L.P.	18,915,140	16,517,133
Silver Lake Partners II	17,282,961	3,647,035
Silver Lake Partners III	67,883,336	45,439,483
Sprout Capital IX	2,965,401	-
Sprout Capital VII	216,130	-
Sprout Capital VIII, L.P.	2,693,906	-
TCW Shared Op Fund III	3,554,969	2,781,354
TCW Shared Op Fund IV	13,375,069	4,637,341
TCW Shared Op Fund V	41,172,803	12,245,846
TCW/Crescent Mezzanine	1	-
TCW/Crescent Mezzanine II	1	-
TCW/Crescent Mezzanine Partners III, L.P.	7,216,334	4,583,406
TCW/Crescent Mezzanine Partners IV, L.P.	45,287,477	7,010,855
TCW/Crescent Mezzanine Partners V, LLC	112,983,016	29,134,030
The Huron Fund III, L.P.	14,266,861	18,772,500
The Shansby Group 4	44,284,008	1,166,257
The Shansby Group 5 (TSG5)	124,625,453	23,290,584
TPG IV (Texas Pacific Group IV)	32,715,246	3,614,889
TPG Partners III, LP	43,100,206	2,087,002
TPG Partners VI, L.P.	144,437,347	113,606,789
TPG V (Texas Pacific Group V)	175,989,013	43,643,810
TSG6, L.P.	-	125,000,000
Tullis - Dickerson Capital II	6,275,932	-
Tullis - Dickerson Capital III	9,824,880	-
Unitas Asia Opportunity Fund	312,903	-
Unitas Asia Opportunity Fund II	88,119,442	26,787,195
Unitas Asia Opportunity Fund III	23,835,578	69,976,440
Warburg Pincus Equity Partners, L.P.	14,707,668	-
Warburg Pincus International Partners	37,520,865	-
Warburg Pincus Private Equity IX	190,840,870	-



**Net Market Values by Ownership Entity**  
**March 31, 2012**

Fund Name	ARV	Unfunded Commitment
Warburg Pincus Private Equity VIII, L.P	69,265,743	-
Warburg Pincus Private Equity X, L.P.	282,981,752	16,800,000
Warburg Pincus Ventures Int'l	408,170	-
Weiss, Peck & Greer V (adm: Opus Capital)	4,592,207	386,240
WestAm COREplus Private Equity QP	14,085,247	3,073,319
WestAm Special Private Equity Partners	10,464,462	2,455,372
Wind Point Partners III	1,947,447	-
Wind Point Partners IV	13,211,022	1,541,518
Wind Point Partners V, L.P.	14,507,673	455,013
Wind Point Partners VI	46,788,755	8,382,764
Wind Point Partners VII	39,140,420	37,200,279
<b>Total Alternative Investments *</b>	<b>\$ 10,438,294,199</b>	<b>\$ 3,813,116,383</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**

**JUNE 14, 2012**



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



# EXECUTIVE SUMMARY

## **Absolute Return**

### **Portfolio Performance**

- The overall portfolio outperformed the HFRI Fund of Funds Conservative Index by 171 basis points (bp) in the first quarter. All strategies gained as equity markets rallied and the effects of LTRO provided the global capital markets a small glimmer of stability.

### **Strategy Overview**

- Arbitrage - Event-driven managers' credit portfolios generated gains during the first quarter driven by European bank restructurings. Managers' allocations to merger arbitrage has grown as the number of large deals have increased. Fixed income arbitrage managers continued to register gains in the quarter from structured credit and emerging markets sovereign debt.
- Credit/Distressed - Liquidations provided gains as a large holding emerged from bankruptcy and a second large position prepared to make its first distribution to creditors. Restructured equities rebounded during the quarter as the market climate was more accommodating, and performing credit positions appreciated as companies tapped the high-yield market to refinance debt.
- Long/Short Equity - Most long/short managers generated gains during the quarter as domestic equity correlations remained at low levels. For the most part, short positions detracted from performance during the strong market rally. Long positions in consumer, technology, financials, and industrials contributed to the gains.

### **Current Events**

- No new managers were added during the quarter.

## **Real Return & Opportunistic**

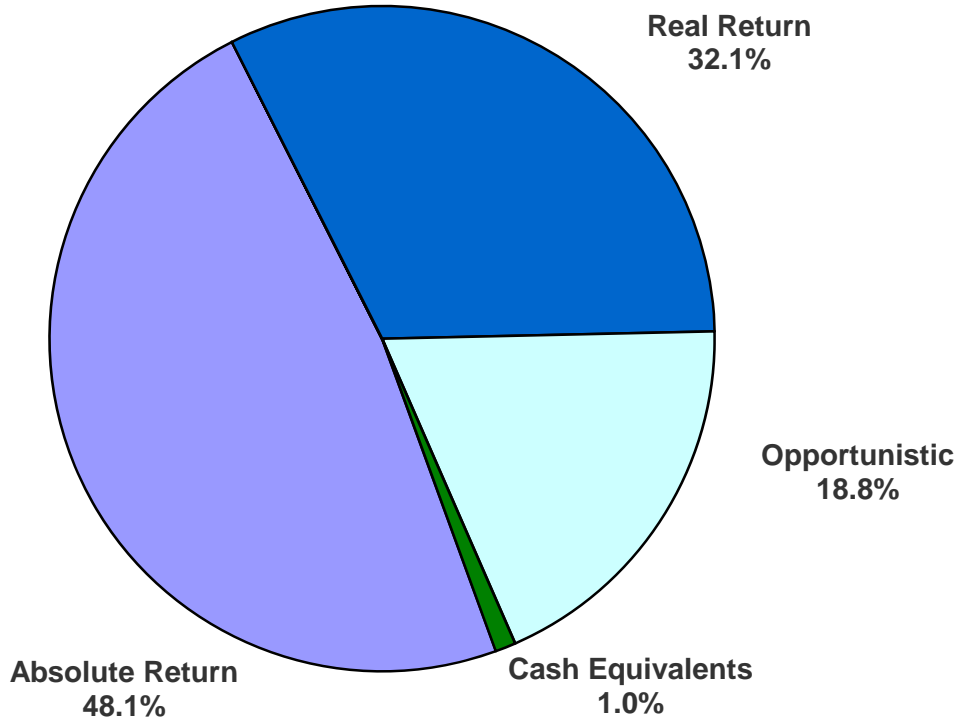
- The commodity portfolio outperformed the Dow Jones UBS Commodity Total Return Index this quarter by 23 bp. Correlations with commodities and other risk assets still remained elevated.
- Direct lending managers continue to see a very robust new deal pipeline. Quality borrowers, who are too small to access debt markets are still having difficulty finding a good credit source.
- Three new commitments were made during the quarter: \$125 million to Energy Restructuring and Recapitalization Fund, \$50 million to Stone Tower Capital Structured Credit Recovery Fund II, and \$50 million to Invesco Balanced Risk Commodity Strategy.



# SMRS

## Absolute and Real Return

### 3/31/2012



Market Value in Millions				
	3/31/2012		12/31/2011	
Absolute Return	\$1,749	48.1%	\$1,417	44.5%
Real Return	1,166	32.1%	1,053	33.0%
Opportunistic	683	18.8%	688	21.6%
Cash Equivalents	36	1.0%	31	0.9%
<b>Total Investments</b>	<b>\$3,634</b>	<b>100.0%</b>	<b>\$3,189</b>	<b>100.0%</b>

# ABSOLUTE AND REAL RETURN

As of March 31, 2012

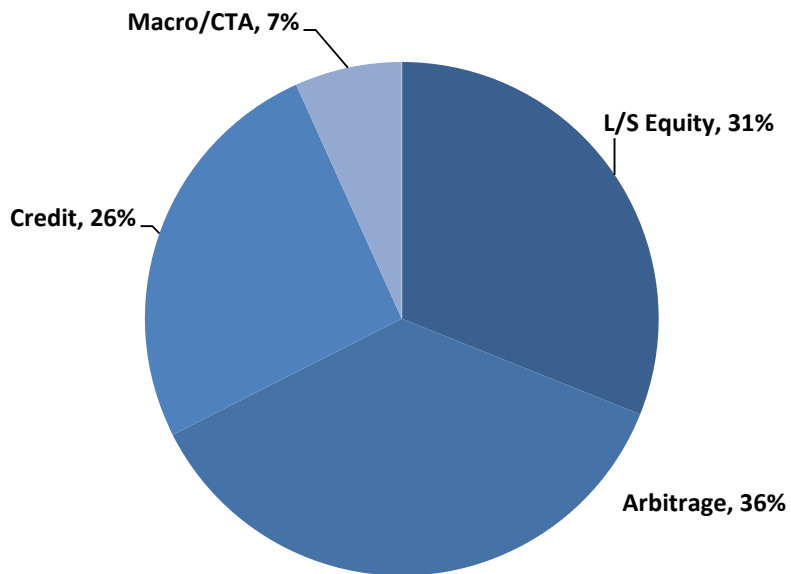
## Absolute Return Portfolio Summary

<u>Advisor/Fund Name</u>	<u>Net Market Value</u>
Sand Hill	\$1,020,647,667
Tahquamenon	267,395,589
EnTrust White Pine	252,714,872
Stone Tower Credit Strategies Fund	111,831,793
Bain Absolute Return Capital	51,585,235
PSAM - Spartan Fund	29,117,983
Elliott International	10,000,000
FrontPoint Multi-Strategy Fund	5,924,959
<b>Total Market Value</b>	<b><u><u>\$1,749,218,098</u></u></b>

# ABSOLUTE AND REAL RETURN

As of March 31, 2012

## Absolute Return - Investments By Strategy



Underlying Funds:	96	Median Position Size:	0.5%
Strategies:	4	Average Position Size:	1.0%
Relationships:	8	Largest Position Size:	6.5%



# ABSOLUTE AND REAL RETURN

As of March 31, 2012

## Real Return & Opportunistic Portfolio Summary

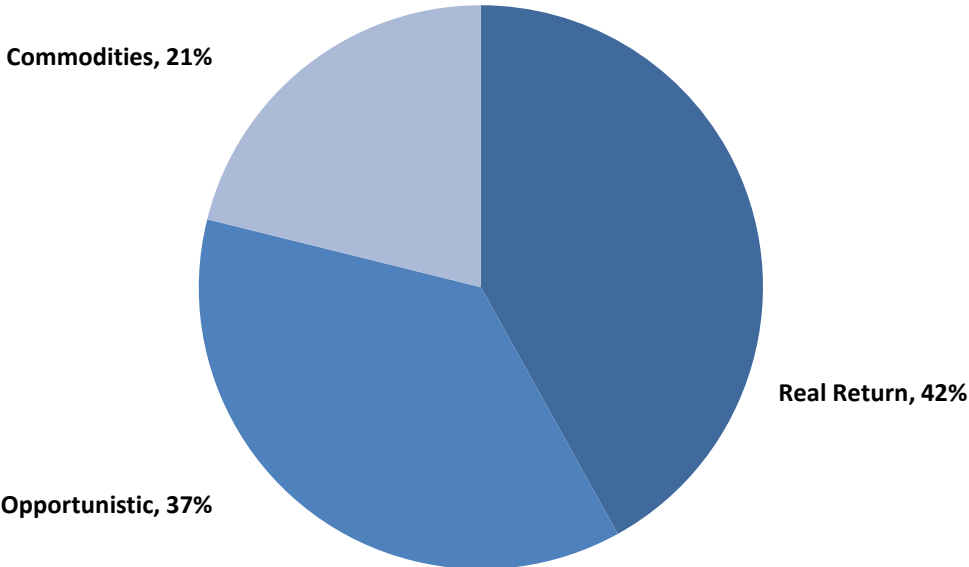
<u>Advisor/Fund Name</u>	<u>Net Market Value</u>	<u>Unfunded Commitment</u>
Social Network Holdings, LLC	\$463,632,252	
Commodity Holdings	390,445,674	
Stone Tower Capital Credit Fund	260,244,207	
HPS Senior Loan Fund II	149,822,735	52,389,699
SJC Direct Lending Fund	137,754,213	58,721,628
Galaxie Ave., LLC	101,888,776	
Lakewater, LLC	75,227,764	80,900,886
Fairfield Settlement Partners, LLC	59,896,794	59,468,070
KKR Lending Partners	59,080,808	40,919,192
Abernathy Fund I, LLC	55,337,977	164,816,251
Emerald Co-invest	51,367,744	
Structured Credit Recovery Fund II	25,000,000	25,000,000
Energy Recapitalization and Restructuring Fund	7,123,582	117,876,418
JP Morgan Global Maritime Fund	9,262,614	115,737,386
Hopen Life Sciences Fund II	1,574,592	8,250,000
<b>Total Market Value</b>	<u><u>\$1,847,659,732</u></u>	<u><u>\$724,079,530</u></u>

# **ABSOLUTE AND REAL RETURN**

**As of March 31, 2012**

## **Real Return & Opportunistic Portfolio**

### **Investments By Strategy**



**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**INTERNATIONAL EQUITY  
REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**JUNE 14, 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 now visible and unresolved. Structural reforms that reduce risk have been proposed, but harmonized accounting rules and regulation are illusory 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, and is manifested regularly in headlines and news photo coverage.
- 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. Political instability, lack of established and tested legal system, regulation and 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, and that trend is now visible in reported results.

## 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.
- Add an all country x U.S. perspective with both developed and emerging areas included. 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.
- 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 and more frequent settlement requirements. Major regulatory clarification for international local country index derivatives is not expected until the end of 2012 or 2013.

# Performance Review for International Investments

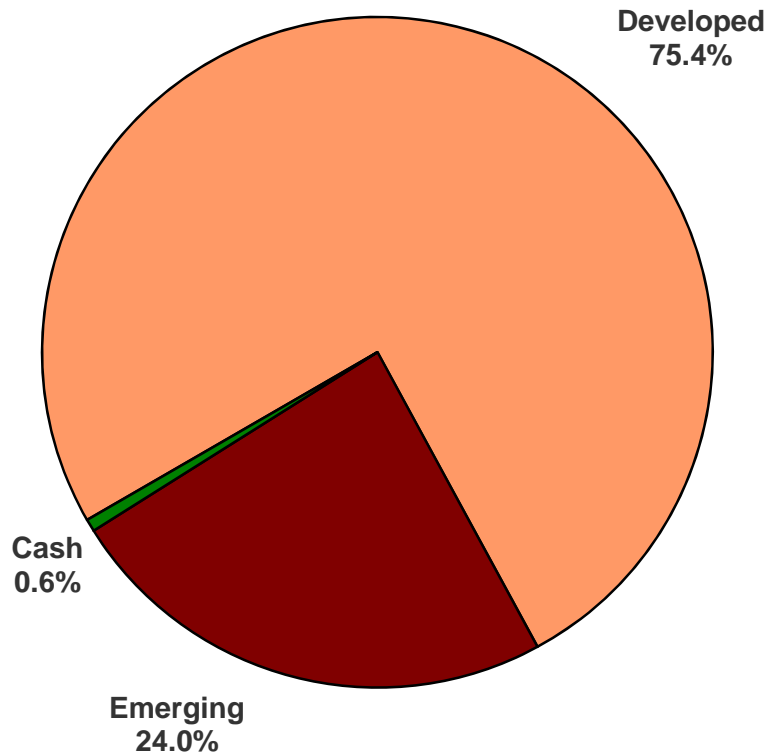
June 14, 2012

- Performance of the total international equity positions in developed markets versus our MSCI ACWI ex U.S. was +11.8% versus +11.3% in the first quarter of 2012, resulting in a + 39 basis point (bp) tracking error and +128 basis points for the trailing year. Both variance numbers are within the normal expected range that recognizes a 250 typical bp possible variance. The three and five-year numbers continue to reflect the market decline in 2009 and the significant fixed income price disruption environment. The 75/25 approach to currency exposures is designed to reduce longer-term variance of international returns, and was changed at the beginning of 2011 from a 50/50 approach in anticipation of potential periods of U.S. dollar weakness and the advantage of closer comparisons with peer groups. The three and five-year tracking error numbers were +515 and +82 basis points, respectively. Discussions now focus on a possible change to an unhedged currency exchange benchmark policy.
- The largest component in passive exposure to international developed market returns is the internally managed stock plus fund. The \$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 \$ 130 million as of March 31, 2012. Recognized but unrealized gains from fixed income Libor notes “remarked at lower cost values” but expected to be held to maturity are now \$7 million. Libor notes held are listed at the end of this report.
- A perspective on a total international equity with both developed and emerging markets included is coming. In the first quarter of 2012, the MSCI ACWI EX US return with net dividend exposure was +11.2% and -7.2% for the trailing one-year period. Emerging markets represent approximately 25% of that benchmark and SMRS exposure is approximately 24%.
- Externally managed, active strategy funds in all Non-U.S. equity categories totaled \$2.8 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 +10.9% in the quarter and -6.8% 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 +14.1% for the quarter, and -8.8% for the trailing year. Passive and active exposure of \$1.8 billion to emerging markets play a significant diversification role, but returns were more negative than developed markets in the trailing year. Sixty percent of exposure to Emerging Markets is passive.



