

# **INVESTMENT REPORT**

## **TENNESSEE CONSOLIDATED RETIREMENT SYSTEM**

**Fourth Quarter  
Fiscal Year 2011 - 2012**

**April 1, 2012 – June 30, 2012**

**Prepared for:  
Board of Trustees**

**September 28, 2012**

## Investment Advisory Council

Pursuant to T.C.A. Section 8-37-108, the State Treasurer shall nominate, with the advice and consent of the Board of Trustees, the Investment Advisory Council, comprised of five senior investment professionals in the Tennessee investment community, who shall have at least five years professional experience as a portfolio manager, economist or an investment advisor in any field of which investments of TCRS funds are authorized. The term of appointment is for five years. Also, the treasurer may nominate two (2) additional members for three year terms.

The TCRS investment staff consults quarterly with the Advisory Council on a formal basis for strategy and guidance, and on an informal basis as needed.

The current members are as follows:

<u>Council Member</u>	<u>Expiration of Term</u>	<u>Appointed Term</u>
<b>Frederick S. Crown, Jr., CFA</b> 124 Longwood Place Nashville, TN 37215 Phone: 615-347-0343 E-mail: <a href="mailto:crownfl@gmail.com">crownfl@gmail.com</a>	June 30, 2017	5 year
<b>Henry J. Delicata</b> Park Street Capital One Federal Street, 24 <sup>th</sup> Floor Boston, MA 02109 Phone: (cell) 617-347-8854 / (office) 617-897-9252 E-mail: <a href="mailto:hdelicata@parkstreetcapital.com">hdelicata@parkstreetcapital.com</a>	June 30, 2014	5 year
<b>Susan Logan Huffman, CFA</b> Managing Director Reliant Investment Management, LLC 6077 Primacy Parkway, Suite 130 Memphis, TN 38119 Phone: 901-843-0600 / Fax: 901-843-0325 E-mail: <a href="mailto:shuffman@reliantllc.com">shuffman@reliantllc.com</a>	June 30, 2016	5 year
<b>George B. Stadler, CFA</b> 95 White Bridge Road, Suite 414 Nashville, TN 37205 Phone: 615-416-3455 cell E-mail: <a href="mailto:george@hmscm.com">george@hmscm.com</a>	June 30, 2015	5 year
<b>Chuck Webb, CFA</b> Chief Investment Officer Weaver C. Barksdale & Associates One Burton Hills Boulevard, Suite 100 Nashville, TN 37215 Phone: 615-665-1088 E-mail: <a href="mailto:cwebb@wcbarksdale.com">cwebb@wcbarksdale.com</a>	June 30, 2013	5 year
<b>Carol Womack, Principal</b> Diversified Trust Company 3102 West End Avenue, Suite 600 Nashville, TN 37203 Phone: 615-386-7302 E-mail: <a href="mailto:cwomack@diversifiedtrust.com">cwomack@diversifiedtrust.com</a>	June 30, 2015	3 year

# TENNESSEE CONSOLIDATED RETIREMENT SYSTEM

Board of Trustees Meeting

Fourth Quarter

Fiscal Year 2011-2012

April 1, 2012 – June 30, 2012

## TABLE OF CONTENTS

## Page

Minutes of September 6, 2012 IAC Meeting .....	1
Portfolio Overview.....	5
Equity Portfolio.....	7
Fixed Income Portfolio .....	19
Real Estate Portfolio .....	29
Private Equity Portfolio .....	31
Derivative and Currency Activity.....	36
Operations Report.....	41
Appendix.....	

## **Minutes from the Investment Advisory Council Meeting September 6, 2012**

Mr. Michael Brakebill, Chief Investment Officer, convened the meeting at 10:00 a.m. in the Madison Room on the 3rd Floor of the William R. Snodgrass Tennessee Tower. The Investment Advisory Council (IAC) members present were: Ms. Susan Huffman, Mr. George Stadler, Mr. Chuck Webb, and Ms. Carol Womack. Mr. Henry Delicata participated by conference call. Investment Staff members present were: Michael Brakebill, Daniel Crews, Michael Giggie, Kushal Gupta, Peter Katseff, Michael Keeler, Tim McClure, Rhonda Myers, Andy Palmer, Jim Robinson, Lamar Villere, and Roy Wellington. Treasurer David Lillard and Mr. Bill Abney were also in attendance.

Mr. Brakebill began the meeting by taking roll of the members of the Investment Advisory Council and by calling for the appointment of a Chairperson of the Investment Advisory Council. Upon motion of Henry Delicata, seconded by Susan Huffman, The Investment Advisory Council unanimously voted to have George Stadler serve as chairperson of the Council.

Next, George Stadler read the following:

It is necessary for the Council to meet by teleconference because the Council, pursuant to statute, needs to consider and approve the revised TCRS Investment Policy prior to the TCRS Board of Trustees meeting scheduled in late September, thus necessitating the Council meeting as soon as possible. The Council is unable to convene quickly by physical quorum, requiring participation by electronic and other means.

Upon motion of Chuck Webb, seconded by Henry Delicata, the Council unanimously approved such determination. Next, the minutes from the previous IAC meeting on June 6, 2012 were adopted. The Chairperson turned the meeting over to Mr. Brakebill to give a review of investment performance, to review the asset liability modeling study, and to lead a review and discussion of the draft investment policy.

Mr. Brakebill reviewed the fund's investment performance, which was illustrated in the Investment Report and in Strategic Investment Solutions (SIS) quarterly performance report, for the fiscal year ended June 30, 2012. He noted the 1-year performance of 5.6% beat 98% of funds. The fund outperformed its benchmark by 0.70% for 1-year returns and 0.30% for 3-year returns. Mr. Brakebill emphasized the outstanding return on the Fixed Income portfolio of almost 16%. He acknowledged that the 10-year return on the total fund of 5.6% was materially below the target return of 7.5%.

Mr. Brakebill reviewed the final draft of the SIS Asset Liability Study that will be presented to the Board of Trustees. For the benefit of new IAC member Ms. Womack, Mr. Brakebill stated

that the purpose of the study was to look at TCRS's current funding position and return goals and to establish several potential strategic portfolio allocation changes for enhancing future returns. TCRS has selected the hypothetical SIS allocation entitled "median normal" as a new target portfolio. Mr. Brakebill highlighted that the new allocation will draw funds down from several asset classes, such as treasury inflation protected securities and domestic equities, and allocate them into new portfolios in Strategic Lending and Emerging Markets Equities.

Mr. Brakebill then moved the discussion to the proposed changes to the TCRS Investment Policy. Mr. Brakebill conducted a detailed review and explanation of all material items in the proposed policy and invited discussion on each. Significant proposed changes included: acquiring new reporting commitments related to Emerging Markets assets, changes to the target asset allocation as well as as-allocated tolerance bands, formalizing a methodology for screening Emerging Markets home countries, and authorizing Investment Staff to take real estate transactions directly to the Board of Trustees. The most extensive changes involved the introduction of Strategic Lending into a combined asset class with Private Equity. The proposed policy codifies the procedures and boundaries for Strategic Lending, such as: defining what types of assets may be held, articulating how risk is to be managed, and explaining how consultants will be engaged. Subsequent to reviewing the proposed changes to the Investment Policy, the IAC members voted unanimously to recognize that the new Investment Policy language is consistent with the relevant laws and consultant recommendations.

After a discussion of the draft investment policy, the Chairperson asked for a motion to approve it, and a motion was made by Chuck Webb, which was seconded by Carol Womack, and the draft investment policy was unanimously approved. The Chairperson then announced that the draft investment policy had been reviewed and approved.