# SMRS

## International Equity Holding By Category SMRS Versus Benchmark 3/31/12

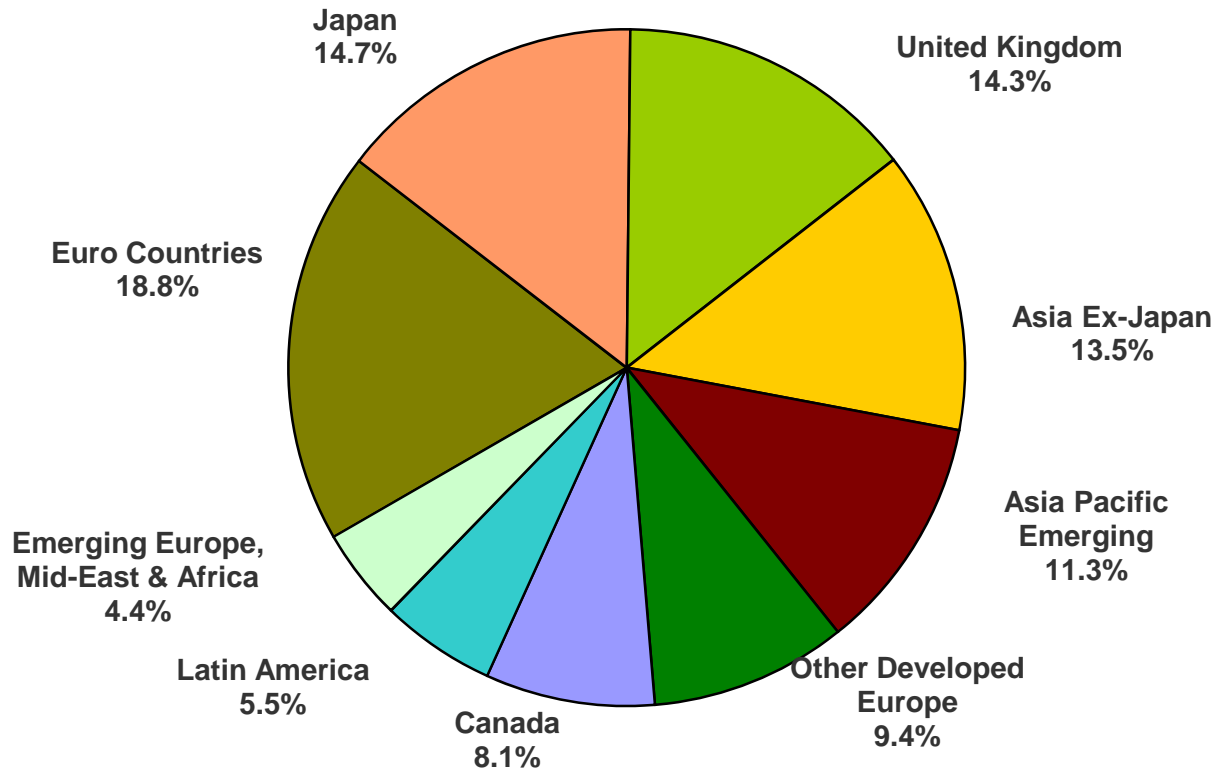


	<u>SMRS</u>	<u>Benchmark</u>
Developed	75.4%	75.0%
Emerging	24.0%	25.0%
<b>Sub-Total</b>	<b>99.4%</b>	<b>100.0%</b>
Cash	0.6%	0.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>



# SMRS

## S&P Global BMI - EX U.S. 3/31/12



### Investments by Region

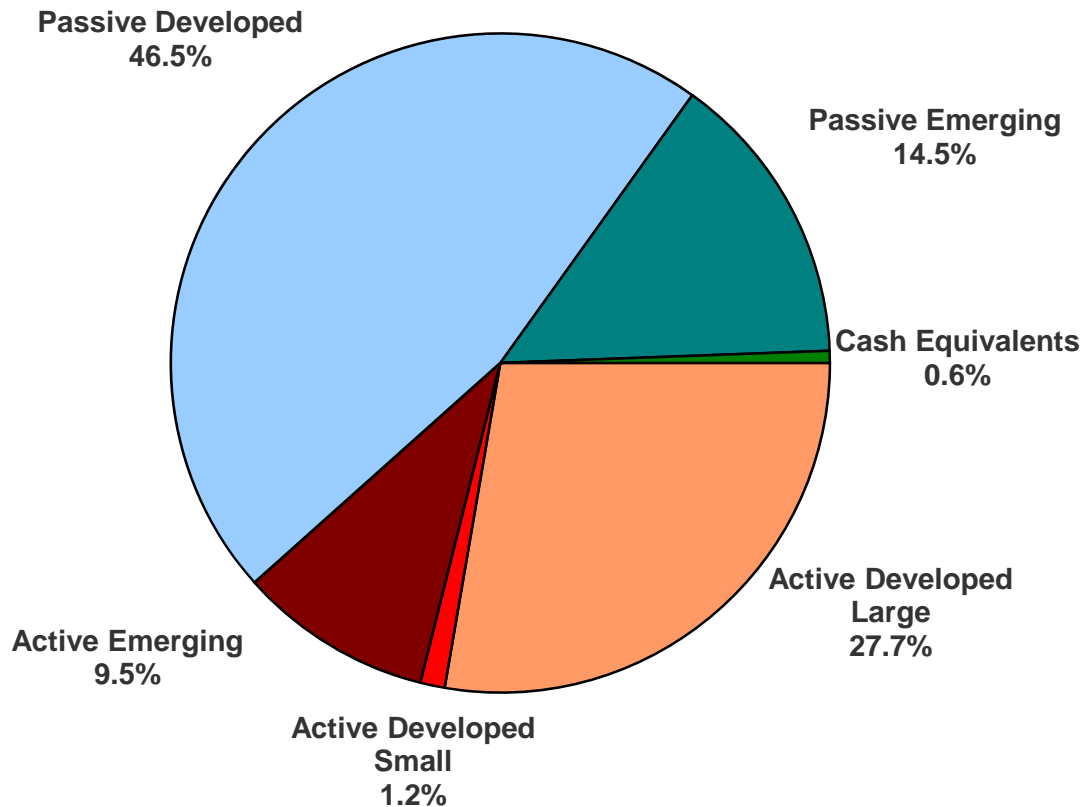
	<u>Benchmark</u>
Euro Countries	18.8%
Japan	14.7%
United Kingdom	14.3%
Asia Ex-Japan	13.5%
Asia Pacific Emerging	11.3%
Other Developed Europe	9.4%
Canada	8.1%
Latin America	5.5%
Emerging Europe, Mid-East & Africa	4.4%
<b>Total</b>	<b>100.0%</b>





# SMRS

## International Equity Holdings By Category 3/31/12

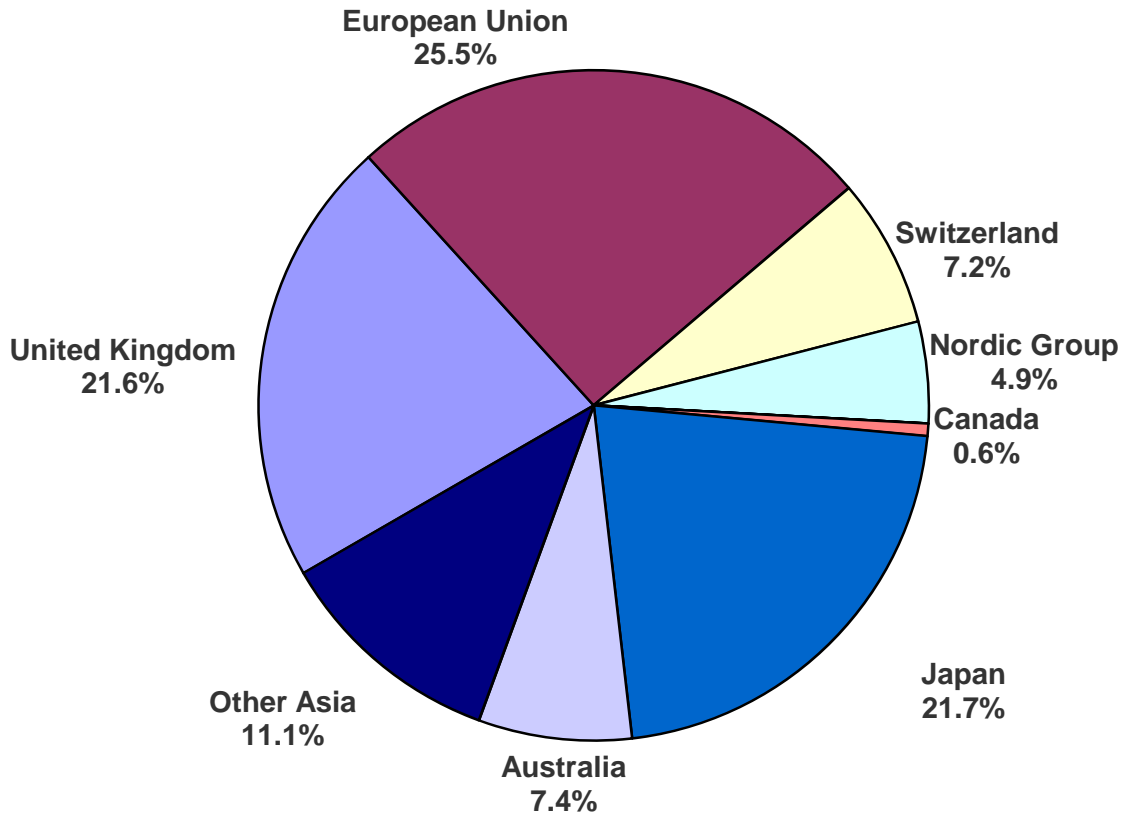


Market Value in Millions				
	<u>3/31/2012</u>		<u>12/31/2011</u>	
<b>Active</b>				
Developed Large	\$2,023	27.7%	\$1,010	16.5%
Developed Small	87	1.2%	75	1.2%
Emerging	695	9.5%	399	6.5%
<b>Total Active Equity</b>	<b>2,805</b>	<b>38.4%</b>	<b>1,484</b>	<b>24.2%</b>
<b>Passive</b>				
Developed	\$3,401	46.5%	\$3,578	58.2%
Emerging	1,063	14.5%	845	13.7%
<b>Total Passive Equity</b>	<b>4,464</b>	<b>61.0%</b>	<b>4,423</b>	<b>71.9%</b>
<b>Total Investments</b>	<b>7,269</b>	<b>99.4%</b>	<b>5,907</b>	<b>96.1%</b>
Cash Equivalents	\$45	0.6%	\$239	3.9%
<b>Total International Equity</b>	<b>\$7,314</b>	<b>100.0%</b>	<b>\$6,146</b>	<b>100.0%</b>



# SMRS

## Developed International Passive Equity SMRS Versus BMI EPAC Benchmark 3/31/12



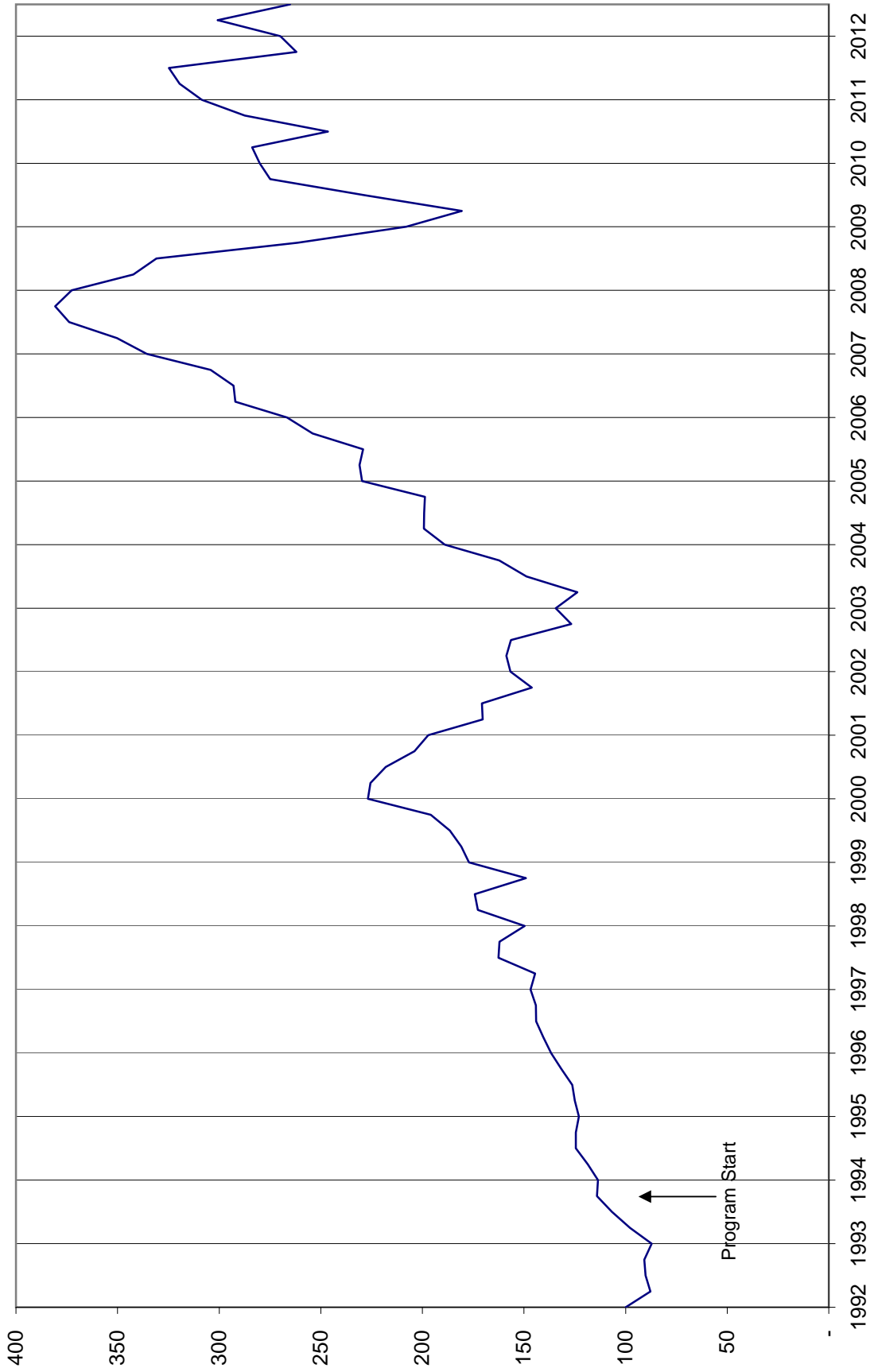
	<u>SMRS</u>	<u>Benchmark</u>
<b>Europe</b>		
United Kingdom	21.6%	20.4%
European Union	25.5%	26.7%
Switzerland	7.2%	7.5%
Nordic Group	4.9%	5.2%
Other Europe	0.0%	0.0%
<b>Total Europe</b>	<b>59.2%</b>	<b>59.8%</b>
<b>Asia</b>		
Japan	21.7%	20.9%
Australia	7.4%	8.1%
Other Asia	11.1%	11.2%
<b>Total Asia</b>	<b>40.2%</b>	<b>40.2%</b>
Canada	0.6%	0.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>

**Total Developed International Passive Equity Investment: \$3,401 Million**

**SMRS NON-US EQUITIES**  
**March 31, 2012**

	<u>INDEXED</u>	<u>ACTIVE</u>	<u>TOTAL</u>	<u>Percent</u>
<b>Developed Markets - Large/Mid Capitalization</b>				
Internal Stock Plus Combination	\$1,493,104,362		\$1,493,104,362	
SSgA PMI fund	487,678,805		487,678,805	
Vanguard Developed Markets Fund	1,068,729,486		1,068,729,486	
SSgA International Alpha Select BMI Fund		\$425,395,206	425,395,206	
Wellington International Research Equity Fund		421,674,936	421,674,936	
PIMCO Stock Plus		671,972,380	671,972,380	
Marathon-London EAFE		253,510,330	253,510,330	
Baillie Gifford ACWI Ex US Alpha		<u>249,935,904</u>	<u>249,935,904</u>	
<b>Sub-Total Developed Large/Mid Cap</b>	<b>\$3,049,512,653</b>	<b>\$2,022,488,756</b>	<b>\$5,072,001,409</b>	<b>69.3%</b>
<b>Developed Markets - Small Capitalization</b>				
SSgA EMI Fund	\$396,901,996	\$87,274,763	\$396,901,996	
SSgA International Small Cap Alpha Fund			87,274,763	
<b>Sub-Total Developed Small Cap</b>		<b>\$87,274,763</b>	<b>\$484,176,759</b>	<b>6.6%</b>
<b>Total Developed Markets</b>			<b>\$5,556,178,168</b>	<b>76.0%</b>
<b>Emerging Markets - All Capitalization</b>				
Vanguard Emerging Mkt Stock Index Fund	\$1,062,815,107		\$1,062,815,107	
LACM Emerging Market Fund		\$200,962,054	200,962,054	
PIMCO Emerging Market Fund		\$386,848,452	386,848,452	
Wellington Emerging Market Fund		\$107,368,032	107,368,032	
<b>Total Emerging</b>		<b>\$1,757,993,645</b>	<b>\$1,757,993,645</b>	<b>24.0%</b>
<b>TOTAL</b>	<b>\$4,509,229,756</b>	<b>\$2,804,942,057</b>	<b>\$7,314,171,813</b>	<b>100%</b>
<b>Percent</b>	<b>61.7%</b>	<b>38.3%</b>		

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



**SMRS SWAP AGREEMENTS**

**International Equity Exposure**

Maturity Date	Trade Date	Notional	Countries	Indices	Local		U.S. Dollar
					Currency	No FX Expos.	
04/16/2012	04/16/2009	60,000,000	9	9	100%	0%	0%
06/25/2012	06/23/2011	100,000,000	6	6	100%	0%	0%
07/13/2012	07/13/2011	90,003,758	2	2	100%	0%	0%
10/19/2012	10/21/2011	13,000,000	1	1	100%	0%	0%
10/19/2012	10/07/2011	130,000,000	7	7	100%	0%	0%
10/19/2012	10/21/2011	190,000,000	5	5	76%	24%	0%
12/03/2012	12/01/2011	214,999,996	8	8	100%	0%	0%
12/03/2012	12/16/2011	35,000,000	5	5	100%	0%	0%
01/18/2013	01/18/2012	30,000,000	2	2	100%	0%	0%
01/18/2013	02/15/2012	12,000,000	2	2	0%	100%	0%
01/18/2013	01/18/2012	39,991,452	2	2	100%	0%	0%
03/12/2013	03/12/2012	85,000,000	5	5	32%	68%	0%
<b>Total</b>		<b>999,995,207</b>					

Notional maturing during 2012

**833,003,754**  
83%

## Index Reference Summary Price Returns w/o Dividends

Index	Region	Description	3/30/12		02/29/12		12/30/11		12/30/11		12/31/99		12/31/99		Date
			Current Level	% Chg	Level	% Chg	Level	% Chg	Level	% Chg	Level	% Chg	Level	Date	
<b>US</b>															
DJIA	USA		13,212.04	2.01%	12,952.07	8.14%	12,217.56	8.14%	12,217.56	-6.95%	14,198.10	10/11/07	104.21%	6,469.95	3/6/09
S&P 500	USA		1,408.47	3.13%	1,365.68	12.00%	1,257.60	12.00%	1,257.60	-10.64%	1,576.09	10/11/07	111.23%	666.79	3/6/09
S&P Midcap	USA		994.30	1.73%	977.36	13.10%	879.16	13.10%	879.16	-2.39%	1,018.65	5/2/11	168.13%	370.83	10/10/02
S&P Small	USA		463.45	2.76%	451.02	11.66%	415.07	11.66%	415.07	0.22%	462.42	7/7/11	173.20%	169.64	10/10/02
NASDAQ Composite	USA		3,091.57	4.20%	2,966.89	18.67%	2,605.15	18.67%	2,605.15	-39.77%	5,132.62	3/10/00	178.90%	1,108.49	10/10/02
NASDAQ 100 (QQQQ)	USA		67.55	4.88%	64.41	20.99%	55.83	20.99%	55.83	-43.94%	120.50	3/24/00	241.85%	19.76	10/8/02
Russell 1000	USA		778.92	2.97%	756.42	12.34%	693.36	12.34%	693.36	-9.28%	858.63	10/11/07	115.02%	362.25	3/6/09
Russell 2000	USA		830.30	2.39%	810.94	12.06%	740.92	12.06%	740.92	-4.41%	868.57	5/2/11	155.56%	324.90	10/10/02
<b>Composite Indices - International</b>															
BMI EPAC (USD)	Non-US Dev.		228.20	-0.86%	230.18	10.67%	206.20	10.67%	206.20	-32.71%	339.11	10/31/07	104.02%	111.85	3/12/03
PMI EPAC (USD)	Non-US Dev.		221.04	-0.98%	223.22	10.08%	200.79	10.08%	200.79	-33.14%	330.58	10/31/07	93.54%	114.21	3/12/03
EMI EPAC (USD)	Non-US Dev.		258.04	-0.23%	258.64	13.94%	226.47	13.94%	226.47	-28.78%	362.32	7/16/07	158.63%	99.77	10/10/02
EAFE i-Share (USD)	Non-US Dev.		54.89	0.42%	54.66	10.82%	49.53	10.82%	49.53	--	N/A	--	--	N/A	--
EAFE	Non-US Dev.		1,553.46	-0.91%	1,567.67	9.98%	1,412.55	9.98%	1,412.55	-35.24%	2,398.71	11/1/07	91.01%	813.30	3/13/03
BMI EPAC (Local)	Non-US Dev.		177.43	0.08%	177.28	10.03%	161.26	10.03%	161.26	-35.97%	277.12	7/13/07	61.21%	110.06	3/12/03
MSCI Emerging (USD)	Emerging		406.67	-3.34%	420.71	14.07%	356.50	14.07%	356.50	-14.09%	473.35	10/29/07	441.36%	75.12	9/21/01
FTSE RAFI Emerging (USD)	Emerging		6,583.30	-4.46%	6,890.63	13.87%	5,781.49	13.87%	5,781.49	-16.99%	7,930.70	11/1/07	576.93%	972.52	10/3/01
<b>Europe</b>															
CAC-40	France		3,423.81	-0.83%	3,452.45	8.35%	3,159.81	8.35%	3,159.81	-50.70%	6,944.77	9/4/00	42.59%	2,401.15	3/12/03
DAX-30	Germany		6,946.83	1.32%	6,856.08	17.78%	5,898.35	17.78%	5,898.35	-14.78%	8,151.57	7/13/07	217.39%	2,188.75	3/12/03
EuroStoxx	Europe		2,477.28	-1.39%	2,512.11	6.94%	2,316.55	6.94%	2,316.55	-55.14%	5,522.42	3/7/00	40.32%	1,765.49	3/9/09
<b>UK</b>															
FTSE-100	U.K.		5,768.45	-1.76%	5,871.51	3.52%	5,572.28	3.52%	5,572.28	-16.76%	6,930.20	1/4/00	76.00%	3,277.50	3/12/03
<b>Pacific</b>															
TOPIX	Japan		854.35	2.20%	835.96	17.26%	728.61	17.26%	728.61	-53.16%	1,823.89	2/27/07	22.32%	698.46	3/12/09
KOSPI 200	S. Korea		266.58	-0.21%	267.13	11.97%	238.08	11.97%	238.08	-9.79%	295.51	5/3/11	367.52%	57.02	9/27/01
<b>Currencies</b>															
Euro (\$ / Euro)	Europe		1.3343	-0.10%	1.3357	2.95%	1.2961	2.95%	1.2961						
Pound (\$ / Pound)	U.K.		1.6008	0.45%	1.5937	2.99%	1.5543	2.99%	1.5543						
Yen (Yen / \$)	Japan		82.87	-2.24%	81.01	-7.19%	76.91	-7.19%	76.91						
US Dollar (LC JPM / \$)	USA		81.03	0.72%	80.45	-1.47%	82.24	-1.47%	82.24						
FX - Major Curr, Nominal (F USA)	USA		72.97	0.94%	72.29	-0.36%	73.23	-0.36%	73.23						

Note: Positive returns show local currency strength and USD weakness.

Note: Based on J.P. Morgan Index (US dollar vs. a trade weighted basket of non-US developed market currencies)

# SUMMARY OF PASSIVE INTERNATIONAL MANAGERS

**03/30/2012**

## Valuation Report

	<u>Country</u>	<u>Total Cost</u>	% of <u>Total</u>	<u>Current Value</u>	% of <u>Total</u>	<u>Unrealized G/L</u>
SSgA EMI Fund	Europe	\$140,811,894	5.15%	\$238,934,924	7.90%	\$98,123,030
	Pacific	<u>\$105,599,997</u>	<u>3.86%</u>	<u>\$157,967,072</u>	<u>5.22%</u>	<u>\$52,367,075</u>
Small Cap Sub-Total		\$246,411,891		\$396,901,996		\$150,490,105
SSgAPMI Fund	EPAC	\$386,091,313	14.11%	\$487,678,805	16.11%	\$101,587,492
Vanguard Dev. Mkts	EAFE	\$1,068,009,660	39.04%	\$1,078,938,486	35.65%	\$10,928,826
Vanguard Emerging Mkts.	EMEA	<u>\$1,035,064,566</u>	37.84%	<u>\$1,062,815,107</u>	35.12%	\$27,750,541
Large Cap Sub-Total		\$2,489,165,539		\$2,629,432,398		\$140,266,859
<b>External Passive Total</b>		<b>\$2,735,577,430</b>	<b>100.00%</b>	<b>\$3,026,334,394</b>	<b>100.00%</b>	<b>\$290,756,964</b>

**INTERNATIONAL COMBINED SWAP AGREEMENT POSITION**  
**3/31/2012**

<u>COUNTRY</u>	<u>STOCK INDEX</u>	<u>AVERAGE SET LEVEL</u>	<u>NOTIONAL AMOUNT</u>	<u>% OF TOTAL</u>	<u>INDEX 3/31/2012</u>	<u>CURRENT NOTIONAL</u>	<u>% OF TOTAL</u>	<u>UNREALIZED GAIN/LOSS</u>	<u>% CHANGE</u>
EUROPE									
United Kingdom	FTSE 100 INDEX		-		5,768.45	-	0.00%	-	
United Kingdom	FTSE 100 TOTAL RETURN INDEX	3,560.14	\$220,999,306	22.23%	3,945.41	\$248,983,086	21.62%	\$27,983,780	12.66%
United Kingdom	FTSE 250 INDEX		-		11,538.88	-	0.00%	-	
Germany	DAX INDEX	6,088.16	69,994,342	6.74%	6,946.83	79,902,439	6.94%	9,908,097	14.16%
Germany	DAX MID-CAP INDEX		-		10,703.10	-	0.00%	-	
France	CAC 40 INDEX		-		3,423.81	-	0.00%	-	
France	CAC 40 TOTAL RETURN INDEX	6,589.80	97,004,452	9.34%	7,078.17	101,419,986	8.81%	4,415,534	4.55%
France	CAC MID 100 INDEX		-		6,594.33	-	0.00%	-	
Switzerland	SWISS MARKET INDEX		-		6,235.51	-	0.00%	-	
Switzerland	SWISS MARKET TOTAL RETURN INDEX	9,671.61	77,191,908	7.43%	10,307.67	85,278,146	7.40%	8,086,239	10.48%
Switzerland	SPI MEDIUM COMPANIES INDEX		-		6,849.67	-	0.00%	-	
Netherlands	AMSTERDAM EXCHANGES INDEX		-		323.51	-	0.00%	-	
Netherlands	AMSTERDAM EXCHANGES TOTAL RETURN INDEX	736.75	33,388,171	3.21%	859.81	39,116,739	3.40%	5,728,568	17.16%
Netherlands	AMSTERDAM MIDKAP INDEX		-		543.52	-	0.00%	-	
Spain	IBEX 35 INDEX	7,815.00	7,000,000	0.67%	8,008.00	7,194,483	0.62%	194,483	1.75%
Spain	IBEX 35 TOTAL RETURN INDEX	15,961.70	10,000,000	0.96%	16,245.20	10,174,843	0.88%	174,843	11.85%
Portugal	PORTUGAL PSI-20 INDEX		-			-			
Italy	MILAN MIB30 INDEX		-			-			
Italy	MILAN MIB30 TOTAL RETURN INDEX	22,941.23	5,000,000	0.48%	25,164.35	5,598,024	0.49%	598,024	11.96%
Italy	MILAN MID-CAP INDEX		-		1,074.48	-	0.00%	-	
Sweden	OMX (STOCKHOLM) INDEX		-			-			
Sweden	OMX (STOCKHOLM) TOTAL RETURN INDEX	94.95	19,655,534	1.89%	137.66	33,930,390	2.95%	14,274,855	72.63%
Ireland	IRISH OVERALL INDEX		-			-			
Ireland	IRISH OVERALL TOTAL RETURN INDEX	414.11	5,000,000	0.48%	633.28	7,720,485	0.67%	2,720,485	54.41%
Belgium	BEL20 INDEX	4,512.68	10,900,000	1.05%	2,324.05	11,582,339	1.01%	682,339	6.26%
Finland	FOX 25 INDEX	49.78	9,000,000	0.87%	48.88	8,317,937	0.72%	(682,063)	-7.58%
Denmark	KFX INDEX	252.66	5,000,000	0.48%	444.71	8,895,947	0.77%	3,895,947	77.92%
Norway	OBX STOCK TOTAL RETURN INDEX	214.05	4,000,000	0.38%	394.39	8,633,896	0.75%	4,633,896	115.85%
Norway	OBX STOCK INDEX		-			-			
Greece	FTSE/ASE 20 INDEX		-			-			
Austria	AUSTRIAN TRADED ATX INDEX		-			-			



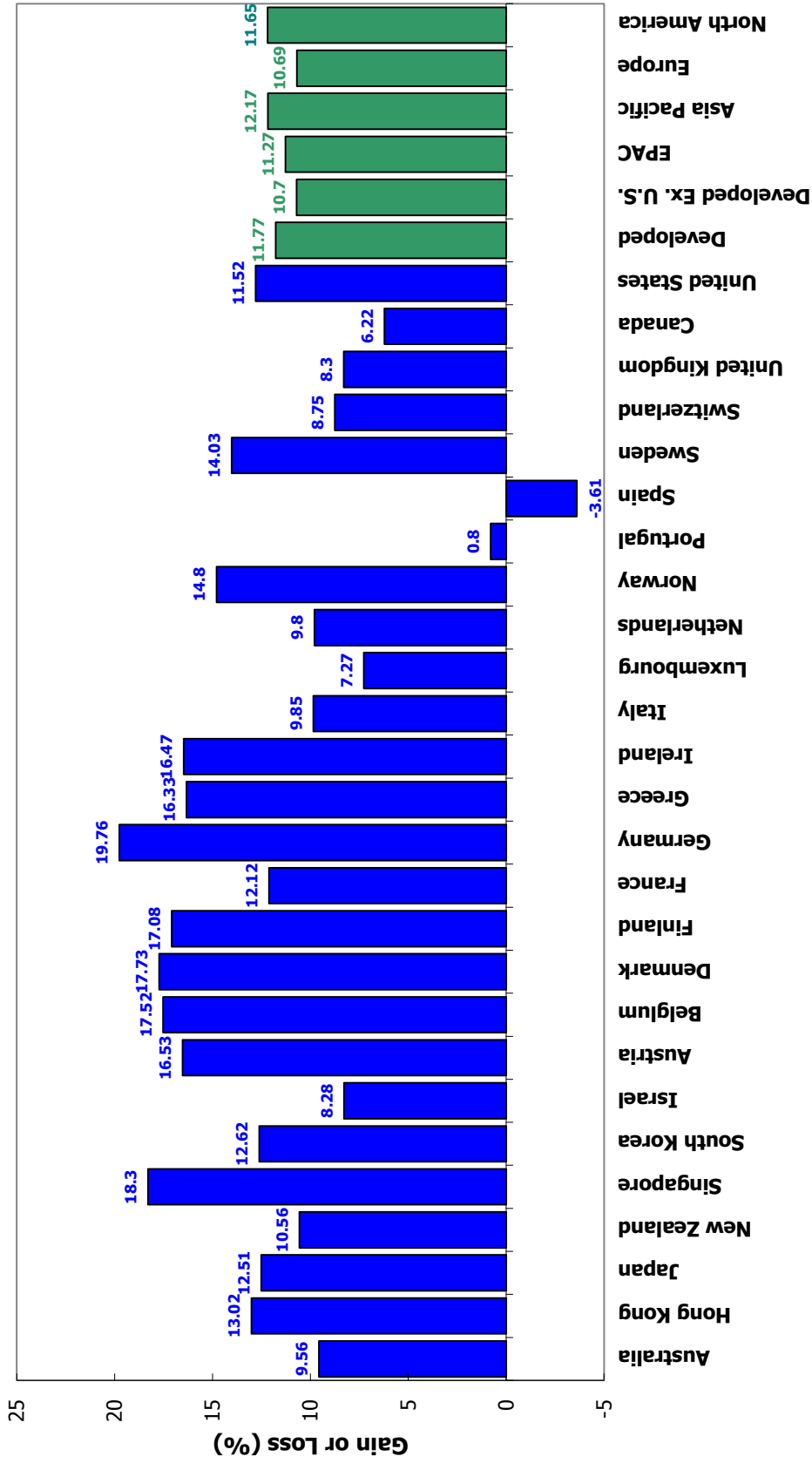
**INTERNATIONAL COMBINED SWAP AGREEMENT POSITION  
3/31/2012**

<u>COUNTRY</u>	<u>STOCK INDEX</u>	<u>AVERAGE SET LEVEL</u>	<u>NOTIONAL AMOUNT</u>	<u>% OF TOTAL</u>	<u>INDEX 3/31/2012</u>	<u>CURRENT NOTIONAL</u>	<u>% OF TOTAL</u>	<u>UNREALIZED GAIN/LOSS</u>	<u>% CHANGE</u>
Japan	TOPIX INDEX (TOKYO)		-	0.00%	854.35	-	0.00%	-	
Japan	TOPIX TOTAL RETURN INDEX (TOKYO)	957.61	\$250,000,000	24.06%	1,109.28	\$272,812,025	23.69%	22,812,025	9.12%
Japan	TSE2 TOPIX 2 <sup>ND</sup> SECT INDEX		-						
Hong Kong	HANG SENG STOCK INDEX	21,365.20	-	0.00%	20,555.58		0.00%		
Hong Kong	HANG SENG TOTAL RETURN STOCK INDEX	42,621.01	41,000,000	3.95%	44,540.02	42,846,451	3.72%	1,846,451	4.50%
Australia	ASX 200 INDEX		-						
Australia	ASX 200 TOTAL RETURN INDEX	332,148.95	70,000,000	6.74%	33,472.33	74,614,745	6.48%	4,614,745	6.59%
New Zealand	NZSE 10 INDEX	156.45	5,000,000	0.48%	304.08	9,718,059	0.84%	4,718,059	94.36%
Singapore	STI INDEX	1,485.75		0.00%	3,010.46	-	0.00%	-	
Singapore	STI TOTAL RETURN INDEX	3,577.50	13,000,000	1.25%	4,063.33	14,765,420	1.28%	1,765,420	13.58%
Korea	KOREA KOSPI 200 INDEX	248.84	55,999,996	5.39%	266.58	60,162,711	5.22%	4,162,715	7.43%
Canada	TX60AR INDEX	1,591.22	19,980,000	1.92%	1,601.02	19,982,372	1.74%	2,372	0.00%
	TOTAL COMPOSITE		\$1,029,113,708	100.00%		\$1,151,650,520	100.00%	\$122,536,812	11.91%
	LIBOR NOTES		\$930,657,997			\$938,010,638		\$7,352,641	0.79%
	CURRENT NET MARKET VALUE:							<b>\$129,889,452</b>	

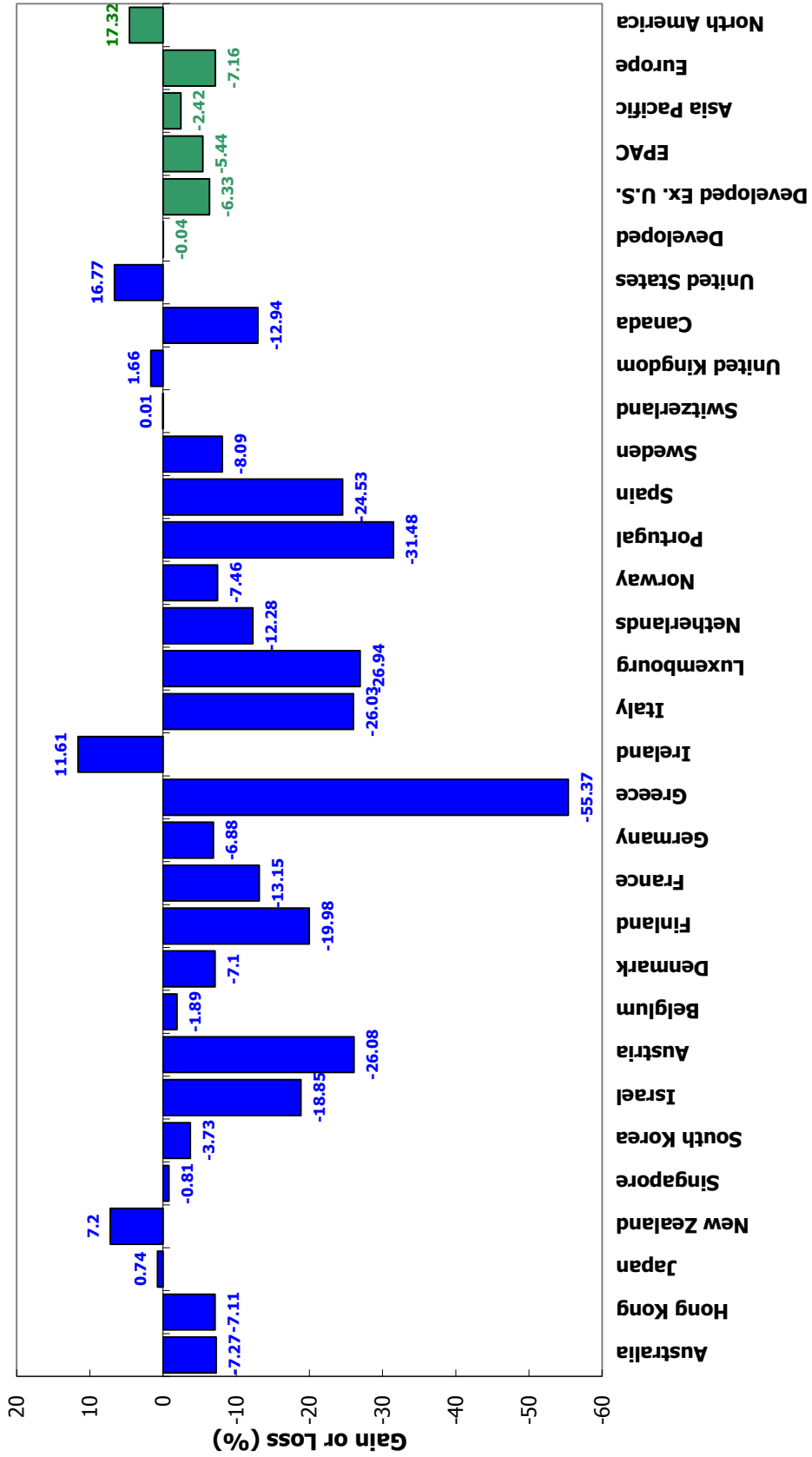
Notes: 1. Notional amounts include currency change impacts, and changes related to dividend reinvestment in some agreements  
2. Current net market value excludes cash balances related to interest on continuing swaps of \$121.4 Million as of 3/31/2012  
3. Information on completed swaps: (198 completed)

	<u>TOTAL</u>
Gains/Losses on Equity Swap Agreements	\$2,416,112,935.45
Net Interest received on Fixed Income	797,631,576.83
Gains/Losses on Dedicated Fixed Income	28,411,623.28
Total realized Gain/Losses and Net Interest	<b>\$3,242,156,135.56</b>