Mr. Brakebill then addressed key initiatives, focusing on Securities Lending. He noted that Staff had narrowed the search to three firms – JP Morgan, Bank of New York, and Deutsche Bank – and would be bringing each firm in to do a presentation.

At that time, Mr. Brakebill reminded attendees that he serves as a non-voting member on the Board of the Tennessee Valley Authority Retirement System (TVARS). Mr. Brakebill disclosed that he had been approached in a similar capacity to consult with TVA on the agency's Nuclear Decommissioning Trust investment program. The IAC members agreed that this function represented a source of incremental value to TCRS and did not present a conflict of interest.

Mike Keeler moved the discussion to domestic equities. Domestic equities lagged the S&P 1500 during the year, as weak relative performance among the large cap funds was only partially offset by the underweight to small and mid cap stocks and relatively good Mid Cap fund performance. It was primarily a "risk off" quarter with defensive, size, value and quality factors performing well. The domestic equities portfolio neutralized its long standing overweight to

large cap stocks during the period, reacting to small and mid cap underperformance that narrowed the valuation premium considerably.

Mr. Keeler noted that an internally managed S&P 600 Index Fund was launched to replace the Russell 2000 futures position. He stated that this will likely address the basis risk problem that has resulted in poor relative performance recently in the small cap area. Daniel Crews is managing the new fund while Derrick Dagnan takes over the S&P 500 Index fund. Mr. Keeler concluded his remarks by noting that the International managers completed an outstanding quarter in which all outperformed their respective benchmarks.

Mr. Palmer presented a review of the Fixed Income portfolios. He noted that during the quarter the Domestic Fixed Income portfolio underperformed the Citigroup Large Pension Fund Index by 16 bps while producing in excess of 4.5% return. This underperformance was the result of slightly lower interest rate sensitivity in the overall portfolio during a period of falling rates. He observed that each of the component portfolios were above or close to their respective indices for the period reflecting good alpha generation by the sector specialists. This performance pattern was similar for the fiscal year. The component portfolios each provided meaningful alpha which served to offset the positioning to protect the portfolio from higher interest rates. For the fiscal year, the Domestic portfolio matched the 15.6% return of the benchmark. Mr. Palmer reported that there were only minor changes in the composition of the portfolio during the quarter.

Turning to the Inflation Indexed portfolio, Mr. Palmer noted that it had lagged the benchmark for the month, quarter and year roughly the same number of basis points. The difference was the result of timing differences between the index sponsor and Northern Trust with respect to the recognition of inflation accrual. This should correct in coming months.

With respect to the International Fixed Income portfolio, Mr. Palmer reported that above market allocations to bonds denominated in Norwegian Kroner and British Pound and above market allocation to bonds denominated in Euro helped produce 20 bps of incremental return during the quarter.

Mr. Palmer reviewed the fixed income derivative and mortgage TBA activity for the quarter. The strategies employed remain the same: replication of interest rate exposures and offsetting the duration impacts of asset allocation decisions and individual transactions. These strategies performed as they were expected to during the quarter.

Peter Katseff provided an update on the Real Estate portfolio of TCRS and began by providing an update on pending transactions. He stated that additional transactions are anticipated over the next 18 months. Mr. Katseff noted that there is a short-term goal for the real estate portfolio to be 5.0% of the TCRS portfolio by December 31, 2013. Mr. Katseff concluded by reviewing the occupancy levels of the TCRS Real Estate portfolio. The occupancy of apartments and retail were above the benchmark at the end of the quarter with office being just slightly below.

Lamar Villere reviewed the progress of the Private Equity portfolio. Mr. Villere stated that the portfolio has been active in terms of new commitments, with seven new partnerships totaling \$255 million committed to thus far in calendar 2012. He noted that performance has been ahead of expectations, but that it is still very early in the life of these long term investments. Finally, Mr. Villere pointed out that with a recent commitment of \$100 million to Advent GPE VII, buyouts now represent 40% of the portfolio in terms of committed dollars.

Mr. Brakebill and the IAC members discussed their outlook for the economy and for investments. The meeting adjourned at 12:15 p.m.

# Performance Review

## June 2012

### Absolute comparison

- 1 quarter return of -0.8%
- 1 year return of 5.6%
- 10 year return of 5.7%

### Benchmark (relative) comparison

- Qtr return beat allocation index by 0.01%
- 1 year return beat allocation index by 0.7%
- 3 year return beat allocation index by 0.3%
  - TAA subtracted 36 bps for quarter
  - DFI down 14 bps in quarter, up 4 bps for year
    - 15.6% return for year, 8.6% for 5 years!
  - DE down 39 bps in quarter, up 40 bps for year
  - IE up 154 bps in quarter, up 327 bps for year

### Peer comparison

- 1 quarter return ranked at 8% (0% = best)
- 1 year return ranked at 2% (Beat 98% of funds for 1 year)
  - Beat median fund (1.1%) by 5.5%
- 3 year return ranked at 51%
- 5 year return ranked at 7% (3.1% vs. 1.8% median)

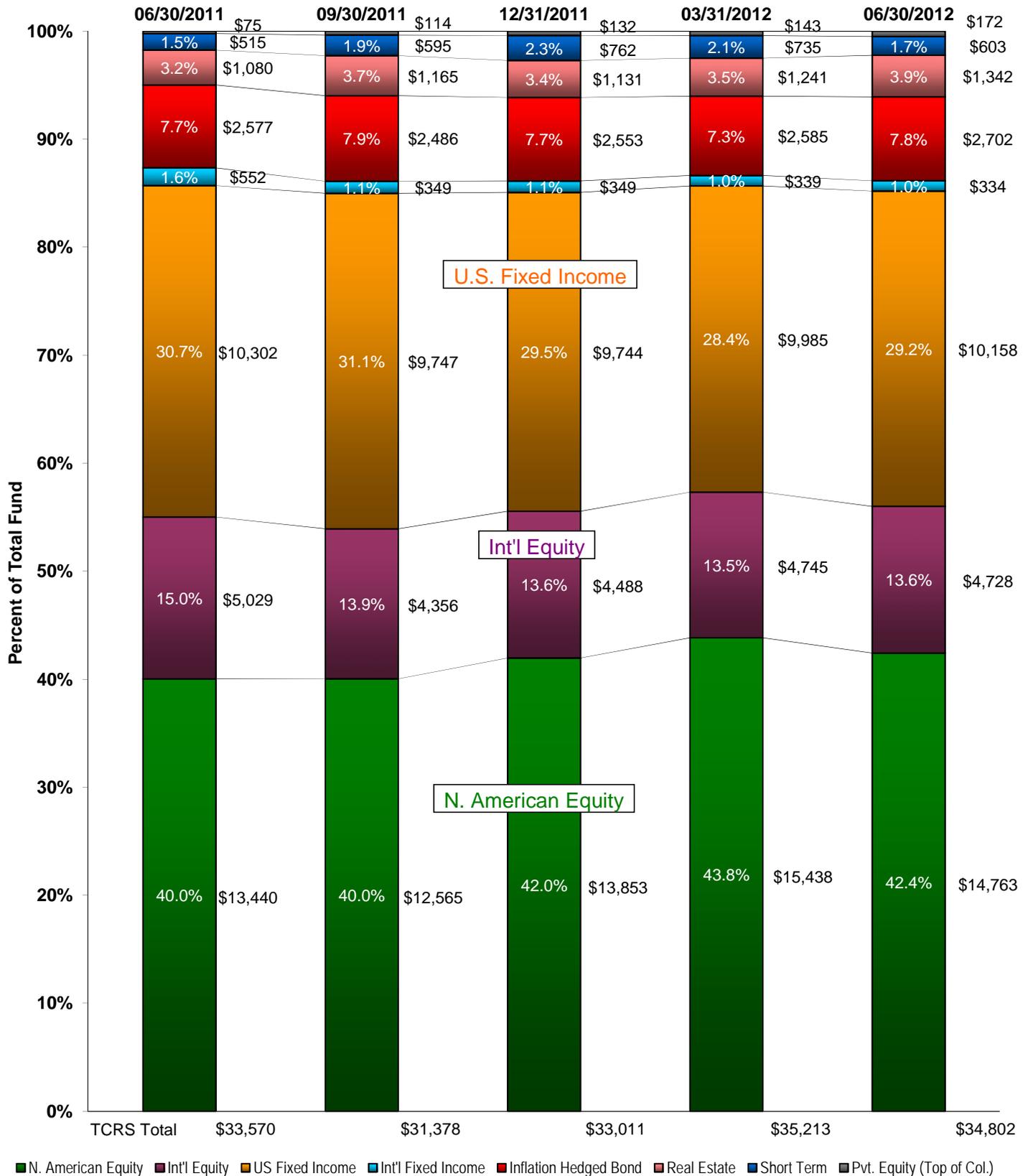
# Key Initiatives

## June 2012

- Asset Allocation Implementation
  - ALM Study
  - Investment Policy Draft
  - Strategic lending
  - Real estate strategy
  - Emerging market equities
  
- Securities Lending
  
- Private Equity Due Diligence
  
- Tactical Allocation
  
- Rating Agency Reviews

# TCRS Asset Allocation

June 2012



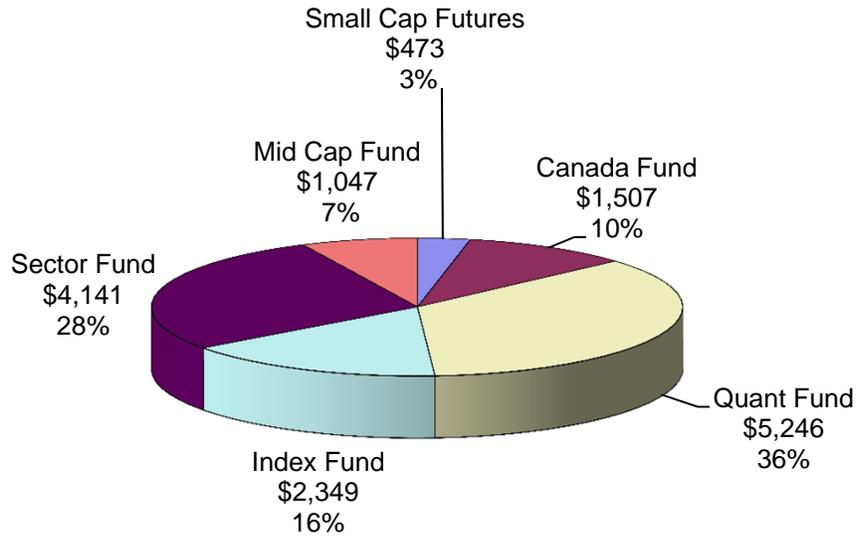
\$ = millions

Source: Strategic Investment Solutions, Inc.