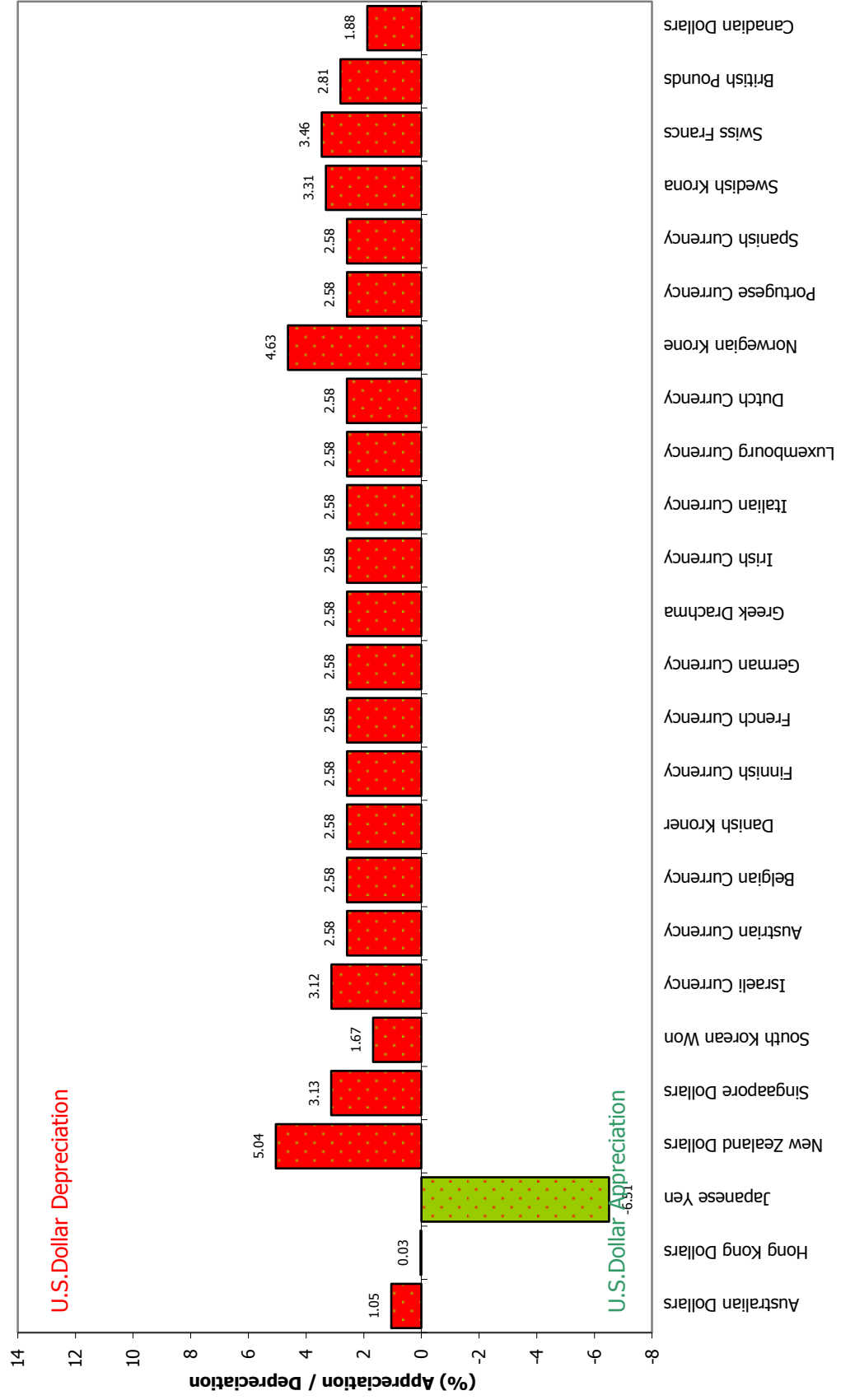
**S&P Developed Equity Index  
 BMI Performance by Country / Region  
 NET Total Rates of Return in 75% US\$ / 25% LOCAL Currency  
 1Q2012 (Daily Compounding)**



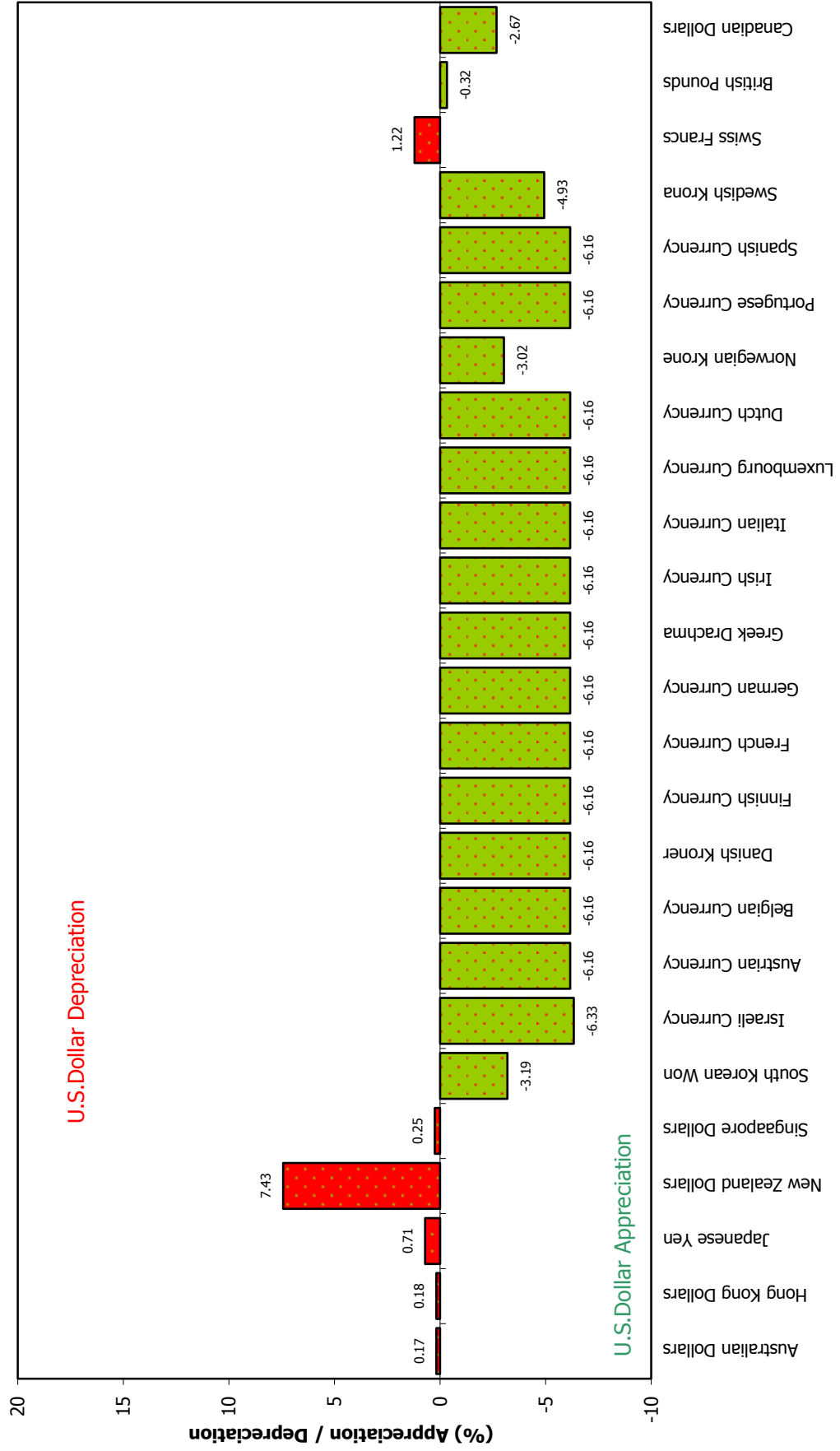
**S&P Developed Equity Index  
 BMI Performance by Country / Region  
 NET Total Rates of Return in 75% US\$ / 25% LOCAL Currency  
 1Q2012 Trailing 4 Quarters (Daily Compounding)**



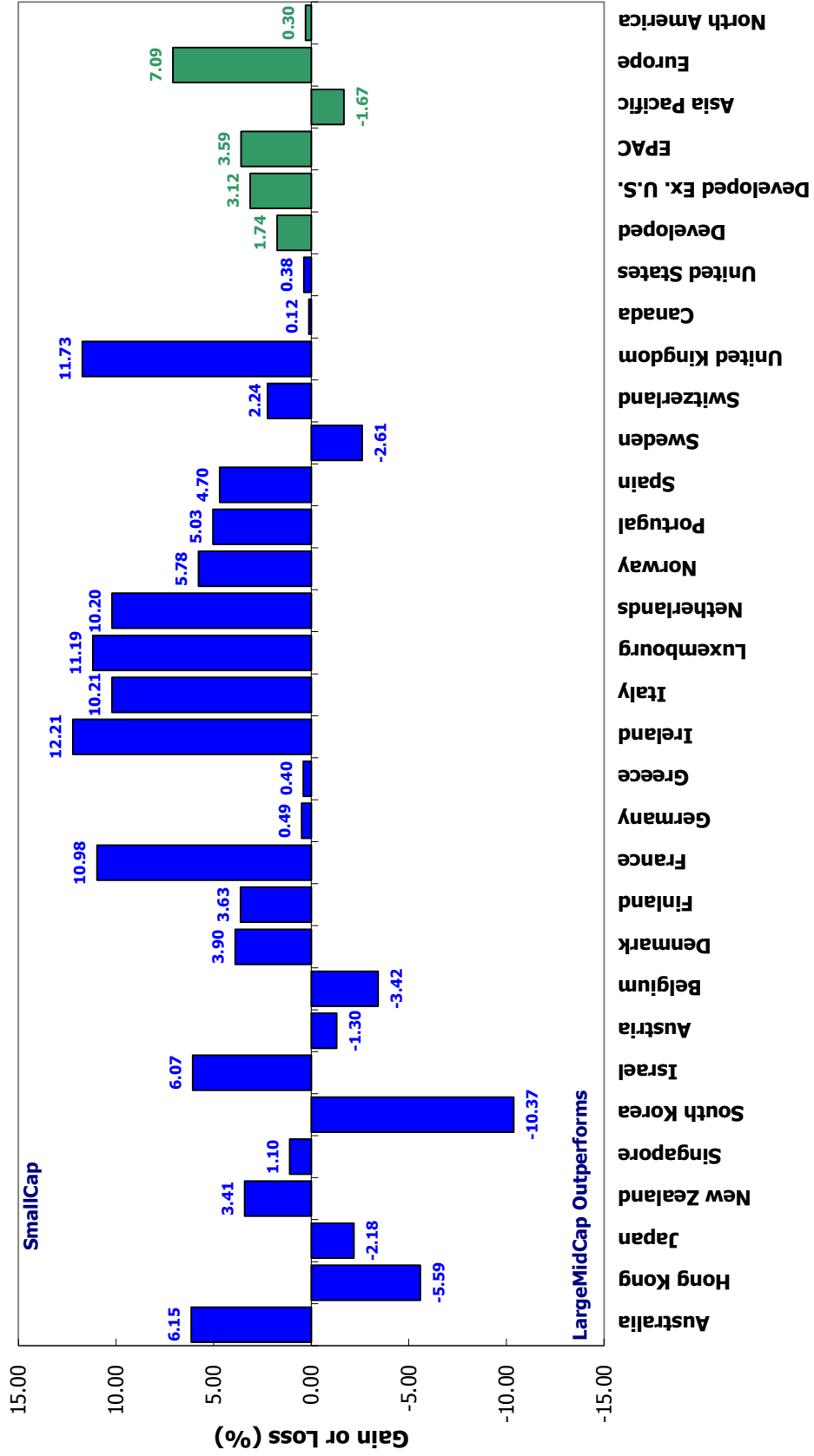
**S&P Developed Equity Index  
 Currency Performance versus the U.S. Dollar (In Percentage Terms)  
 30DEC2011 to 30MAR2012**



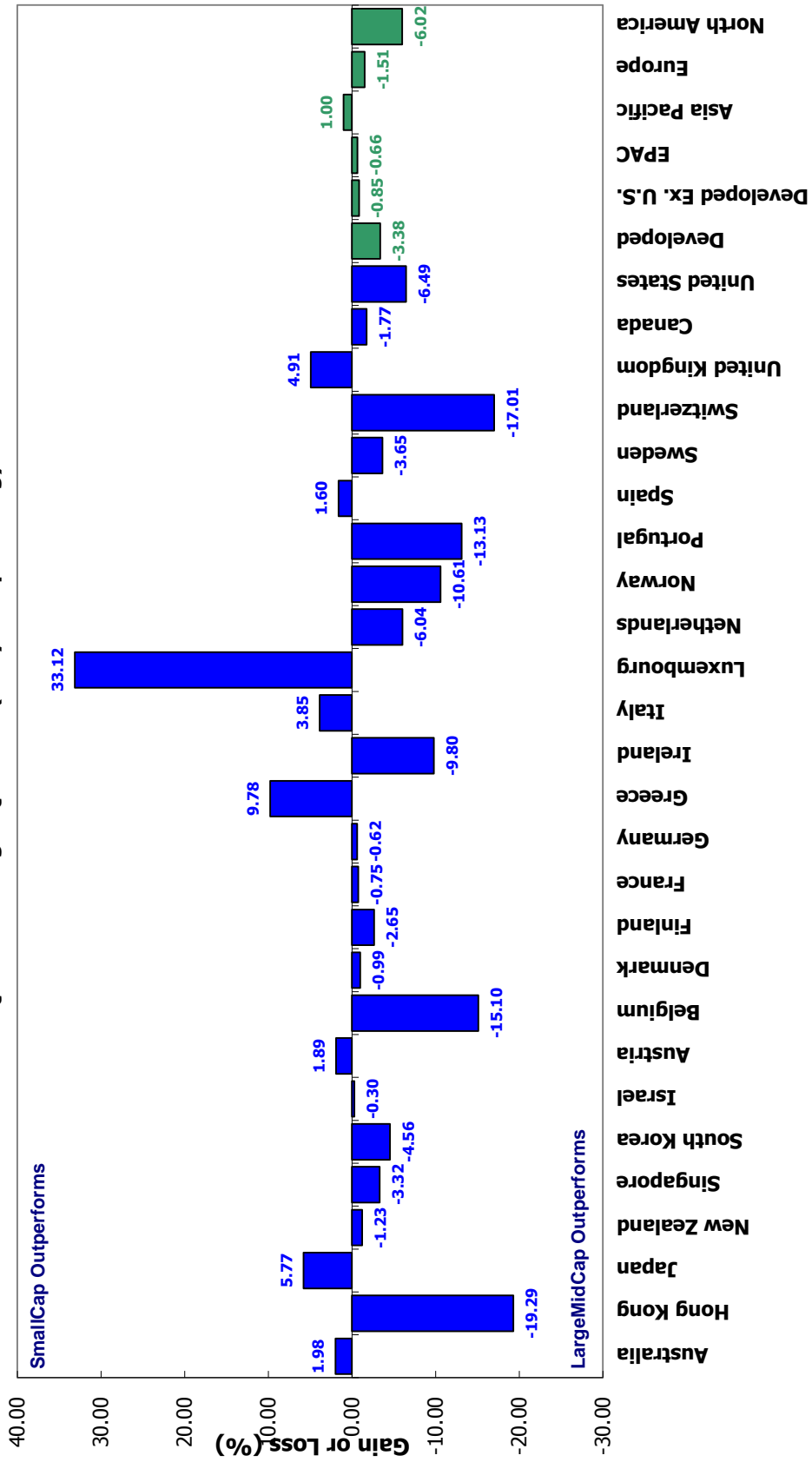
**S&P Developed Equity Index  
 Currency Performance versus the U.S. Dollar (In Percentage Terms)  
 31MAR2011 to 30MAR2012**



**S&P Developed Equity Index  
SmallCap minus LargeMidCap  
Total Rates of Return in Local Currency  
1Q2012 (Daily Compounding)**



**S&P Developed Equity Index  
SmallCap minus LargeMidCap  
Total Rates of Return in Local Currency  
1Q2012 Trailing 4 Quarters (Daily Compounding)**