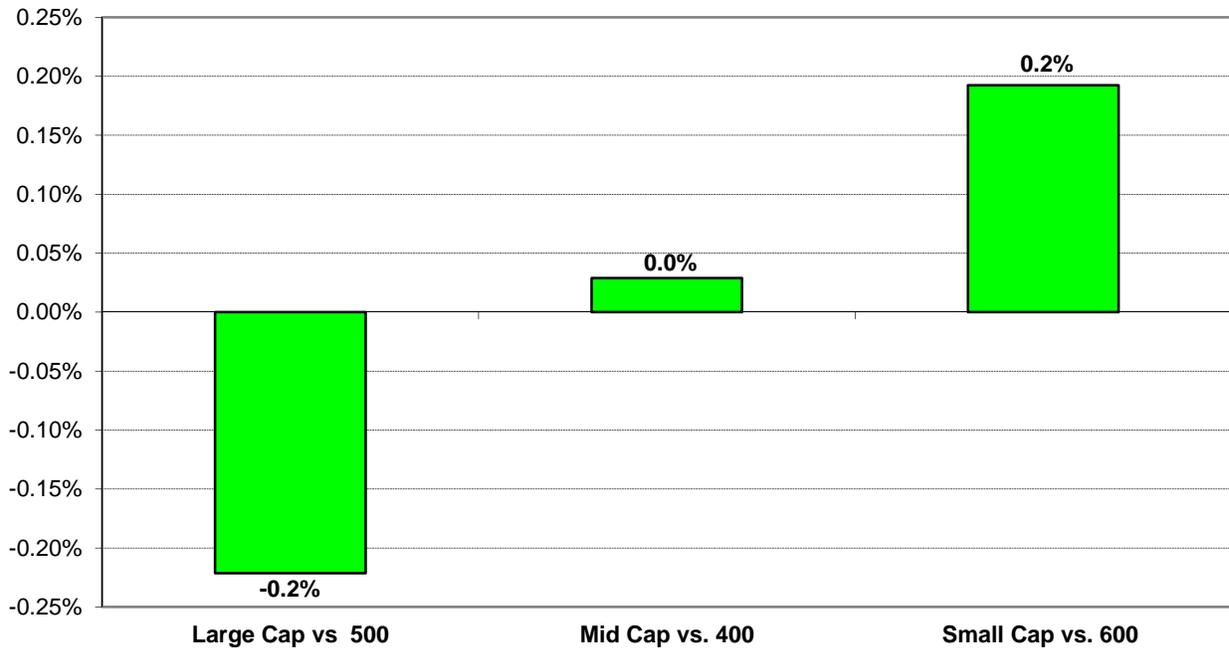
### Domestic Equity Portfolio Overview

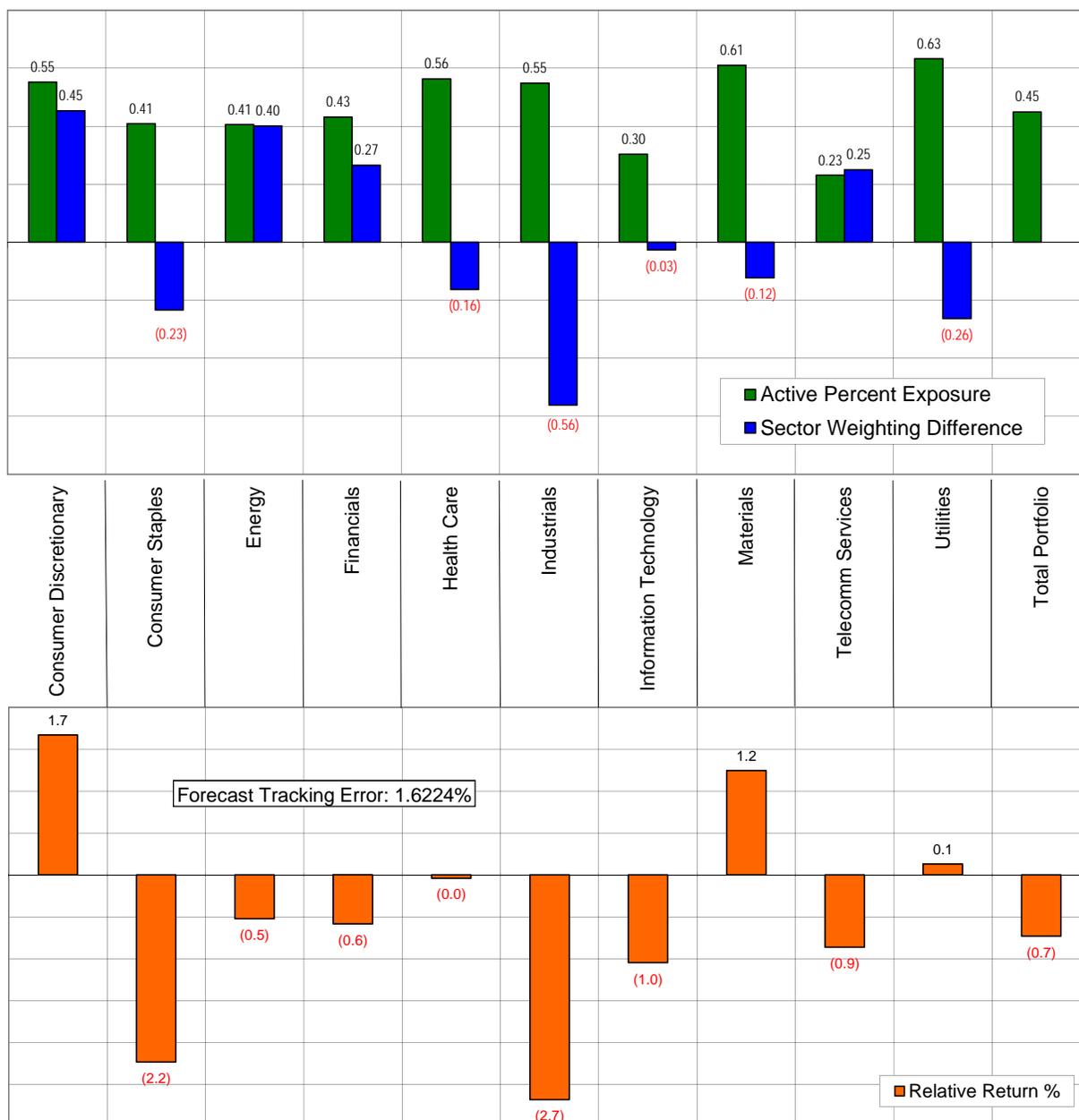
Michael Keeler, CFA

#### TCRS North American Equity Funds



#### TCRS Cap Weights vs. S & P 1500 Composite





The March quarter's growing confidence in the economy's strength was initially replaced in the June quarter by more worries about the economy and another series of flare ups in the ongoing saga of the European crisis: Spain's continuing debt problems, confusing comments from ECB officials, and increased political uncertainty out of France and Greece following elections. The Fed indicated it would hold off on further easing measures. Later in the quarter, several central banks intervened. China lowered rates, and the Fed extended Operation Twist. In Europe, the crisis let up a bit as Spanish banks were granted more breathing room, the Greek pro-austerity coalition won elections, and communiqués out of an EU summit were encouraging.

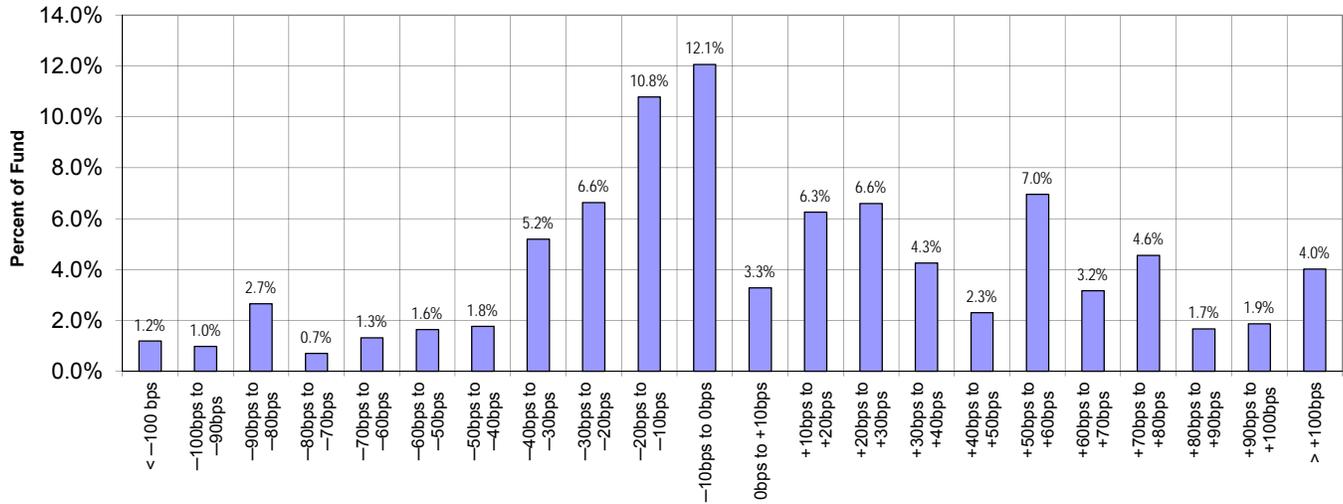
The quarter was also marred by mixed earnings reports. Many companies seemed to be stretching to make their earnings with non-operating items (e.g., accruals and tax-rates), and the proportion of companies not hitting revenue expectations was consistent with recession readings. Valuations continue to show equities as quite cheap relative to bonds. Merrill's DDM minus AAA Corporates was at an all-time (32 year) high of 8.91% at the end of July.

The models turned in another good quarter. The Quant Fund did not. The fund's -3.53% return lagged the index's -2.75%, a difference of -78 bps. To combat this, the fund neutralized most of its sector bets, turned down its beta exposure a notch, and has reduced turnover. Mid-way through the September quarter, relative performance has seen very good results, about +70 bps in an up market.

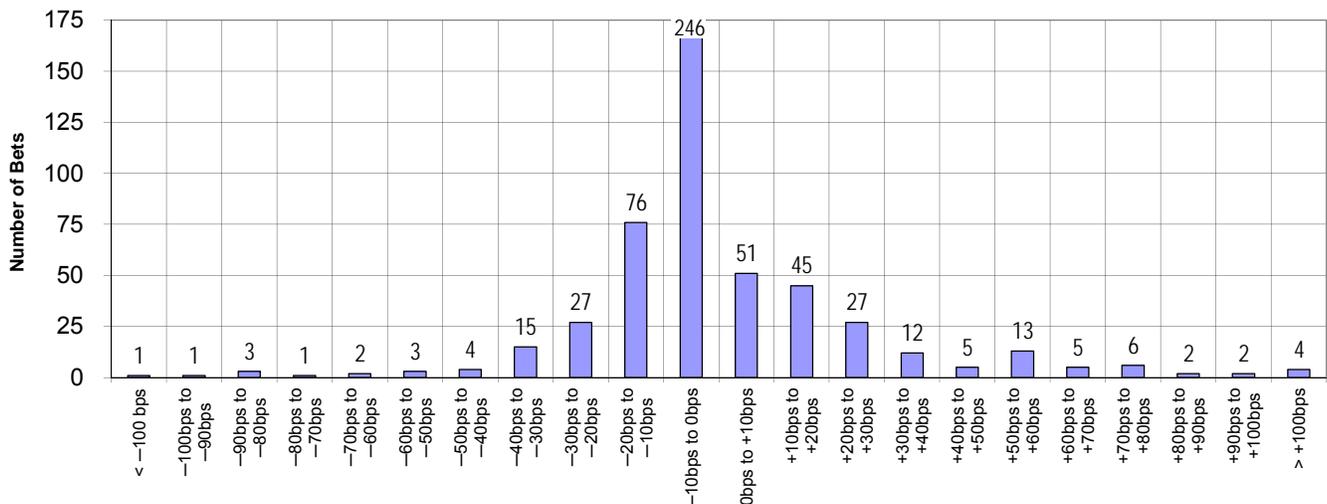
Currently, the Quant Fund has a projected annualized tracking error of 1.68% and a projected beta of 0.989, both within our risk target range. At 39.86%, APE is down from our last report of 46.8% and well within tolerance.

FACTOR	D1-D10 Return	Avg IC
Quant VW	2.875	0.076
V+M	3.105	0.033
RV	-0.046	0.017
EM	-0.496	-0.017
PM	3.636	0.169

Active Bets in Fund vs. S&P500, Grouped by Bet Sizes



Number of Individual Stocks in Bet Size Bins

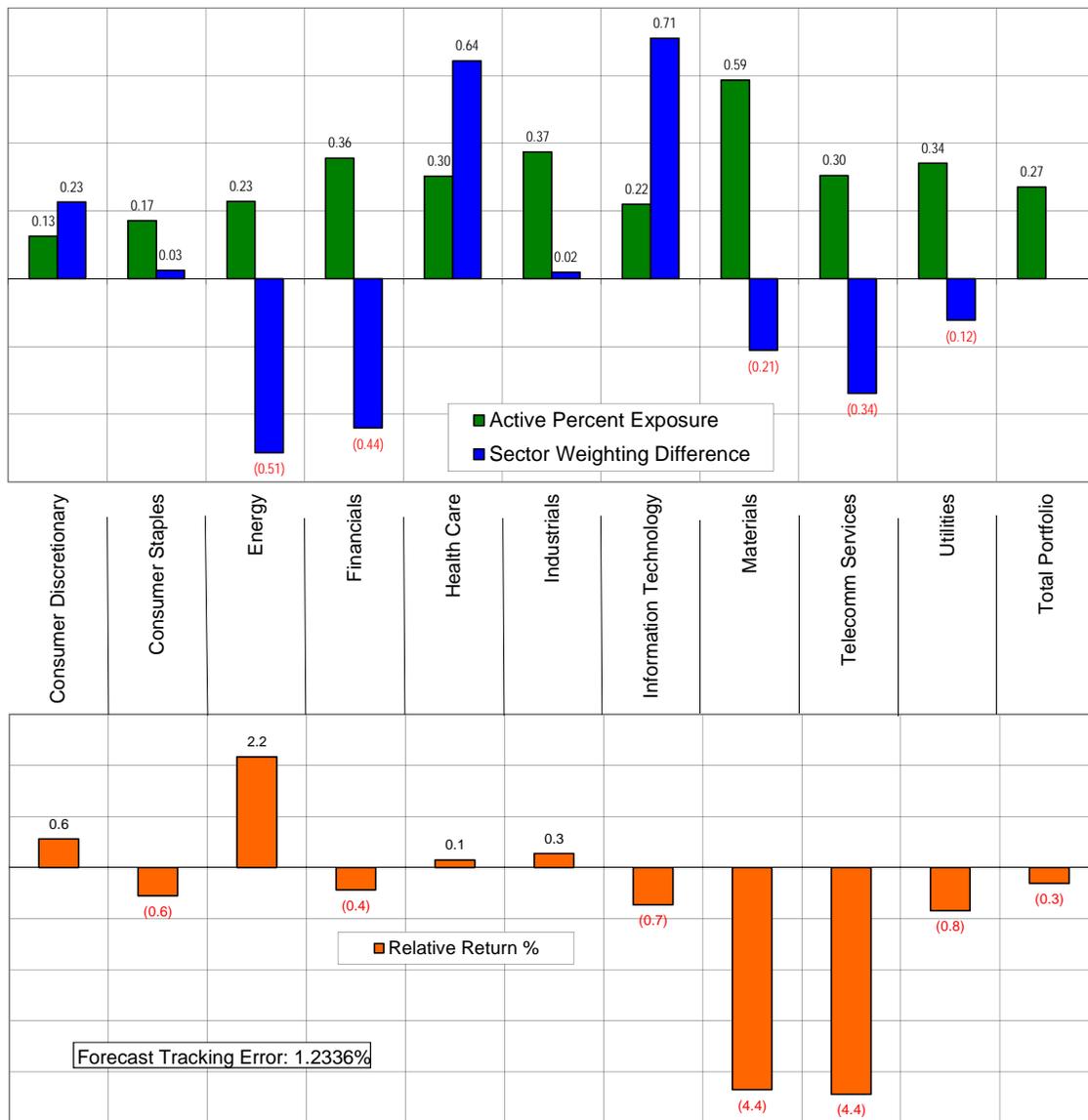


Largest Overweights by Stock in Fund

Ticker	Description	Bps Over
CVX	Chevron Corp.	101
LLY	Eli Lilly & Co.	101
AMGN	Amgen Inc.	100
MSFT	Microsoft Corp.	100
UTX	United Technologies Corp.	95
UNH	UnitedHealth Group Inc.	92
NWSA	News Corp. Cl A	84
COF	Capital One Financial Corp.	83
CVS	CVS Caremark Corp.	79
ABT	Abbott Laboratories	79
VZ	Verizon Communications Inc.	76
PM	Philip Morris International Inc.	76
ACN	Accenture PLC	75
MCK	McKesson Corp.	71
KMB	Kimberly-Clark Corp.	67
TGT	Target Corp.	65
ADM	Archer Daniels Midland Co.	63
RTN	Raytheon Co.	61
CMI	Cummins Inc.	60
AXP	American Express Co.	59

Largest Underweights by Stock in Fund

Ticker	Description	Bps Under
BRK.B	Berkshire Hathaway Inc. Cl B	-119
JNJ	Johnson & Johnson	-98
PEP	PepsiCo Inc.	-90
PFE	Pfizer Inc.	-90
PG	Procter & Gamble Co.	-86
DIS	Walt Disney Co.	-70
AMZN	Amazon.com Inc.	-67
MRK	Merck & Co Inc	-65
COP	ConocoPhillips	-57
OXY	Occidental Petroleum Corp.	-57
MMM	3M Co.	-51
UNP	Union Pacific Corp.	-46
BA	Boeing Co.	-45
BAC	Bank of America Corp.	-44
SLB	Schlumberger Ltd.	-42
EBAY	eBay Inc.	-39
QCOM	QUALCOMM Inc.	-39
MO	Altria Group Inc.	-39
GS	Goldman Sachs Group Inc.	-38
ESRX	Express Scripts Holding Co	-37