INTERNATIONAL SWAP  
FIXED INCOME DETAILS  
Sorted by Issuer

MONTH-END: 4/30/12

DEAL	CUSIP	NOTE NAME	MAT. DATE	PAR	COST	MKT VALUE	G/L	% G/L	CR. RATING	Spread
BNP 12	06406hbv0	BANK OF NEW YORK MELLON	1/31/2014	12,000,000.00	12,032,652.00	12,010,380.00	(22,272.00)	-0.19%	Aa3	0.280%
CB 31	06406hbv0	BANK OF NEW YORK MELLON	1/31/2014	9,000,000.00	9,002,232.00	9,007,785.00	5,553.00	0.06%	Aa3	0.280%
CB 31	06406hbv0	BANK OF NEW YORK MELLON	1/31/2014	24,000,000.00	24,005,952.00	24,020,760.00	14,808.00	0.06%	Aa3	0.280%
				<b>45,000,000.00</b>	<b>45,040,836.00</b>	<b>45,038,925.00</b>	<b>(1,911.00)</b>	<b>0.00%</b>		
CB 31	064159an6	BANK OF NOVA SCOTIA	1/12/2015	50,000,000.00	50,761,545.00	50,727,700.00	(33,845.00)	-0.07%	Aa1	1.040%
				<b>50,000,000.00</b>	<b>50,761,545.00</b>	<b>50,727,700.00</b>	<b>(33,845.00)</b>	<b>-0.07%</b>		
CSFP 50	06740pr40	BARCLAYS BANK PLC	1/13/2014	500,000.00	479,739.17	490,580.00	10,840.83	2.26%	Aa3 /A-	0.860%
CSFP 50	06740pr40	BARCLAYS BANK PLC	1/13/2014	2,500,000.00	2,398,695.83	2,452,900.00	54,204.17	2.26%	Aa3 /A-	0.860%
CSFP 51	06740pr40	BARCLAYS BANK PLC	1/13/2014	50,000,000.00	49,042,600.00	49,058,000.00	15,400.00	0.03%	Aa3 /A-	0.860%
CB 31	06740pr40	BARCLAYS BANK PLC	1/13/2014	3,000,000.00	2,890,020.00	2,943,480.00	53,460.00	1.85%	Aa3 /A-	0.860%
CB 31	06740pr40	BARCLAYS BANK PLC	1/13/2014	32,815,710.00	31,612,686.07	32,197,462.02	584,775.95	1.85%	Aa3 /A-	0.860%
CB 31	06740pr40	BARCLAYS BANK PLC	1/13/2014	10,184,290.00	9,810,974.93	9,992,417.98	181,443.05	1.85%	Aa3 /A-	0.860%
Soc Gen 10	06740pr40	BARCLAYS BANK PLC	1/13/2014	1,000,000.00	980,852.00	981,160.00	308.00	0.03%	Aa3 /A-	0.860%
				<b>100,000,000.00</b>	<b>97,215,567.99</b>	<b>98,116,000.00</b>	<b>900,432.01</b>	<b>0.93%</b>		
DB 29	084664bp5	BERKSHIRE HATHAWAY FIN	1/10/2014	35,000,000.00	34,678,140.00	35,124,005.00	445,865.00	1.29%	Aa2	0.330%
UNASSIGNED	084664bp5	BERKSHIRE HATHAWAY FIN	1/10/2014	15,000,000.00	14,904,382.50	15,053,145.00	148,762.50	1.00%	Aa2	0.330%
UNASSIGNED	084664bp5	BERKSHIRE HATHAWAY FIN	1/10/2014	5,000,000.00	4,988,127.50	5,017,715.00	49,587.50	1.00%	Aa2	0.330%
				<b>55,000,000.00</b>	<b>54,550,650.00</b>	<b>55,194,865.00</b>	<b>644,215.00</b>	<b>1.18%</b>		
DB 28	13606xw87	CANADIAN IMP BK COMM NY	4/12/2016	9,000,000.00	9,024,240.60	9,021,042.00	(3,198.60)	-0.04%	Aa2	0.720%
DB 28	13606xw87	CANADIAN IMP BK COMM NY	4/12/2016	41,000,000.00	41,110,429.40	41,095,858.00	(14,571.40)	-0.04%	Aa2	0.720%
				<b>50,000,000.00</b>	<b>50,134,670.00</b>	<b>50,116,900.00</b>	<b>(17,770.00)</b>	<b>-0.04%</b>		
DB 28	172967fM8	CITIGROUP INC	2/15/2013	40,000,000.00	39,333,920.00	39,920,080.00	586,160.00	1.49%	A3 /A-	0.850%
				<b>40,000,000.00</b>	<b>39,333,920.00</b>	<b>39,920,080.00</b>	<b>586,160.00</b>	<b>1.49%</b>		
CSFP 47	369629z0	GENERAL ELEC CAP CORP	2/15/2017	76,900,000.00	71,928,338.10	72,308,685.50	380,347.40	0.53%	A1	0.170%
CSFP 49	369629z0	GENERAL ELEC CAP CORP	2/15/2017	27,100,000.00	27,106,070.40	25,481,994.50	(1,624,075.90)	-5.99%	A1	0.170%
DB 28	369629z0	GENERAL ELEC CAP CORP	2/15/2017	29,000,000.00	27,283,983.00	27,288,555.00	(457.00)	-0.06%	A1	0.170%
DB 27	36962G2F0	GENERAL ELEC CAP CORP	2/15/2017	16,000,000.00	14,503,449.94	15,138,749.50	635,299.56	4.38%	A1	0.170%
DB 27	36962G2F0	GENERAL ELEC CAP CORP	2/15/2017	18,400,000.00	16,575,371.36	17,301,428.00	726,056.64	4.38%	A1	0.170%
DB 27	36962G2F0	GENERAL ELEC CAP CORP	2/15/2017	23,500,000.00	21,169,631.90	22,096,932.50	927,300.60	4.38%	A1	0.170%
Soc Gen 10	36962G2F0	GENERAL ELEC CAP CORP	2/15/2017	9,000,000.00	8,424,099.00	8,462,655.00	38,556.00	0.46%	A1	0.170%
				<b>200,000,000.00</b>	<b>186,990,943.70</b>	<b>188,059,000.00</b>	<b>1,068,056.30</b>	<b>0.57%</b>		
BNP #13	46623ecq0	JPMORGAN CHASE & CO	11/1/2012	35,000,000.00	35,052,780.00	35,006,895.00	(45,885.00)	-0.13%	Aa3 /A-	0.150%
CSFP 47	46623ecq0	JPMORGAN CHASE & CO	11/1/2012	22,000,000.00	21,983,830.00	22,004,334.00	20,504.00	0.09%	Aa3 /A-	0.150%
DB 27	46623ECQ0	JPMORGAN CHASE & CO	11/1/2012	43,000,000.00	42,890,264.00	43,008,471.00	118,207.00	0.28%	Aa3 /A-	0.150%
				<b>100,000,000.00</b>	<b>99,926,874.00</b>	<b>100,019,700.00</b>	<b>92,826.00</b>	<b>0.09%</b>		
DB 28	74977MRR8	RABOBANK NEDERLAND NV NY	1/17/2014	14,999,996.00	14,998,073.45	15,001,556.00	3,482.55	0.02%	Aaa	0.350%
DB 28	74977MRR8	RABOBANK NEDERLAND NV NY	1/17/2014	8,500,004.00	8,498,914.55	8,500,888.00	1,973.45	0.02%	Aaa	0.350%
DB 27	74977MRR8	RABOBANK NEDERLAND NV NY	1/17/2014	14,000,000.00	14,002,195.06	14,001,456.00	(739.06)	-0.01%	Aaa	0.350%
DB 27	74977MRR8	RABOBANK NEDERLAND NV NY	1/17/2014	12,500,000.00	12,501,959.88	12,501,300.00	(659.87)	-0.01%	Aaa	0.350%
				<b>50,000,000.00</b>	<b>50,001,142.94</b>	<b>50,005,200.00</b>	<b>4,057.06</b>	<b>0.01%</b>		
DB 28	78008KV83	ROYAL BANK OF CANADA	3/9/2016	40,000,000.00	39,509,408.00	39,543,560.00	34,152.00	0.09%	Aa1 /A-	0.500%
DB 28	78008KV83	ROYAL BANK OF CANADA	3/9/2016	10,000,000.00	9,877,352.00	9,885,890.00	8,538.00	0.09%	Aa1 /A-	0.500%
				<b>50,000,000.00</b>	<b>49,386,760.00</b>	<b>49,429,450.00</b>	<b>42,690.00</b>	<b>0.09%</b>		
BNP #13	78010jdl8	ROYAL BK OF SCOTLAND PLC	3/11/2014	35,000,000.00	34,094,970.00	34,539,607.20	444,637.20	1.30%	A2	1.530%
BNP #13	78010jdl8	ROYAL BK OF SCOTLAND PLC	3/11/2014	15,000,000.00	14,612,130.00	14,802,688.80	190,558.80	1.30%	A2	1.530%
				<b>50,000,000.00</b>	<b>48,707,100.00</b>	<b>49,342,296.00</b>	<b>635,196.00</b>	<b>1.30%</b>		
DB 30	89153uaa9	TOTAL CAPITAL CANADA LTD	1/17/2014	23,000,000.00	23,083,955.00	23,039,813.00	(45,142.00)	-0.23%	Aa1	0.380%
UBS 45	89153uaa9	TOTAL CAPITAL CANADA LTD	1/17/2014	40,000,000.00	40,163,400.00	40,069,240.00	(94,160.00)	-0.23%	Aa1	0.3800%
				<b>63,000,000.00</b>	<b>63,257,355.00</b>	<b>63,109,053.00</b>	<b>(148,302.00)</b>	<b>-0.23%</b>		
				<b>853,000,000.00</b>	<b>835,307,364.63</b>	<b>839,079,169.00</b>	<b>3,771,804.37</b>	<b>0.45%</b>		



**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**INDEXED DOMESTIC EQUITY  
REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**JUNE 14, 2012**



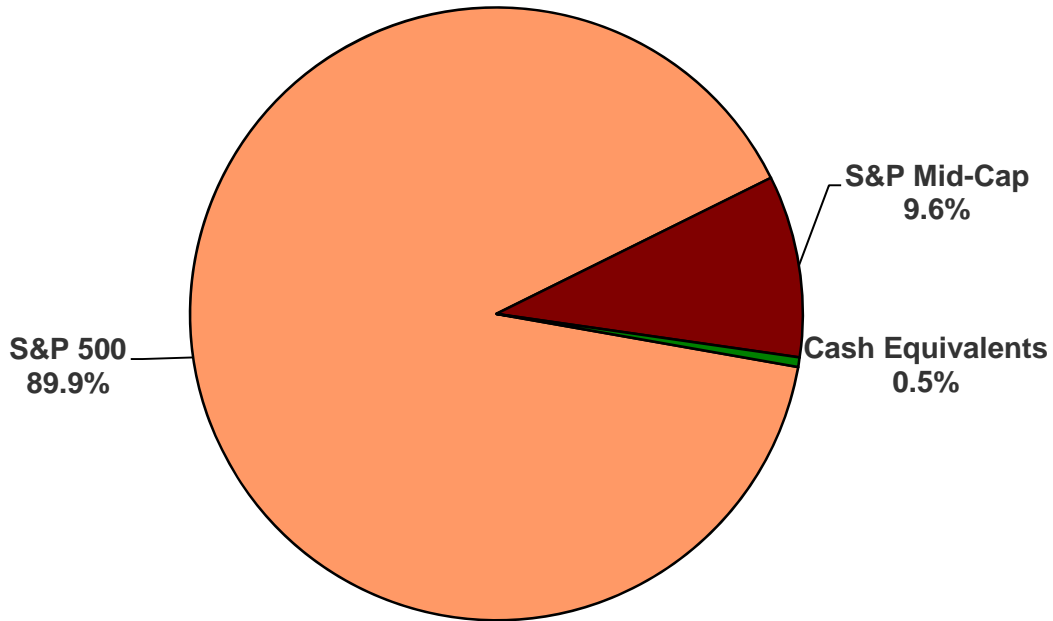
**Richard J. Holcomb, CFA, Administrator  
Quantitative Analysis Division**





# SMRS

## Domestic Passive Equity Investments 3/31/12



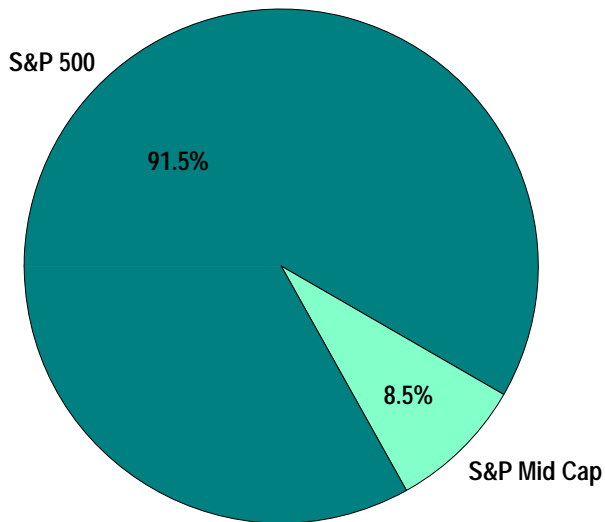
Market Value in Millions			Benchmark
S&P 500	\$5,991	89.9%	91.5%
S&P Mid-Cap	644	9.6%	8.5%
S&P Small-Cap	0	0.0%	0.0%
Total Investments	\$6,635	99.5%	100.0%
Cash Equivalents	31	0.5%	0.0%
<b>Total</b>	<b>\$6,666</b>	<b>100.0%</b>	<b>100.0%</b>



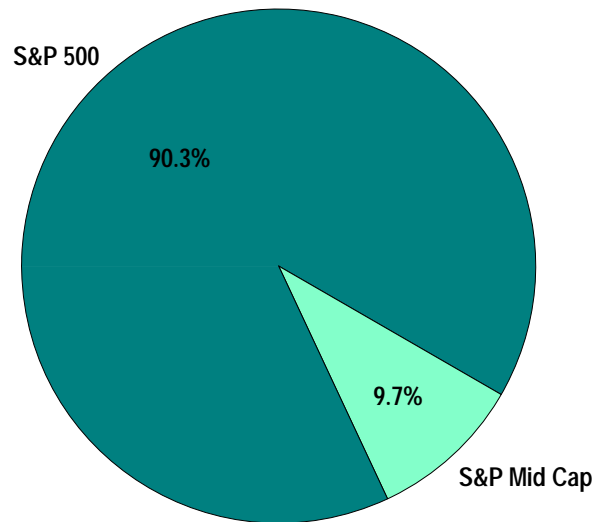
# SMRS

## Passive U.S. Equity Exposure 03/31/12

*Standard & Poor's 900*



*SMRS Actual*



	<u>S&amp;P Benchmarks</u>		<u>SMRS Position Values</u>		
	<u>03/31/12 Market Cap.</u>	<u>03/31/12 Weights</u>	<u>03/31/12 Market Value</u>	<u>03/31/12 Weights</u>	<u>12/31/11 Market Value</u>
S&P 500	\$12,730 B	91.5%	\$6,020 M	90.3%	\$5,354 M
S&P Mid-Cap	\$1,189 B	8.5%	\$646 M	9.7%	\$569 M

# Indexed Domestic Equity Quarter Ending 03/31/12

## U.S. Index Portfolios

3/31/2012	3/31/2012	3/31/2012	3/31/2012	3/31/2012	Period	Transaction	S&P
Portfolio Value	Index Level	Synthetic % Ending	Cash % Ending	Cash Flow % Beginning	Activity % Beginning	SMRS % Weight	% Weight
\$ 6,019,674,988	1,408.47	0.00%	0.34%	-0.26%	1.37%	90.31%	91.46%
\$ 646,080,654	994.30	0.00%	0.22%	-0.18%	4.21%	9.69%	8.54%
\$ 6,665,755,642	325.15	0.00%	0.33%	-0.25%	1.64%	100.00%	100.00%

S&P 500

S&P Mid-Cap

Total Passive

3

## Portfolio Returns

Quarter	6 Mo.	9 Mo.	1-Year	2-Year	3-Year	5-Year	10-Year
12.72%	26.08%	8.83%	9.05%	12.46%	23.90%	2.35%	4.36%
13.71%	28.72%	3.90%	3.43%	15.04%	29.46%	5.87%	8.33%
12.81%	26.34%	8.30%	8.45%	12.77%	24.46%	2.70%	4.82%

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
0.13%	0.19%	0.40%	0.51%	0.42%	0.48%	0.34%	0.24%
0.21%	0.49%	1.17%	1.45%	1.26%	0.91%	1.09%	0.63%
0.15%	0.25%	0.38%	0.51%	0.58%	0.62%	0.47%	0.32%

S&P 500

S&P Mid-Cap

Total Passive Benchmark



**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**FIXED INCOME REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**JUNE 14, 2012**



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



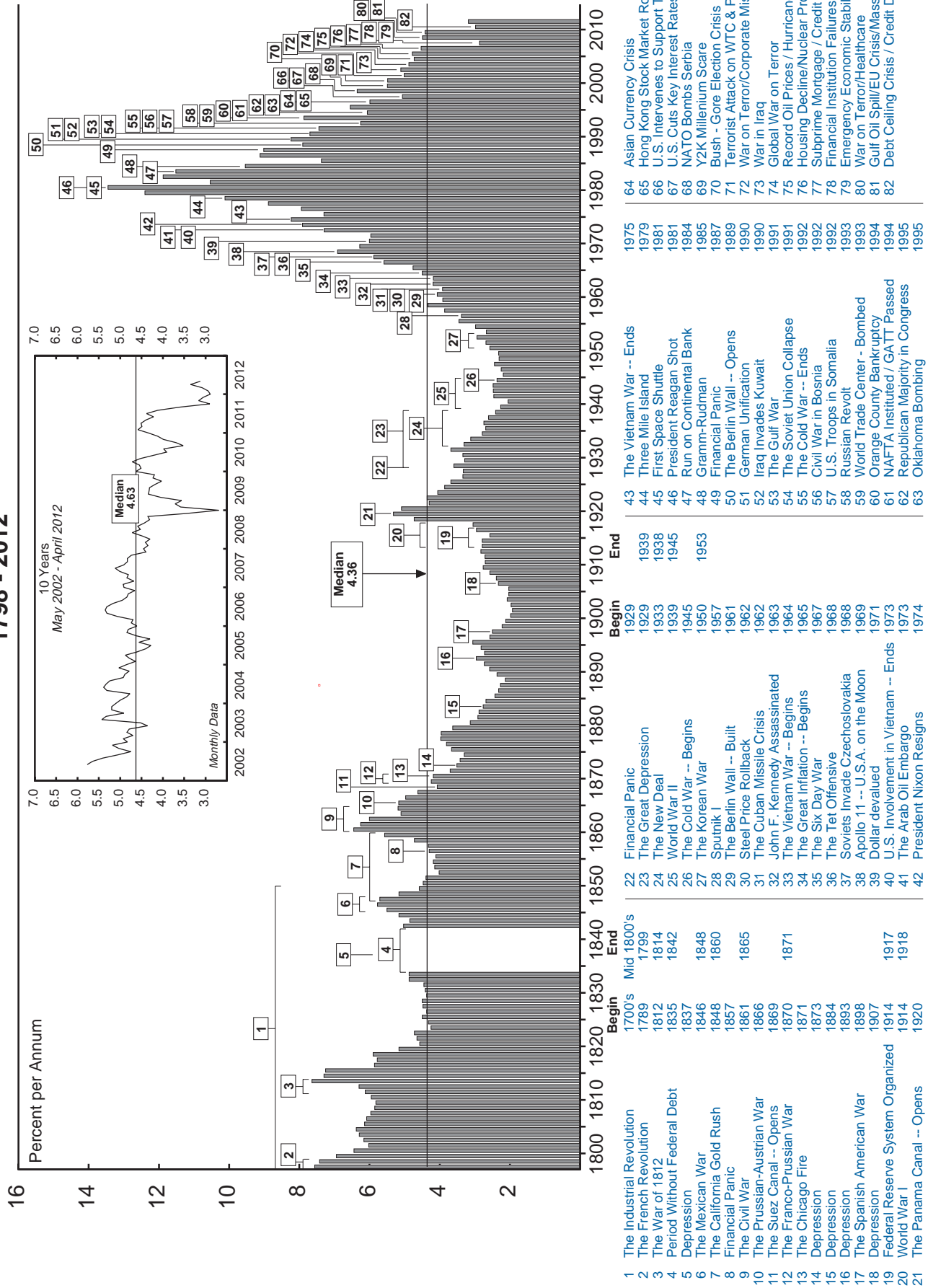


## EXECUTIVE SUMMARY

### 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\*

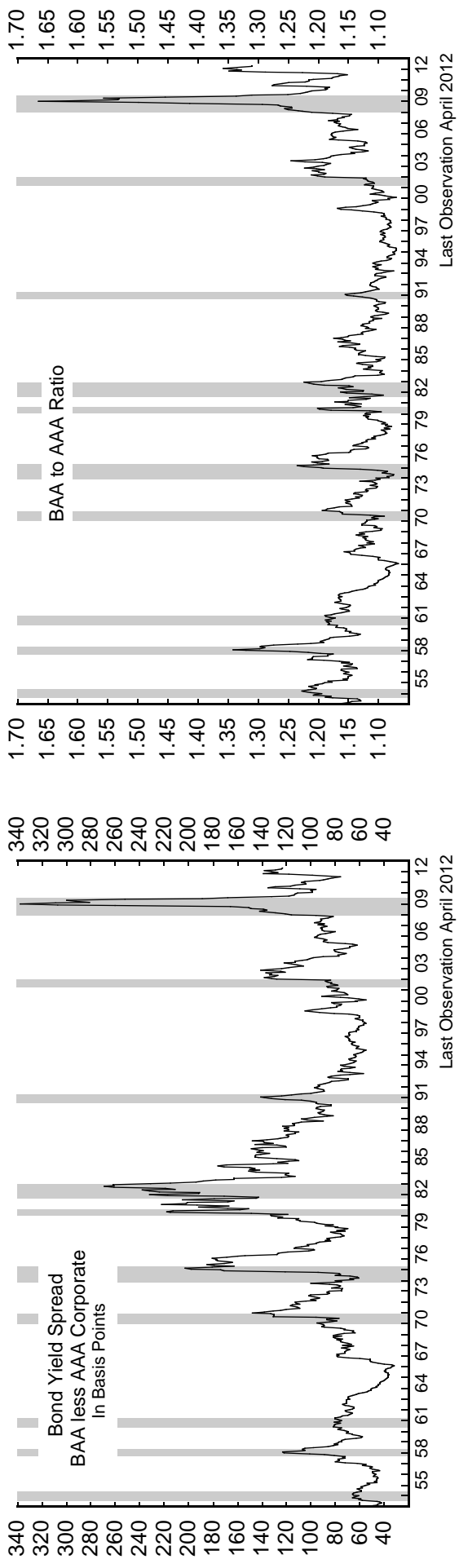
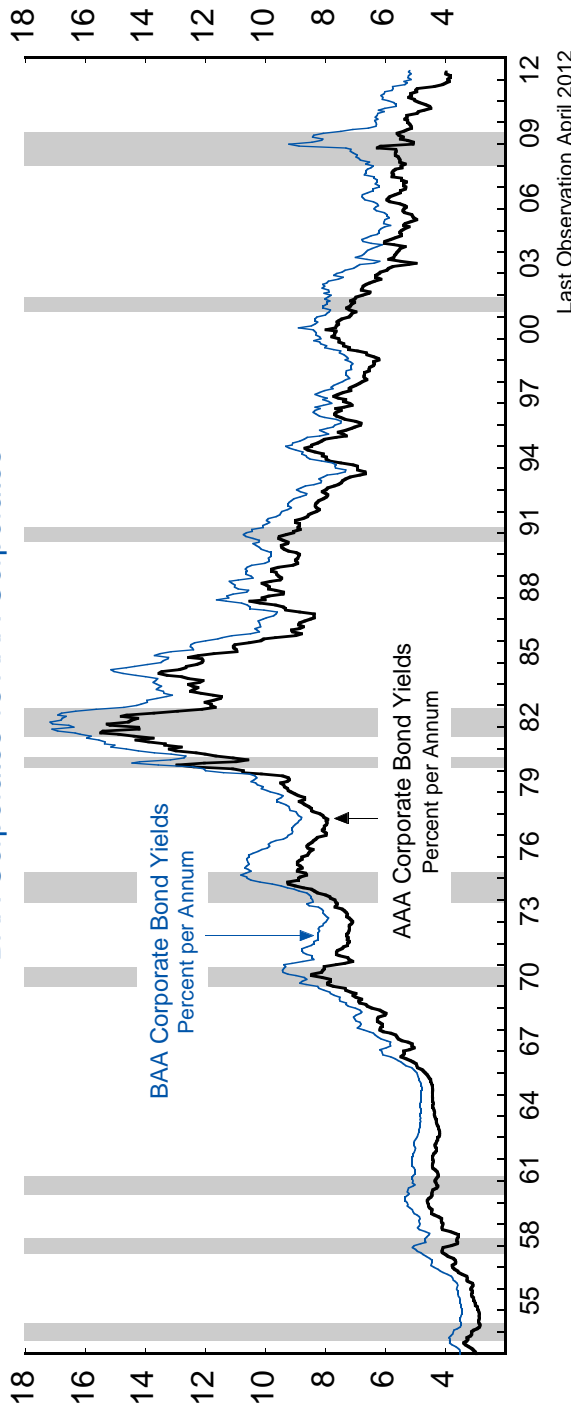


\* Last Observation April 2012

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.