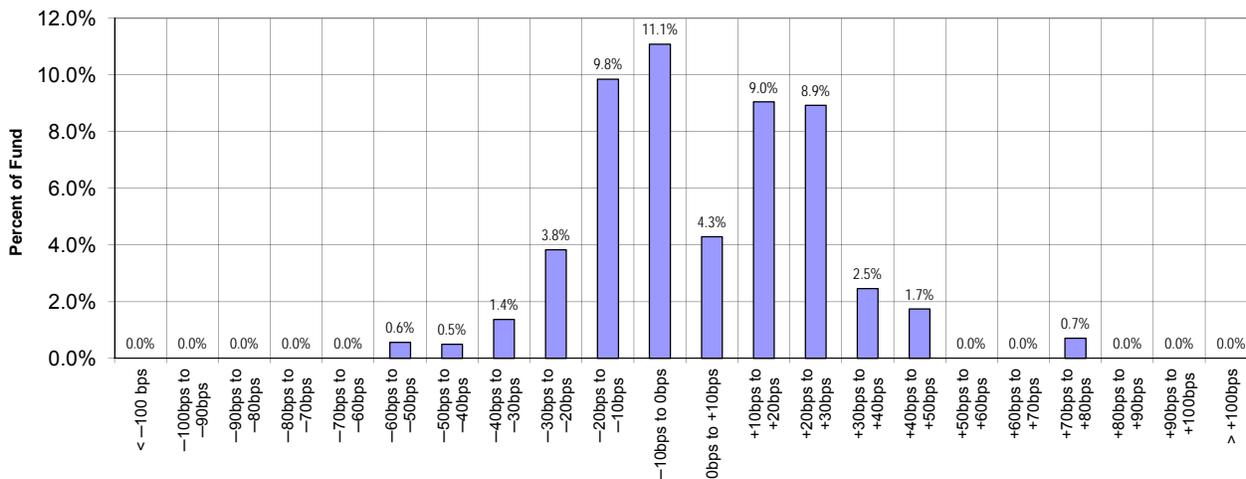
The Sector Fund reviewed sector allocations on June 3<sup>rd</sup>. In a typical market selloff those stocks that have a high degree of market price sensitivity fall the most and low market sensitive stocks (like Telecom Services and Utilities) fall less. That is what happened in 2011 while the market was concerned with the US debt ceiling crisis and subsequent downgrade. This year's selloff was more than a market beta move: we observed that economically sensitive companies fared much worse. Telecoms and Utilities performed much better than you would expect given their price sensitivity. Reasons to be concerned with economic growth include Europe as we wait for Spain to join the list of debtors in need of assistance, China monetary tightening as export growth disappears and the United States faces the approaching fiscal cliff. High yielding stocks are performing not only because the yield on ten-year Treasuries is so low but because bond prices are so high that high yield stocks are starting to look safe in comparison. After all, even Bill Gross is saying the cult of equities is dead, so he must be a big time buyer of stocks.

The Sector Fund responded by adding to Health Care, Utilities, Consumer Staples and Telecom with funds from Industrials and Information Technology.

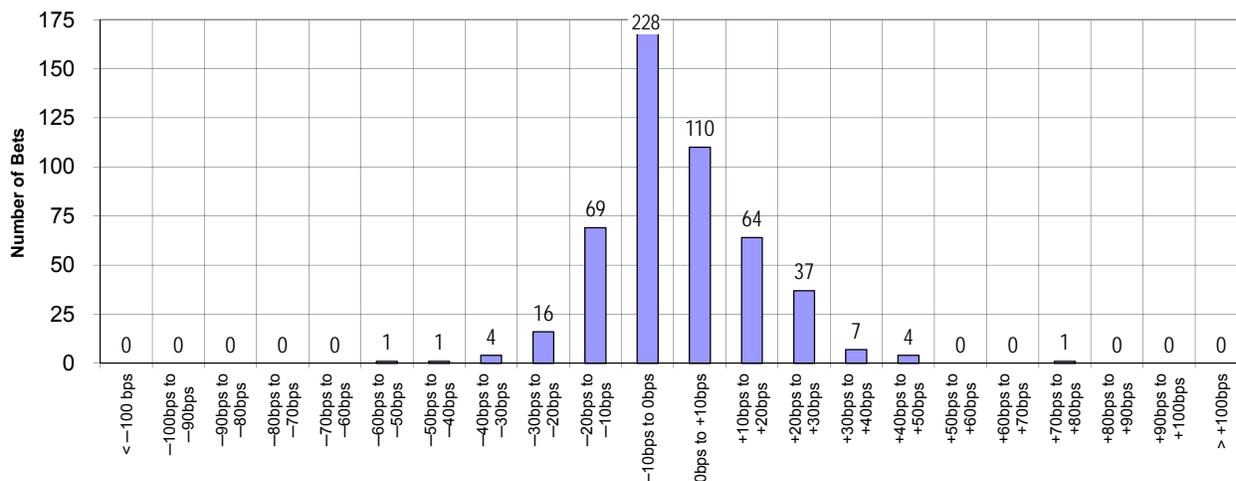
Our longstanding caution on Europe continues to work to our favor; but the slowdown in China was beginning to leave its mark on the Sector Fund.

A representative trade for this quarter highlights the risk-off characteristic of this quarter's equity market. Technology companies with strong new product platforms can be Wall Street darlings during bull markets and all of a sudden find they cannot sell to customers who are retrenching or otherwise concerned about the future. This was exactly the case for F5 Networks. China related businesses continued to see downgrades as analysts realized that China businesses depend on Europe for revenues. This hurt Celanese as it tried to keep margins up with pricing in a softer demand environment.

Active Bets in Fund vs. S&P500, Grouped by Bet Sizes



Number of Individual Stocks in Bet Size Bins

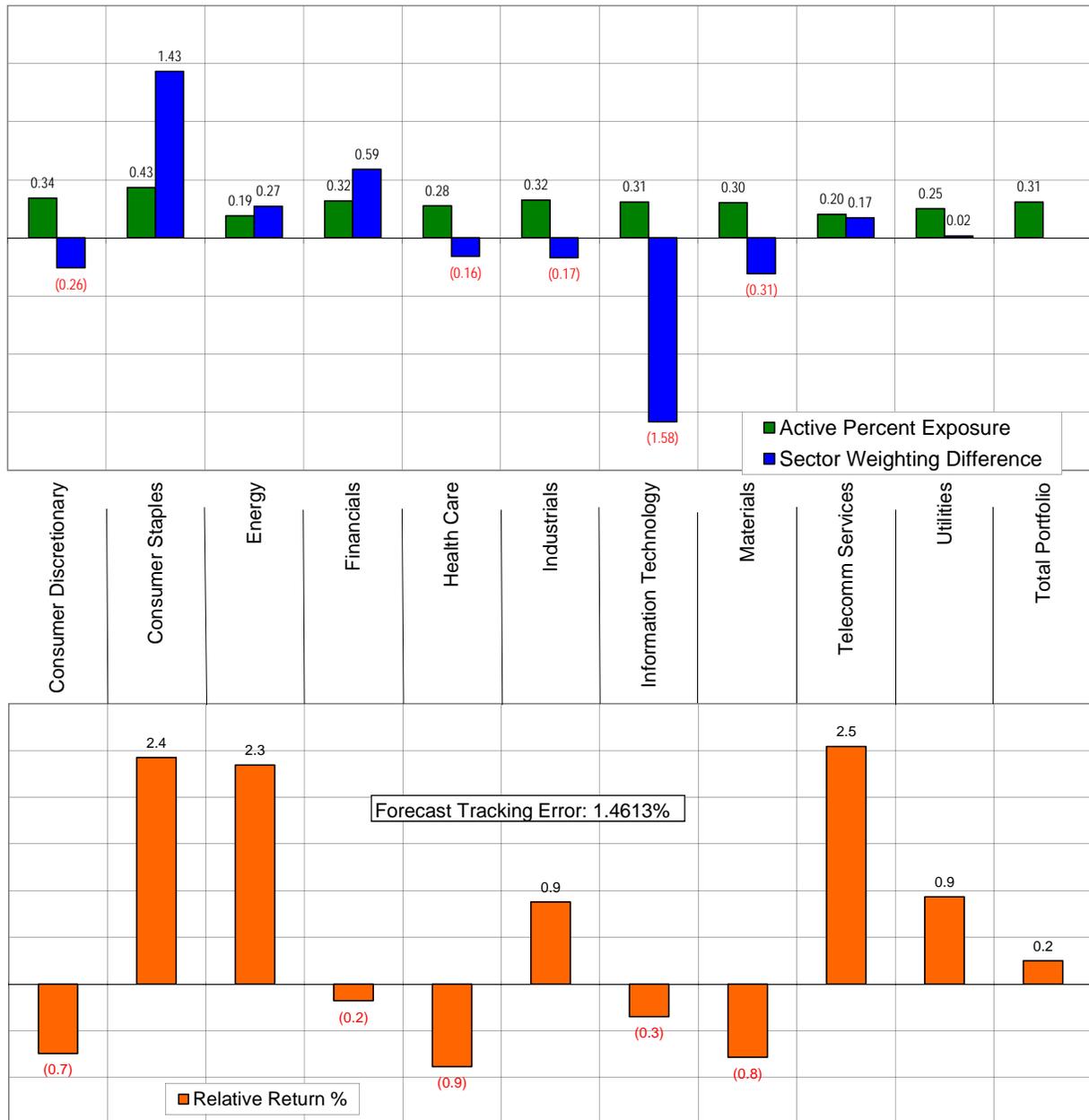


Largest Overweights by Stock in Fund

Ticker	Description	Bps Over Index Wt
AAPL	Apple Inc.	72
GE	General Electric Co.	47
INTC	Intel Corp.	44
UNP	Union Pacific Corp.	42
IBM	International Business Machines Co	41
BCE	BCE Inc.	40
DFS	Discover Financial Services	36
ORCL	Oracle Corp.	36
MPC	Marathon Petroleum Corp.	34
AMT	American Tower Corp	34
ABT	Abbott Laboratories	33
MCK	McKesson Corp.	33
DHR	Danaher Corp.	30
TYC	Tyco International Ltd.	30
BEN	Franklin Resources Inc.	29
HFC	HollyFrontier Corp.	28
PFE	Pfizer Inc.	28
GOOG	Google Inc. Cl A	27
FCX	Freeport-McMoRan Copper & Gold	27
ACE	ACE Ltd.	26

Largest Underweights by Stock in Fund

Ticker	Description	Bps Under
BRK.B	Berkshire Hathaway Inc. Cl B	-57
VZ	Verizon Communications Inc.	-49
EBAY	eBay Inc.	-39
JNJ	Johnson & Johnson	-35
V	Visa Inc.	-32
DOW	Dow Chemical Co.	-31
EMR	Emerson Electric Co.	-28
BMJ	Bristol-Myers Squibb Co.	-27
KMB	Kimberly-Clark Corp.	-27
PX	Praxair Inc.	-26
DE	Deere & Co.	-26
COF	Capital One Financial Corp.	-26
D	Dominion Resources Inc. (Virginia)	-25
BAC	Bank of America Corp.	-25
BAX	Baxter International Inc.	-24
AGN	Allergan Inc.	-23
CELG	Celgene Corp.	-23
ADP	Automatic Data Processing Inc.	-22
BK	Bank of New York Mellon Corp.	-21
UTX	United Technologies Corp.	-20

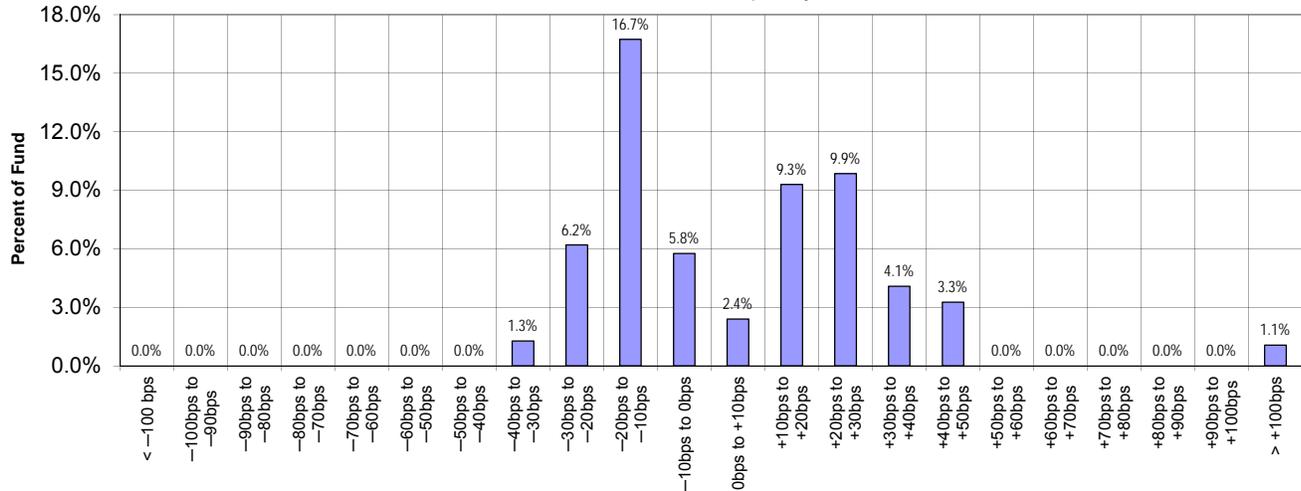


Domestic equities lagged the S&P 1500 as weak relative performance among the large cap funds was only partially offset by the underweight to Mid and Small Caps and relatively good Mid Cap fund performance. It was primarily a “risk off” quarter with defensive, size, value and quality factors performing well.

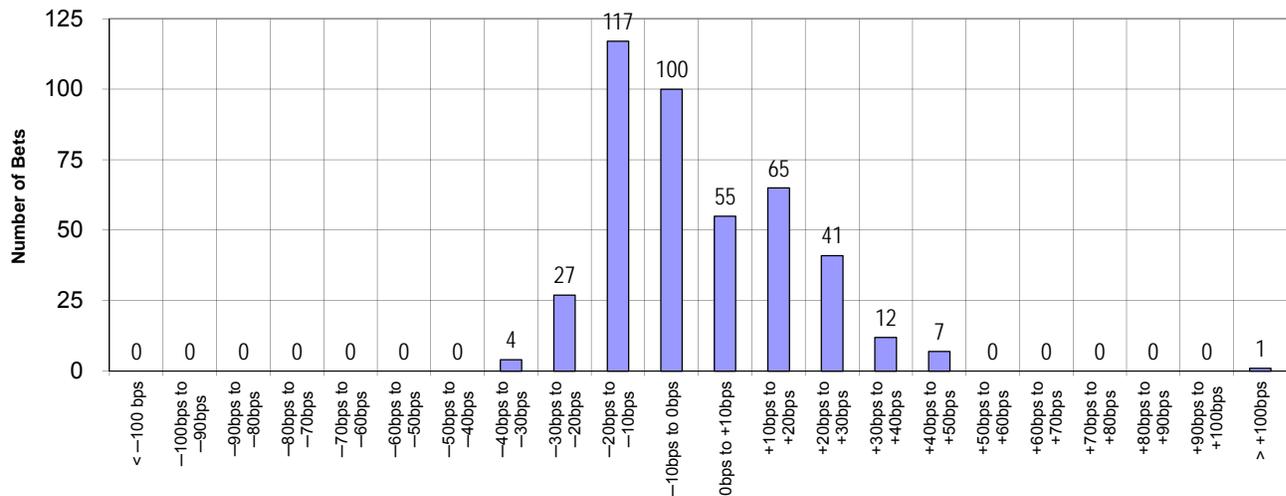
The Mid Cap Fund outperformed the S&P Mid Cap 400 primarily due to good stock selection in the Consumer Staples, Industrial and Energy sectors, an overweight exposure to Consumer Staples and an underweight to the weak Technology sector somewhat offset by poor stock picking in the Consumer Discretionary sector. Good sector allocation contributed 56% of the relative return against the benchmark with stock selection accounting for the remaining 44% of excess return during the quarter .