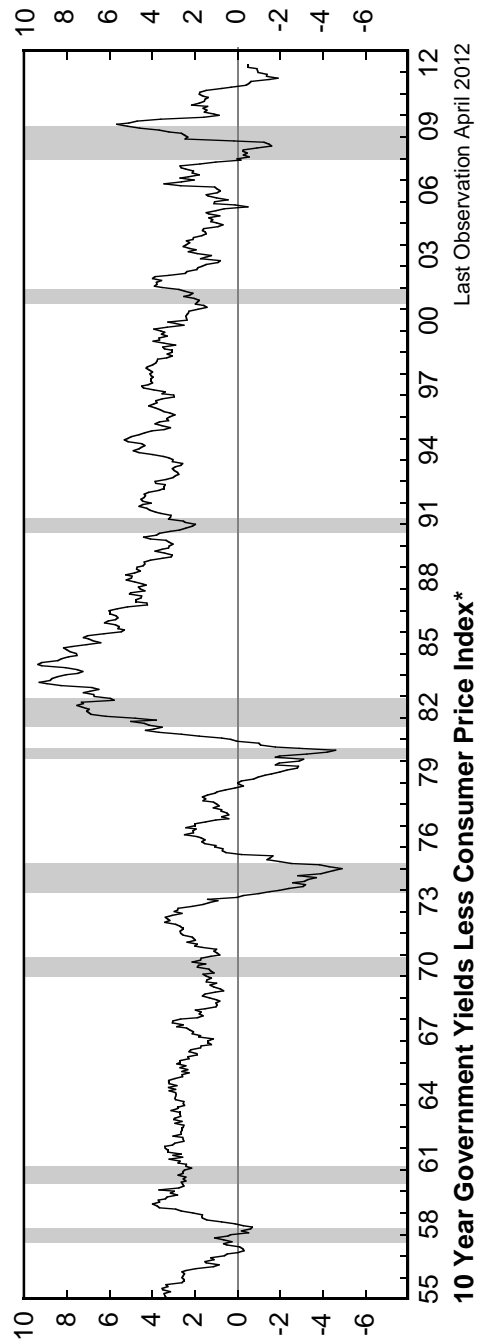
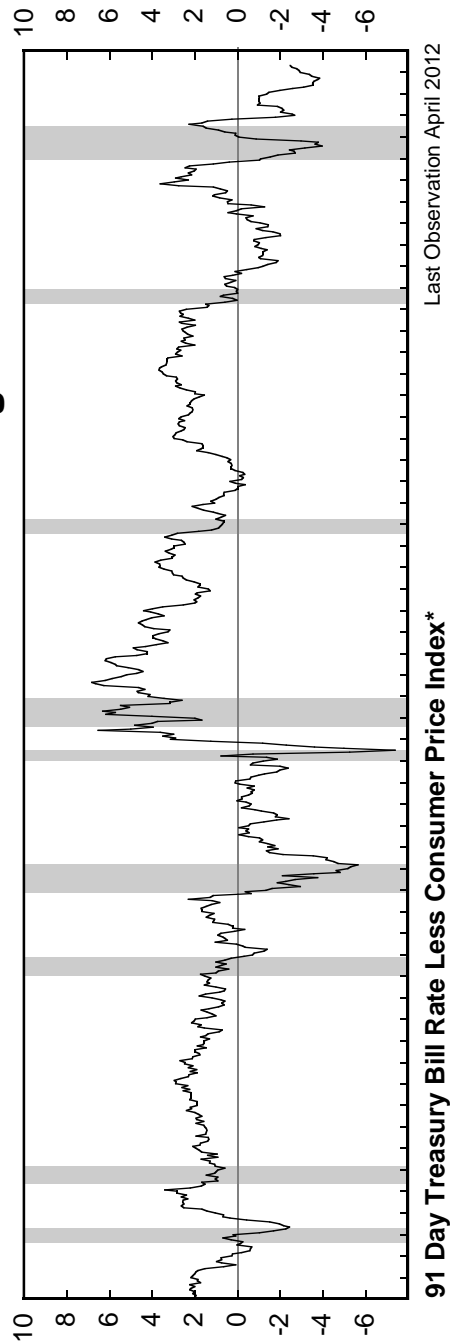
# Bond Risk Premium

BAA Corporates vs AAA Corporates



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 April 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.

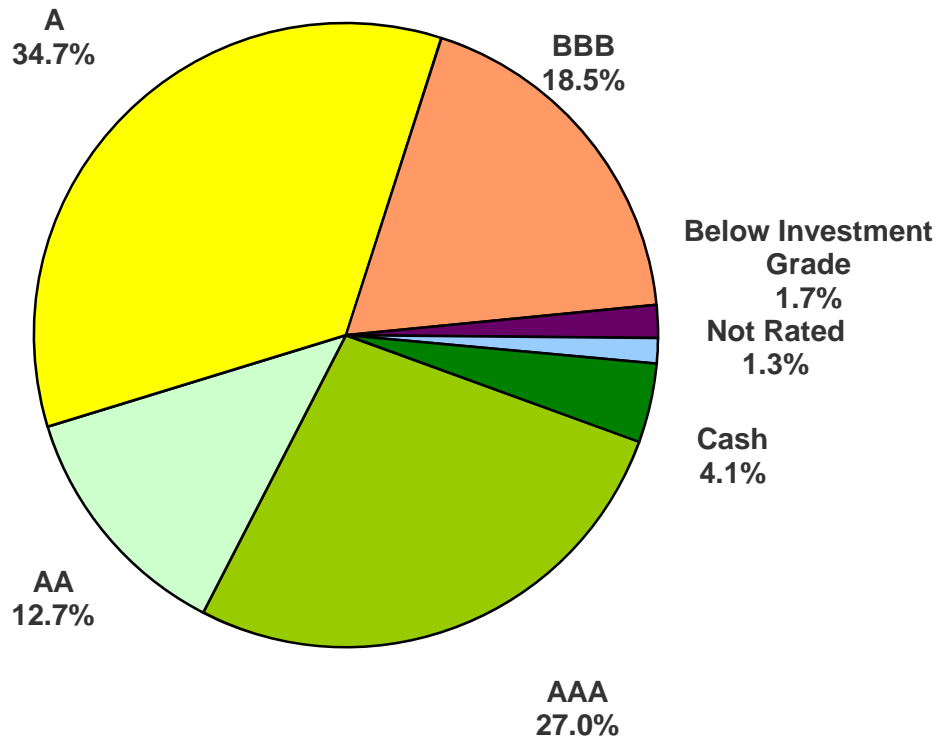


# SMRS

## Fixed Income By Rating

Total U.S. Government and Corporate Holdings

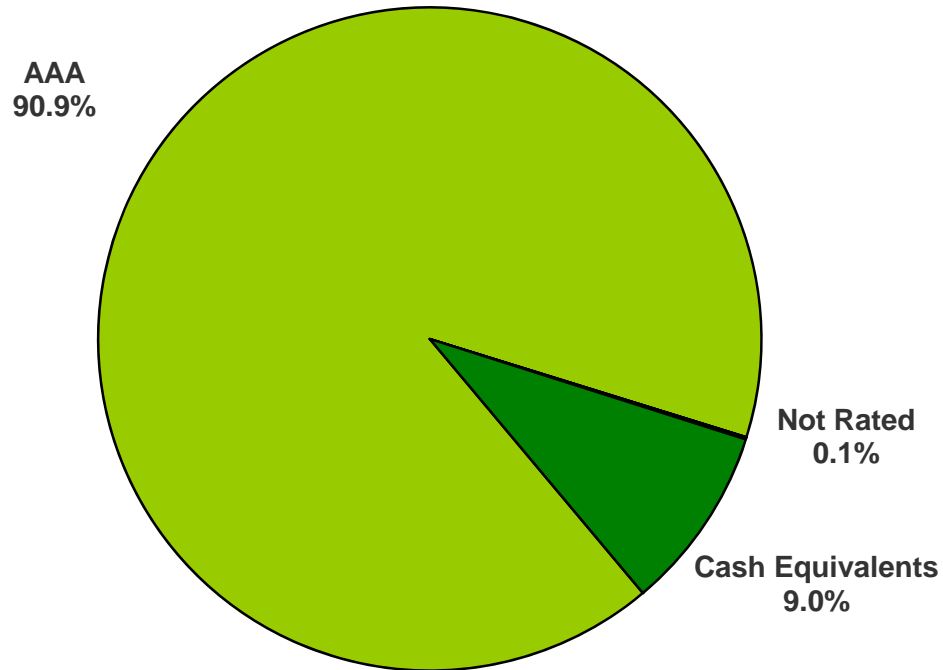
3/31/12



Market Value in Millions				
	3/31/2012		12/31/2011	
AAA	\$1,765	27.0%	\$1,688	26.1%
AA	832	12.7%	831	12.9%
A	2,266	34.7%	2,202	34.1%
BBB	1,205	18.5%	1,130	17.5%
Not Rated	85	1.3%	222	3.4%
Below Investment Grade	112	1.7%	133	2.1%
Cash Equivalents	271	4.1%	252	3.9%
<b>Total Investments</b>	<b>\$6,536</b>	<b>100.0%</b>	<b>\$6,458</b>	<b>100.0%</b>



**SMRS**  
**Fixed Income**  
 U.S. Government Internal Holdings  
 3/31/12



Market Value in Millions				
	<u>3/31/2012</u>		<u>12/31/2011</u>	
AAA	\$1,269	90.9%	\$1,157	82.8%
AA	0	0.0%	10	0.7%
Not Rated	2	0.1%	158	11.3%
Cash Equivalents	<u>125</u>	<u>9.0%</u>	<u>73</u>	<u>5.2%</u>
<b>Total</b>	<b>\$1,396</b>	<b>100.0%</b>	<b>\$1,398</b>	<b>100.0%</b>

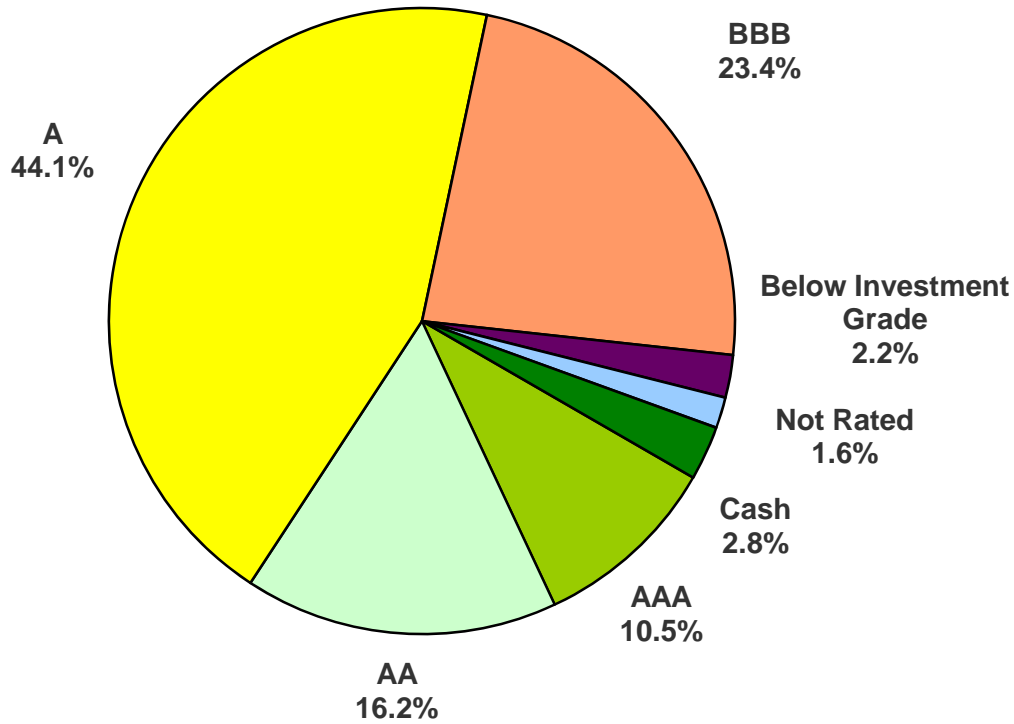


# SMRS

## Fixed Income By Rating

### Corporate Holdings By Rating

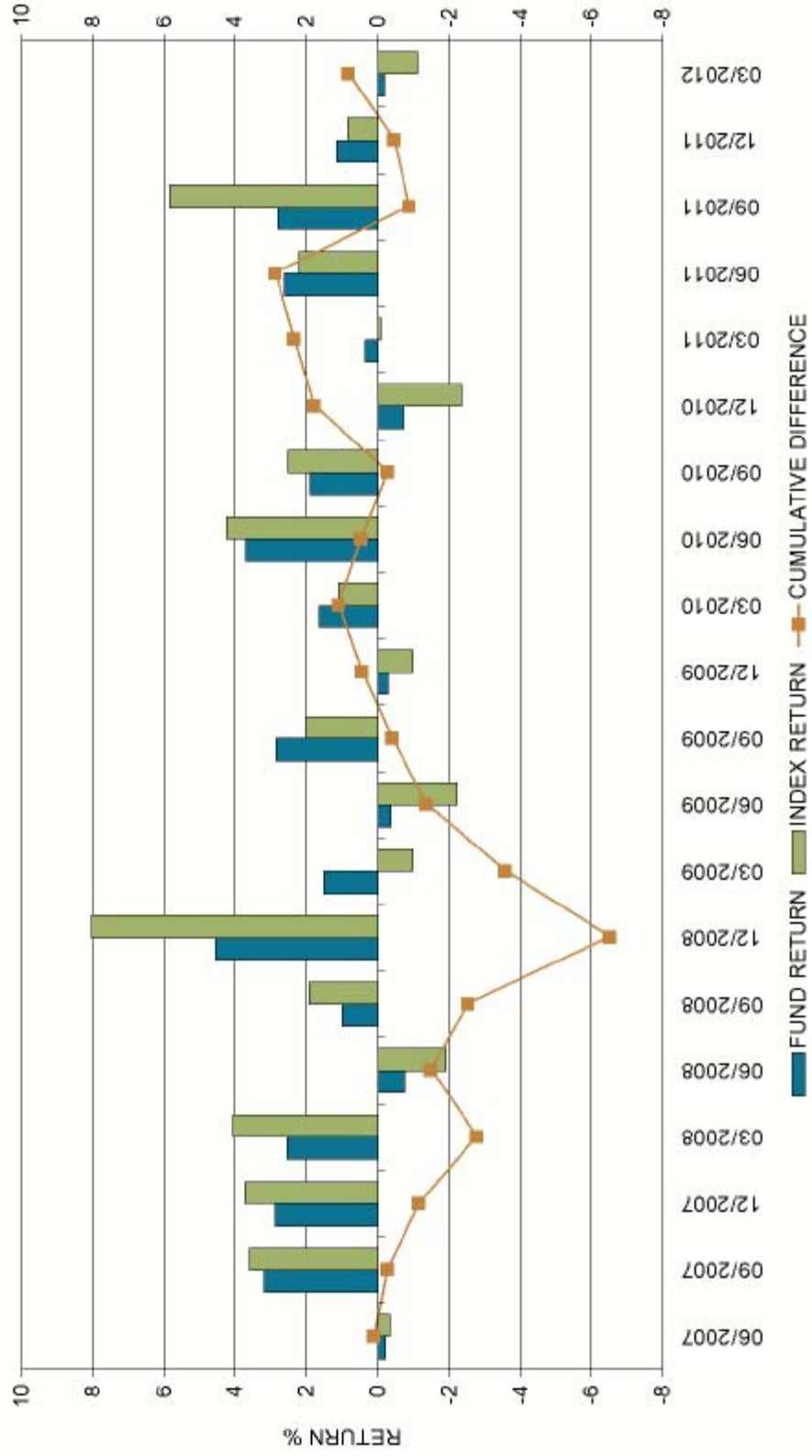
3/31/12



Market Value in Millions				
	3/31/2012		12/31/2011	
AAA	\$496	9.7%	\$531	10.5%
AA	832	16.2%	821	16.2%
A	2,266	44.1%	2,202	43.5%
BBB	1,205	23.4%	1,130	22.3%
Not Rated	83	1.6%	64	1.3%
Below Investment Grade	112	2.2%	133	2.6%
Cash Equivalents	146	2.8%	179	3.6%
<b>Total Investments</b>	<b>\$5,140</b>	<b>100.0%</b>	<b>\$5,060</b>	<b>100.0%</b>

Michigan State Treasury - Supersponsor  
**INTERNAL GOVERNMENT FUND**  
 Index: BC US Agg Gov  
**PERIODS: March 31, 2007 - March 31, 2012**

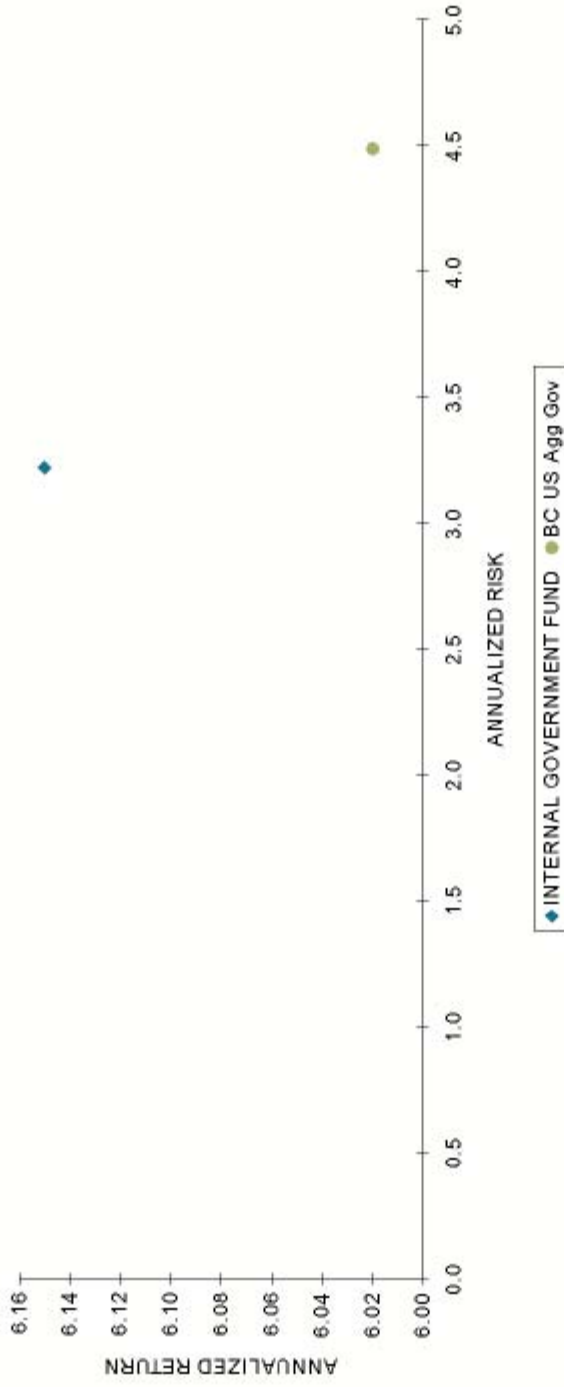
CUMULATIVE PERFORMANCE REPORT





Michigan State Treasury - Supersponsor  
**INTERNAL GOVERNMENT FUND**  
 Benchmark: BC US Agg Gov  
 PERIODS: March 31, 2007 - March 31, 2012

**RISK VS. RETURN**



**RISK INFORMATION**

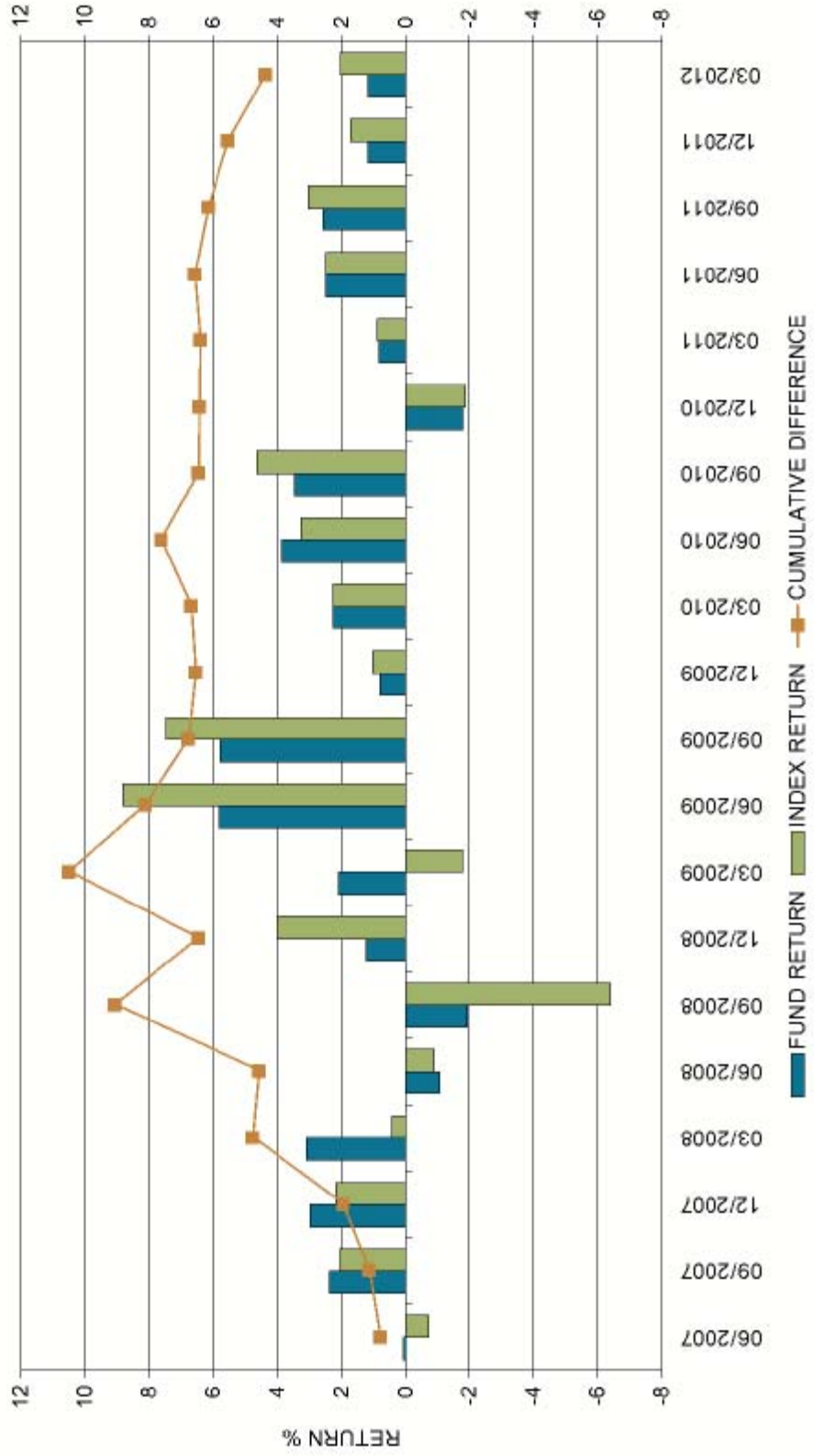
Portfolio Return	6.15
Benchmark Return	6.02
Return Differences	0.13
Portfolio Standard Deviation	3.22
Benchmark Standard	4.49
Tracking Error	2.11

**RISK STATISTICS**

Historic Beta	0.65
R-squared	0.80
Jensen's Alpha	1.82
Sharpe Ratio	1.53
Treynor Ratio	7.59
Information Ratio	0.06

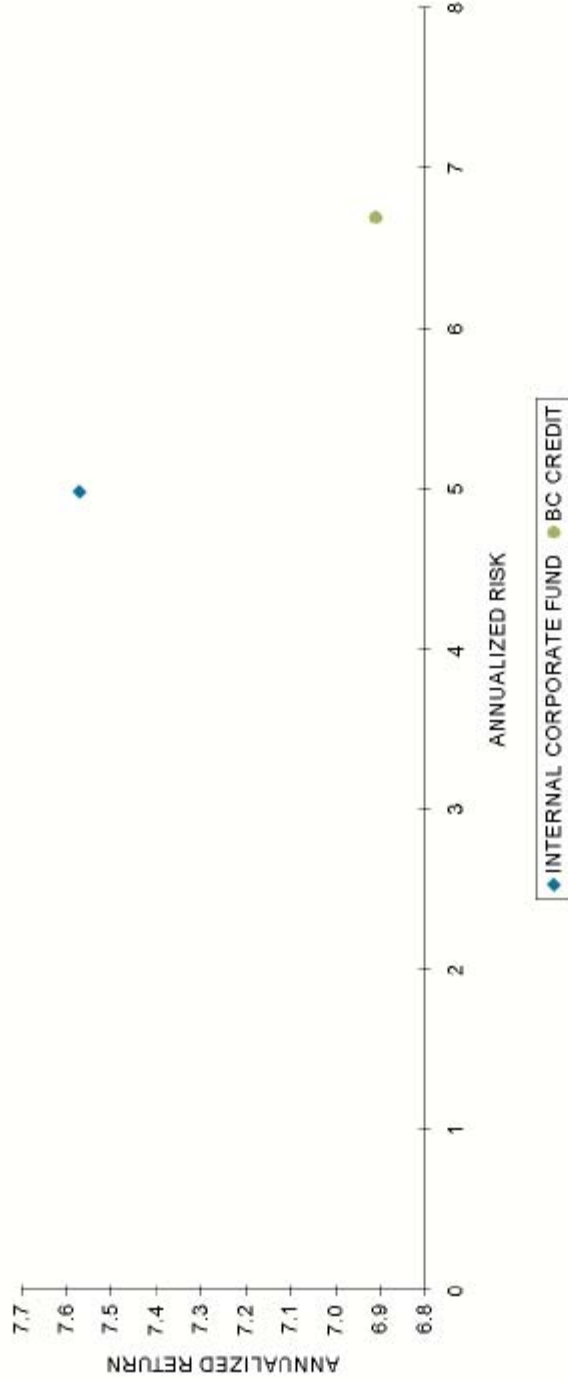
Michigan State Treasury - Supersponsor  
**INTERNAL CORPORATE FUND**  
 Index: BC CREDIT  
 PERIODS: March 31, 2007 - March 31, 2012

CUMULATIVE PERFORMANCE REPORT



Michigan State Treasury - Supersponsor  
**INTERNAL CORPORATE FUND**  
 Index: BC CREDIT  
 PERIODS: March 31, 2007 - March 31, 2012

RISK VS. RETURN



**RISK INFORMATION**

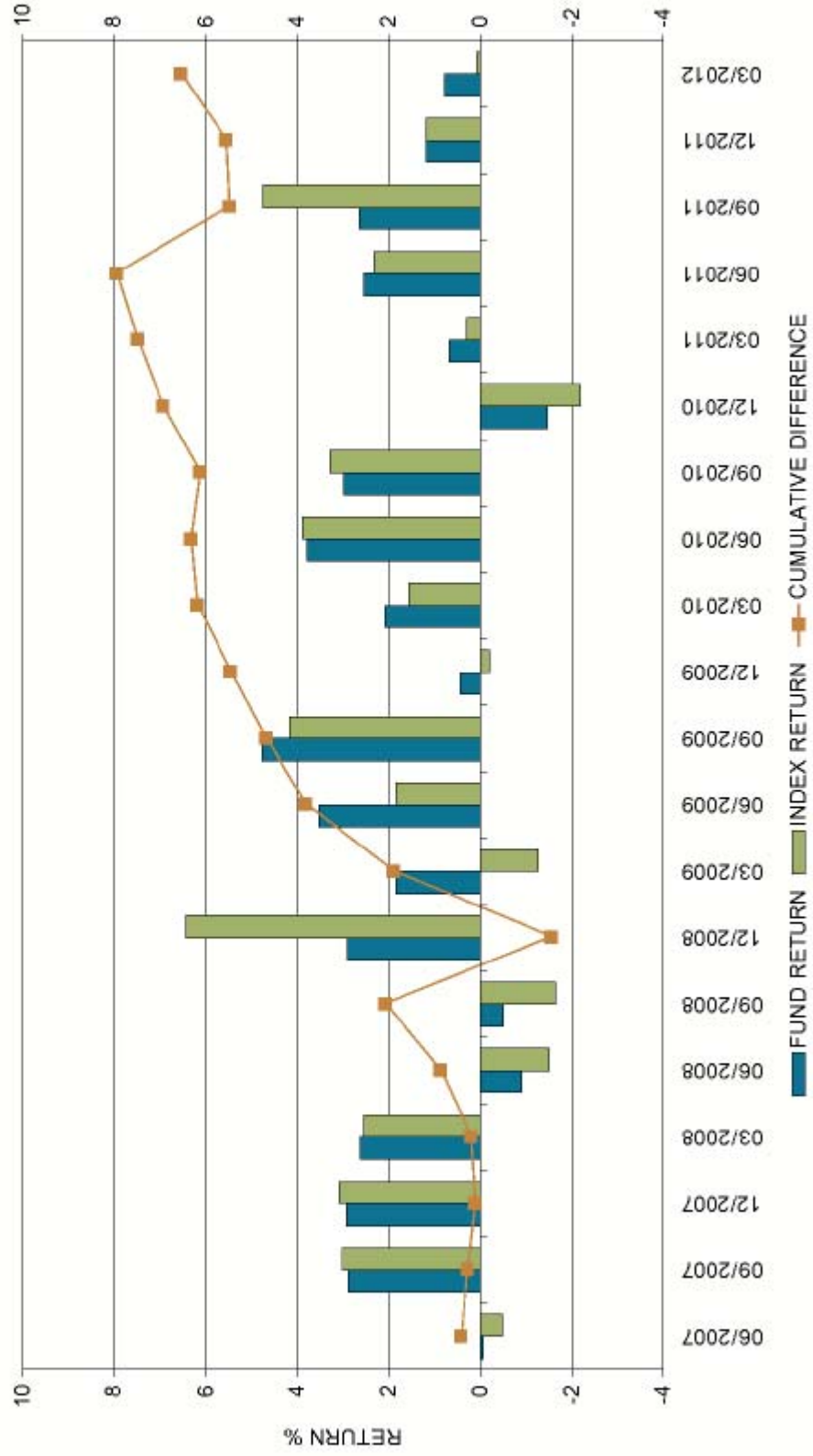
Portfolio Return	7.57
Benchmark Return	6.91
Return Differences	0.66
Portfolio Standard Deviation	4.98
Benchmark Standard	6.69
Tracking Error	3.45

**RISK STATISTICS**

Historic Beta	0.65
R-squared	0.76
Jensen's Alpha	2.68
Sharpe Ratio	1.27
Treynor Ratio	9.82
Information Ratio	0.19

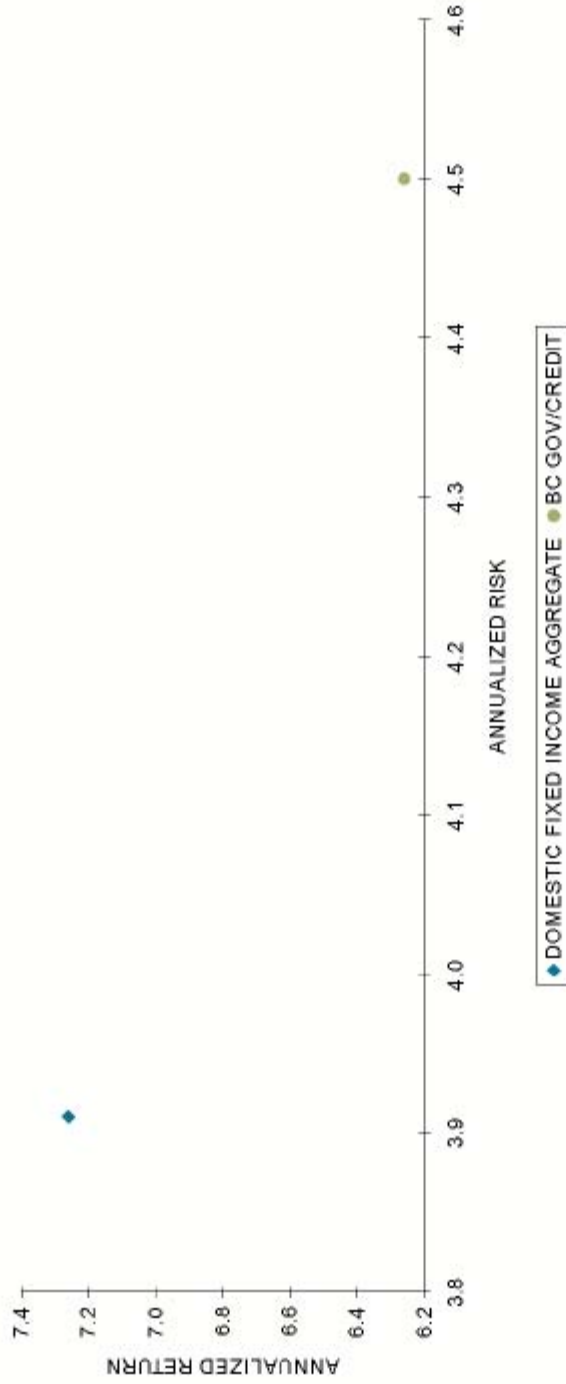
**Michigan State Treasury - Supersponsor  
DOMESTIC FIXED INCOME AGGREGATE  
Index: BC GOV/CREDIT  
PERIODS: March 31, 2007 - March 31, 2012**

**CUMULATIVE PERFORMANCE REPORT**



**Michigan State Treasury - Supersponsor  
DOMESTIC FIXED INCOME AGGREGATE  
Benchmark: BC GOV/CREDIT  
PERIODS: March 31, 2007 - March 31, 2012**

**RISK VS. RETURN**



**RISK INFORMATION**

Portfolio Return	7.26
Benchmark Return	6.26
Return Differences	1.01
Portfolio Standard Deviation	3.91
Benchmark Standard	4.50
Tracking Error	1.90

**RISK STATISTICS**

Historic Beta	0.79
R-squared	0.82
Jensen's Alpha	2.05
Sharpe Ratio	1.54
Treynor Ratio	7.61
Information Ratio	0.53

State of Michigan Retirement Systems  
Corporate Fixed Income Internal Holdings

Portfolio Characteristics

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

March 31, 2012 December 31, 2011

<i>Characteristic</i>	<u>March 31, 2012</u>			<u>December 31, 2011</u>		
	<i>Portfolio</i>	<i>Benchmark</i>	<i>Relative (%)</i>	<i>Portfolio</i>	<i>Benchmark</i>	<i>Relative (%)</i>
Maturity (Yrs)	4.5	10.5	42.9	4.5	10.7	42.1
Maturity (Yrs) w/Cash Equiv.	4.4	10.5	41.9	4.4	10.7	41.1
Duration (Yrs)	3.9	6.8	57.4	3.8	6.8	55.9
Duration (Yrs) w/Cash Equiv.	3.8	6.8	55.9	3.7	6.8	54.4
Coupon (%)	4.7	5.3	88.7	4.9	5.4	90.7
Yield to Maturity (%)	2.0	3.3	60.6	2.2	3.6	61.1
Moody's Quality	A-3	A-3		A-3	A-3	
S&P Quality	A	A-		A	A-	

State of Michigan Retirement Systems  
 Government Fixed Income Internal Holdings  
 Portfolio Characteristics  
**Benchmark: Barclays Capital Government**

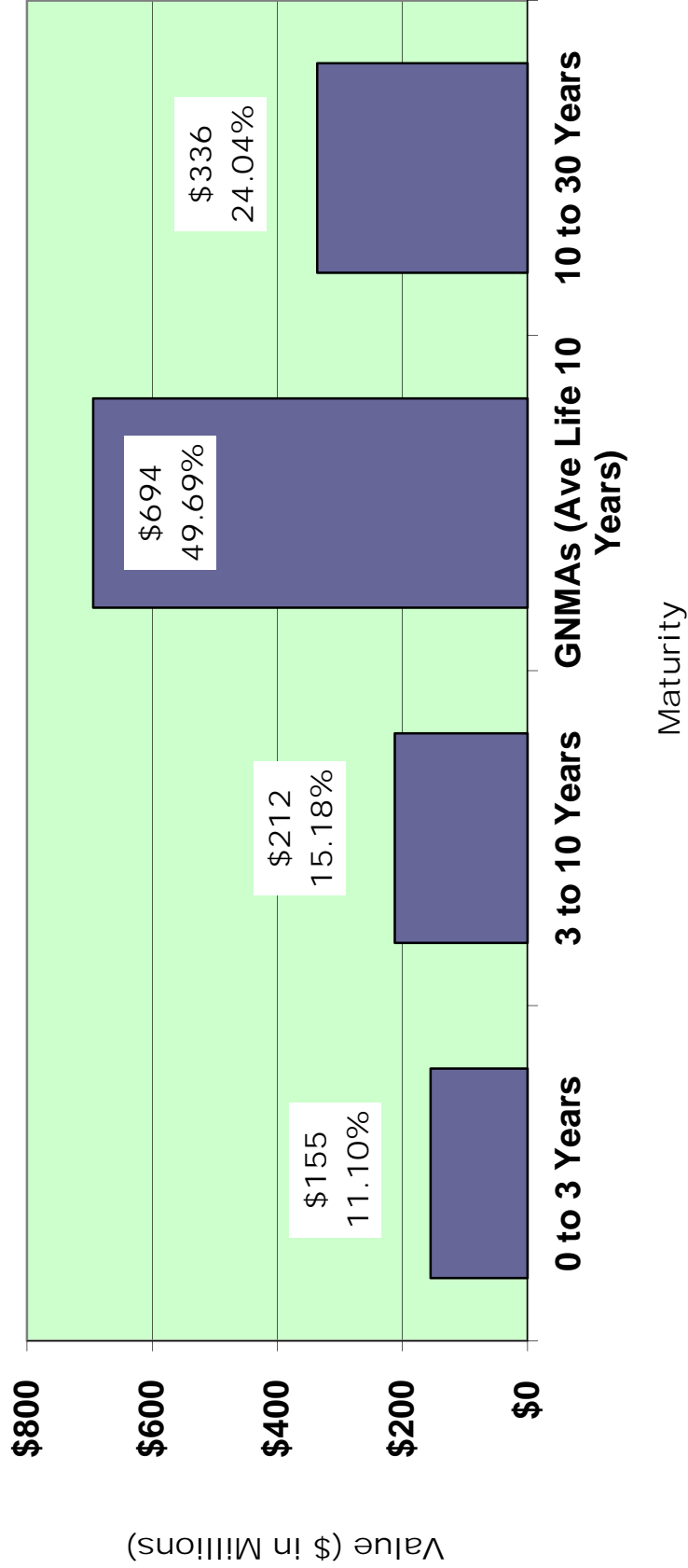
March 31, 2012 December 31, 2011

Characteristic	March 31, 2012			December 31, 2011		
	Portfolio	Benchmark	Relative (%)	Portfolio	Benchmark	Relative (%)
Maturity (Yrs)	5.9	6.6	89.4	5.0	6.9	72.5
Maturity (Yrs) w/Cash Equiv.	5.4	6.6	81.8	4.7	6.9	68.1
Duration (Yrs)	4.1	5.3	77.4	3.3	5.6	58.9
Duration (Yrs) w/Cash Equiv.	3.8	5.3	71.7	3.1	5.6	55.4
Coupon (%)	4.3	2.7	159.3	4.6	2.8	164.3
Yield to Maturity (%)	2.4	1.2	200.0	1.8	1.0	180.0
Moody's Quality	AGY	TSY		AGY	TSY	
S&P Quality	AGY	TSY		AGY	TSY	

Fixed Income Internal Portfolio  
 Government Portfolio Maturity Distribution

As of March 31, 2012

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

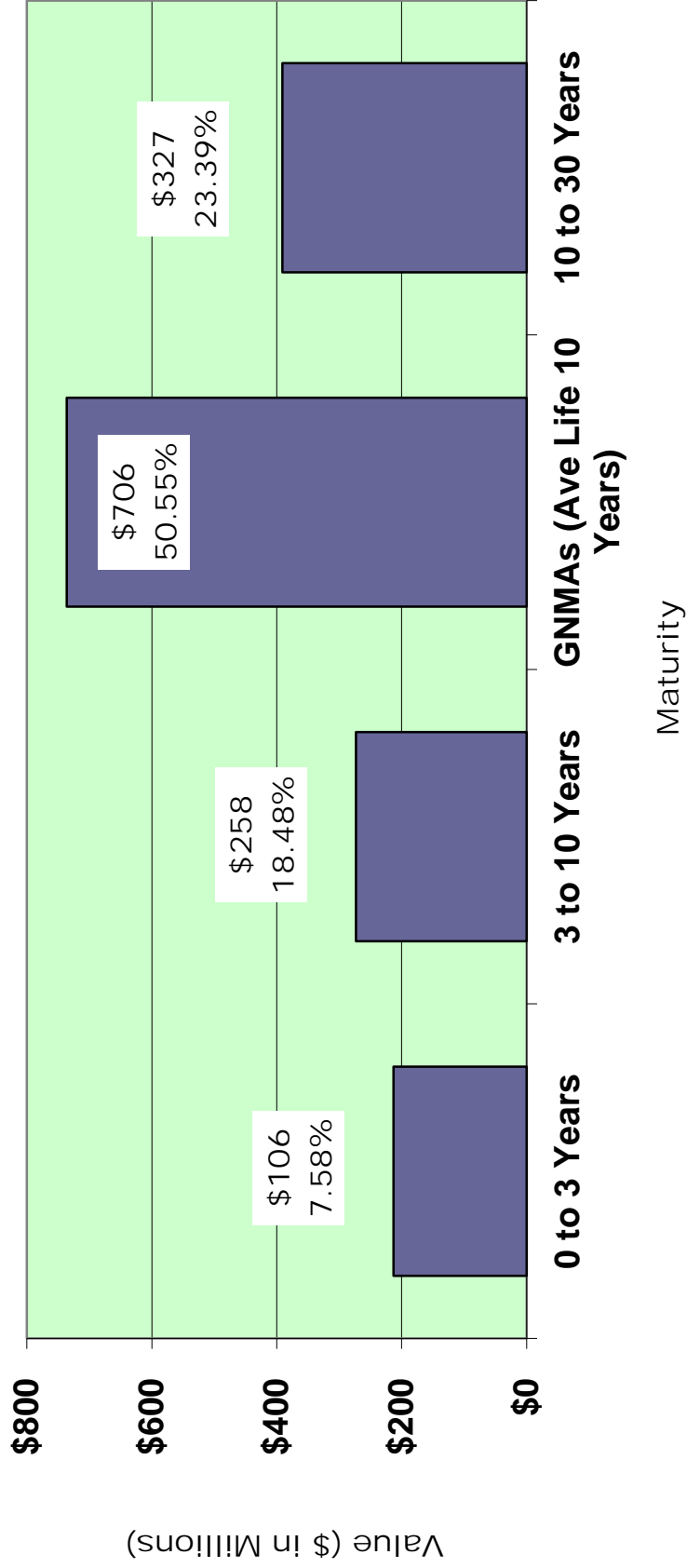




Fixed Income Internal Portfolio  
 Government Portfolio Maturity Distribution

As of December 31, 2011

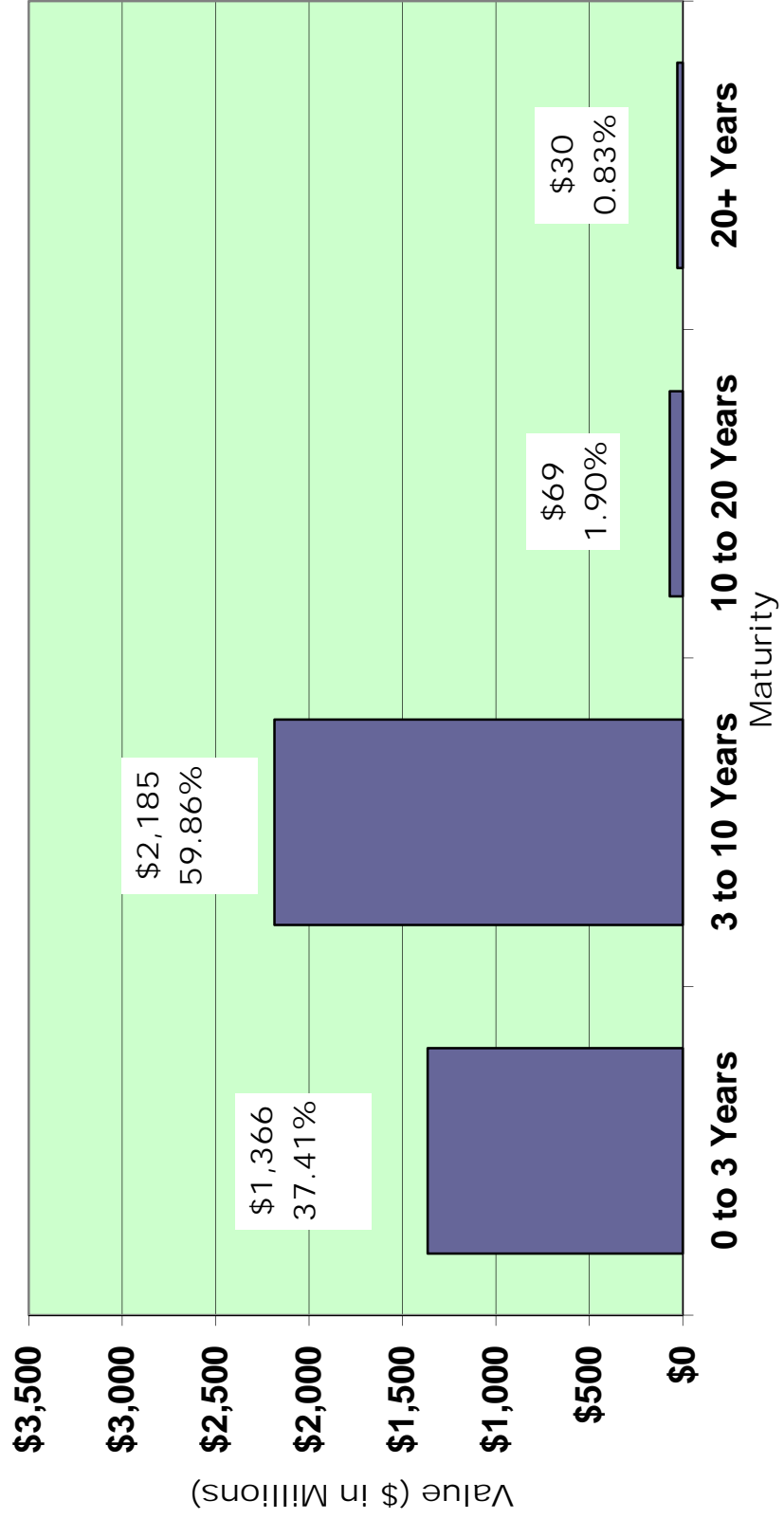
Average Maturity of July 2021  
 Total Market Value \$1,398 Million



# Fixed Income Internal Portfolio Corporate Portfolio Maturity Distribution

As of March 31, 2012

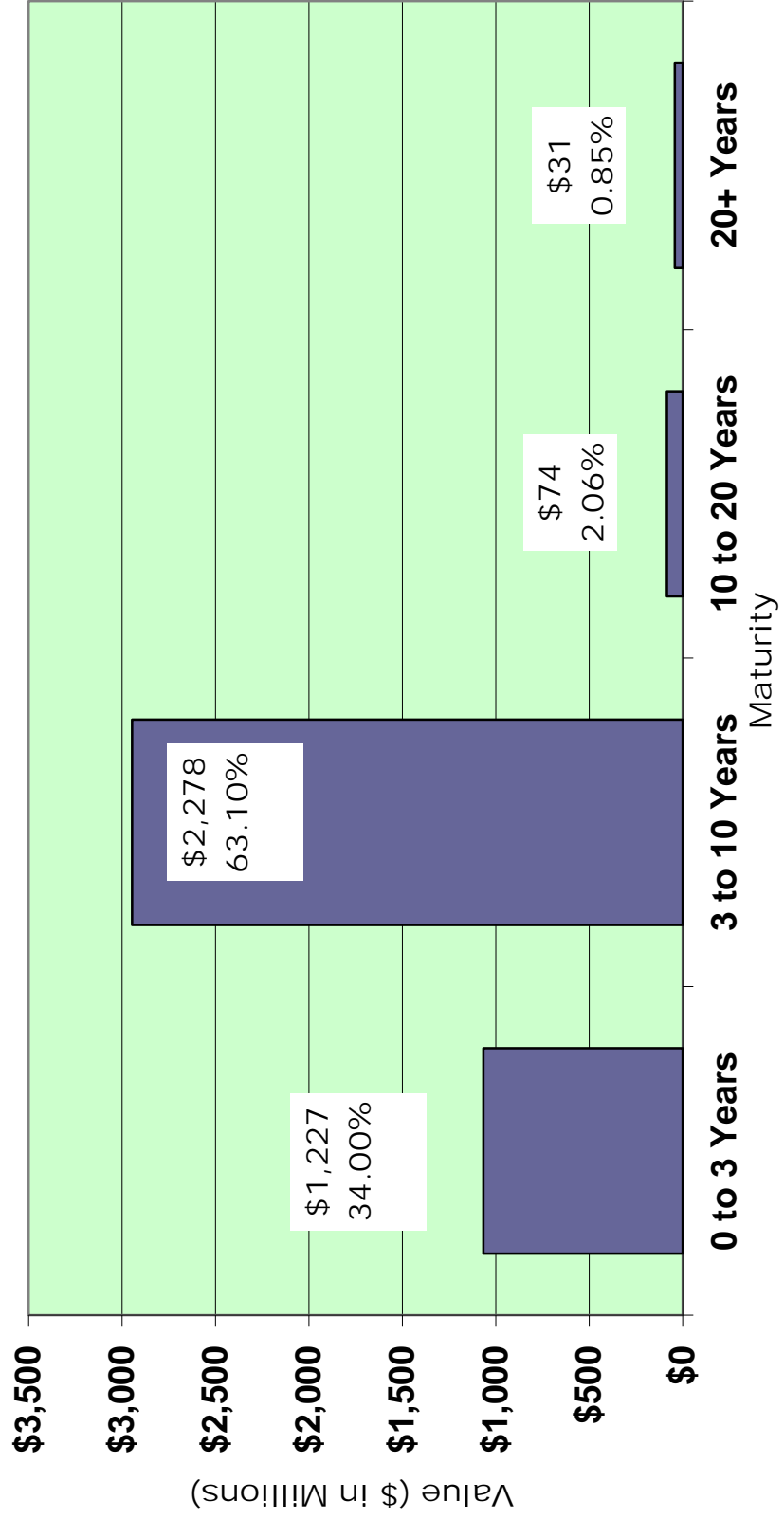
Average Maturity of September 2016  
Total Market Value \$3,651 Million



# Fixed Income Internal Portfolio Corporate Portfolio Maturity Distribution

As of December 31, 2011

Average Maturity of August 2016  
Total Market Value \$3,610 Million



## Fixed Income Internal Portfolio Top Ten Corporate Holdings

As of March 31, 2012				
Name	<u>Par Value</u>	<u>Market Value</u>	Rating*	<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>

As of December 31, 2011				
Name	<u>Par Value</u>	<u>Market Value</u>	Rating*	<u>% of Total Portfolio</u>
General Electric Capital Corp.	\$181,675,000	\$177,051,844	Aa2/AA+	3.53%
E.I. Du Pont de Nemours & Co.	70,000,000	78,887,498	A2/A	1.58%
DTE Energy Co.	66,750,000	78,105,733	A2/A	1.56%
Target Corp.	60,000,000	71,322,720	A2/A+	1.42%
Emerson Electric Co.	60,470,000	69,649,727	A2/A	1.39%
The Dow Chemical Co.	60,757,000	68,225,554	Baa3/BBB	1.36%
American Honda Finance Corp.	56,000,000	57,846,816	A1/A+	1.15%
Abbott Laboratories	49,969,000	56,984,311	A1/AA	1.14%
Merck & Co.	50,000,000	56,705,070	Aa3/AA	1.13%
Consumers Energy Co.	45,905,000	55,794,270	A3/BBB+	1.11%
<b>TOTAL</b>	<b><u>\$701,526,000</u></b>	<b><u>\$770,573,544</u></b>		<b>15.38%</b>

\*Moody's/Standard & Poor's

# Fixed Income Internal Portfolio (Purchases) / Sales

January 1, 2012 - March 31, 2012

GOVERNMENT PORTFOLIO	
<i>Purchases</i>	<i>Market Value</i>
U.S. Agencies	(\$152,347,639)
Gov Guar	(2,998,680)
GNMA'S	<u>(31,516,680)</u>
Total Purchases	(186,862,999)
<i>Sales/Calls/Maturities</i>	
U.S. Agencies	\$95,793,813
U.S. Guaranteed	<u>73,486,452</u>
Total Sales/Calls/Maturities	\$169,280,265
 NET PURCHASES	 <u><u>(\$17,582,734)</u></u>

CORPORATE PORTFOLIO	
<i>Purchases/Transfers</i>	<i>Market Value</i>
AA	(\$41,818,190)
A	(36,862,360)
BBB	(20,736,960)
NR	<u>(3,000,000)</u>
Total Purchases/Transfers	(\$102,417,510)
<i>Sales/Calls/Maturities</i>	
BBB	25,575,000
NR	<u>3,000,000</u>
Total Sales/Calls/Maturities	\$28,575,000
 NET PURCHASES	 <u><u>(\$73,842,510)</u></u>

**LONG TERM FIXED INCOME**  
**March 31, 2012**

	Amount	% of Total
<b>Government</b>		
Internal US Govt Related Gov't	\$1,395,826	
<b>Sub Total</b>	<b>\$1,395,826</b>	21.4%
<b>Core</b>		
Ambasador Capitol	\$53,196	
Dodge & Cox	219,212	
Fidelity	240,901	
Metropolitan West	<u>234,321</u>	
<b>Sub Total</b>	<b>\$747,630</b>	11.5%
<b>Credit</b>		
Internal Investment Grade Corporates Credit	3,651,401	
Alliance Bernstein	185,641	
Prudential	<u>377,545</u>	
<b>Sub Total</b>	<b>\$4,214,587</b>	64.5%
<b>Securitized Debt</b>		
Principal Global	177,873	
<b>Sub Total</b>	<b>\$177,873</b>	2.7%

**TOTAL** **\$6,535,916** 100.0%

**STATE OF MICHIGAN  
RETIREMENT SYSTEMS**

**BASKET CLAUSE REVIEW**

**INVESTMENT ADVISORY COMMITTEE MEETING**

**JUNE 14, 2012**



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





## BASKET CLAUSE INVESTMENTS

The basket clause investments at March 31, 2012, were \$3,382 million fair market value (“FMV”) or 6.688% of the total portfolio market value of \$50.565 billion.

		<u>March 31, 2012</u>	
Total Absolute and Real Return	(FMV)	\$3,181,021,009	6.291%
Total International Equity	(FMV)	<u>\$ 200,962,054</u>	0.397%
<b>Total investments to date</b>	<b>(FMV)</b>	<b>\$3,381,983,063</b>	<b>6.688%</b>

**STATE OF MICHIGAN RETIREMENT SYSTEMS**  
**Section 20D Investment Holding - 3/31/2012**

<b>COMPANY NAME</b>	<b>FAIR MARKET VALUE</b>
<b>ABSOLUTE AND REAL RETURN</b>	
Abernathy Fund	55,337,977
Absolute Return Capital	51,585,235
Emerald Performance Materials	51,367,744
Energy Recap and Restructuring	7,123,582
Entrust White Pine	252,714,872
Fairfield Settlement Partners	59,896,794
FrontPoint Michigan Strategic Partnership Fund	5,924,959
Galaxie Avenue, LLC	101,888,776
Global Maritime Investment Fund	9,262,614
HPS Senior Loan Fund II	149,822,735
KKR Lending Partners	59,080,808
Lakewater LLC	75,227,764
PSAM - Spartan Fund	29,117,983
Sand Hill, LLC	1,020,647,667
SJC Direct Lending Fund	137,754,213
Social Network Holdings, LLC	463,632,252
Stone Tower Capital Credit Fund	246,407,652
Stone Tower Capital Credit Strategies	111,831,793
Structured Credit Recovery Fund II	25,000,000
Tahquamenon LP	267,395,589
<b>TOTAL ABSOLUTE AND REAL RETURN</b>	<b><u>\$3,181,021,009</u></b>
<b>INTERNATIONAL EQUITY</b>	
LACM Emerging Markets Fund	200,962,054
<b>TOTAL INTERNATIONAL EQUITY</b>	<b><u>\$200,962,054</u></b>
<b>GRAND TOTAL</b>	<b><u><u>\$3,381,983,063</u></u></b>
<b>TOTAL 20D INVESTMENTS</b>	6.688%
<b>as % of TOTAL PORTFOLIO (MKT)</b>	
\$50,565 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.**