Large cap stocks still appear to be delivering better earnings growth for cheaper multiples than small stocks, however, the sustainability of that trend in a strong dollar/recessionary Europe scenario is open to debate. Small companies tend to be more focused on the domestic US economy and less sensitive to a strong dollar than large caps, thus making a reasonable fundamental case for narrowing our underweight going forward. For now, we remain comfortable with the overweight to large caps and an underweight to

Active Bets in Fund vs. S&P400, Grouped by Bet Sizes



Number of Individual Stocks in Bet Size Bins

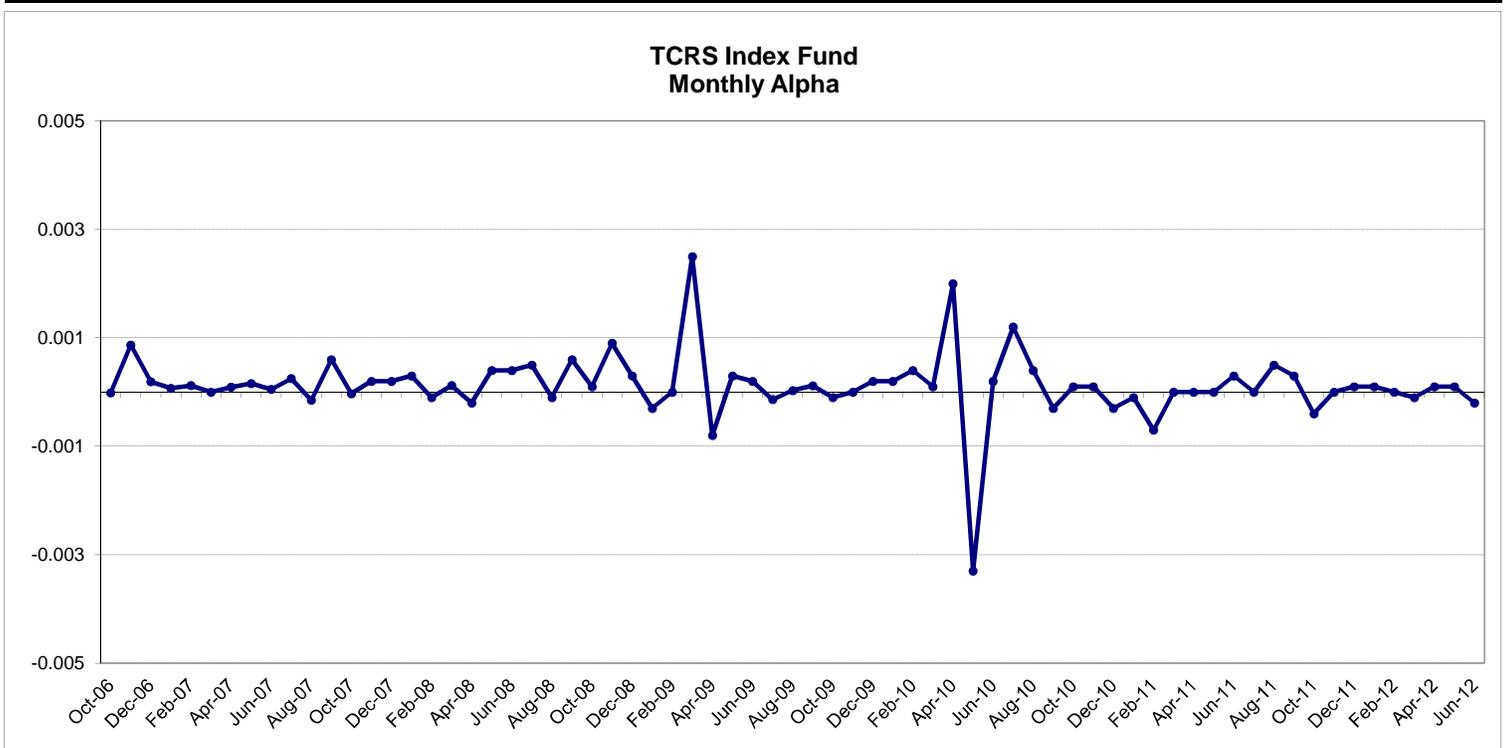


Largest Overweights by Stock in Fund

Ticker	Description	Bps Over
MNST	Monster Beverage Corp.	106
LRCX	Lam Research Corp.	49
PETM	PetSmart Inc.	49
NEU	NewMarket Corp.	48
DST	DST Systems Inc.	48
ALK	Alaska Air Group Inc.	47
RE	Everest Re Group Ltd.	43
AVT	Avnet Inc.	42
EXBD	Corporate Executive Board Co.	40
ENR	Energizer Holdings Inc.	38
LPS	Lender Processing Services Inc.	36
OCR	Omnicare Inc.	35
STE	STERIS Corp.	34
SEIC	SEI Investments Co.	33
NU	Northeast Utilities	33
NVE	NV Energy Inc.	32
TUP	Tupperware Brands Corp.	32
CHS	Chico's FAS Inc.	32
ENS	EnerSys Inc.	32
SFD	Smithfield Foods Inc.	31

Largest Underweights by Stock in Fund

Ticker	Description	Bps Under
PNR	Pentair Inc.	-34
RPM	RPM International Inc.	-32
HSH	Hillshire Brands Co	-31
MD	Mednax Inc.	-30
AMG	Affiliated Managers Group Inc.	-29
ANSS	Ansys Inc.	-28
SON	Sonoco Products Co.	-27
MAN	ManpowerGroup	-26
HMSY	HMS Holdings Corp.	-26
SBNY	Signature Bank	-25
TGI	Triumph Group Inc.	-25
CRI	Carter's Inc.	-24
RBC	Regal-Beloit Corp.	-23
CNL	Cleco Corp.	-23
WCN	Waste Connections Inc.	-23
CMP	Compass Minerals International Inc	-23
TFX	Teleflex Inc.	-22
SWKS	Skyworks Solutions Inc.	-22
HOLX	Hologic Inc.	-22
UA	Under Armour Inc. CIA	-22

**Top Ten Holdings as of June 30, 2012**

Ticker	Name	Portfolio Weight	S&P 500 Weight	Difference
AAPL	Apple Inc.	4.55	4.44	0.11
XOM	Exxon Mobil Corp.	3.28	3.25	0.03
MSFT	Microsoft Corp.	1.89	1.86	0.03
IBM	International Business Machines Corp.	1.84	1.83	0.01
GE	General Electric Co.	1.80	1.79	0.01
T	AT&T Inc.	1.74	1.70	0.04
CVX	Chevron Corp.	1.71	1.69	0.01
JNJ	Johnson & Johnson	1.49	1.51	-0.01
KO	Coca-Cola Co.	1.44	1.43	0.01
WFC	Wells Fargo & Co.	1.42	1.44	-0.02

**Ten Largest Overweights and Underweights as of June 30, 2012**

Ticker	Name	Portfolio Weight	S&P 500 Weight	Difference
AAPL	Apple Inc.	4.55	4.44	0.11
MNST	Monster Beverage Corp.	--	0.09	-0.09
T	AT&T Inc.	1.74	1.70	0.04
STX	Seagate Technology Inc.	0.03	--	0.03
MSFT	Microsoft Corp.	1.89	1.86	0.03
XOM	Exxon Mobil Corp.	3.28	3.25	0.03
PG	Procter & Gamble Co.	1.39	1.36	0.02
WFC	Wells Fargo & Co.	1.42	1.44	-0.02
GOOG	Google Inc. Cl A	1.22	1.20	0.02
EBAY	eBay Inc.	0.37	0.39	-0.02

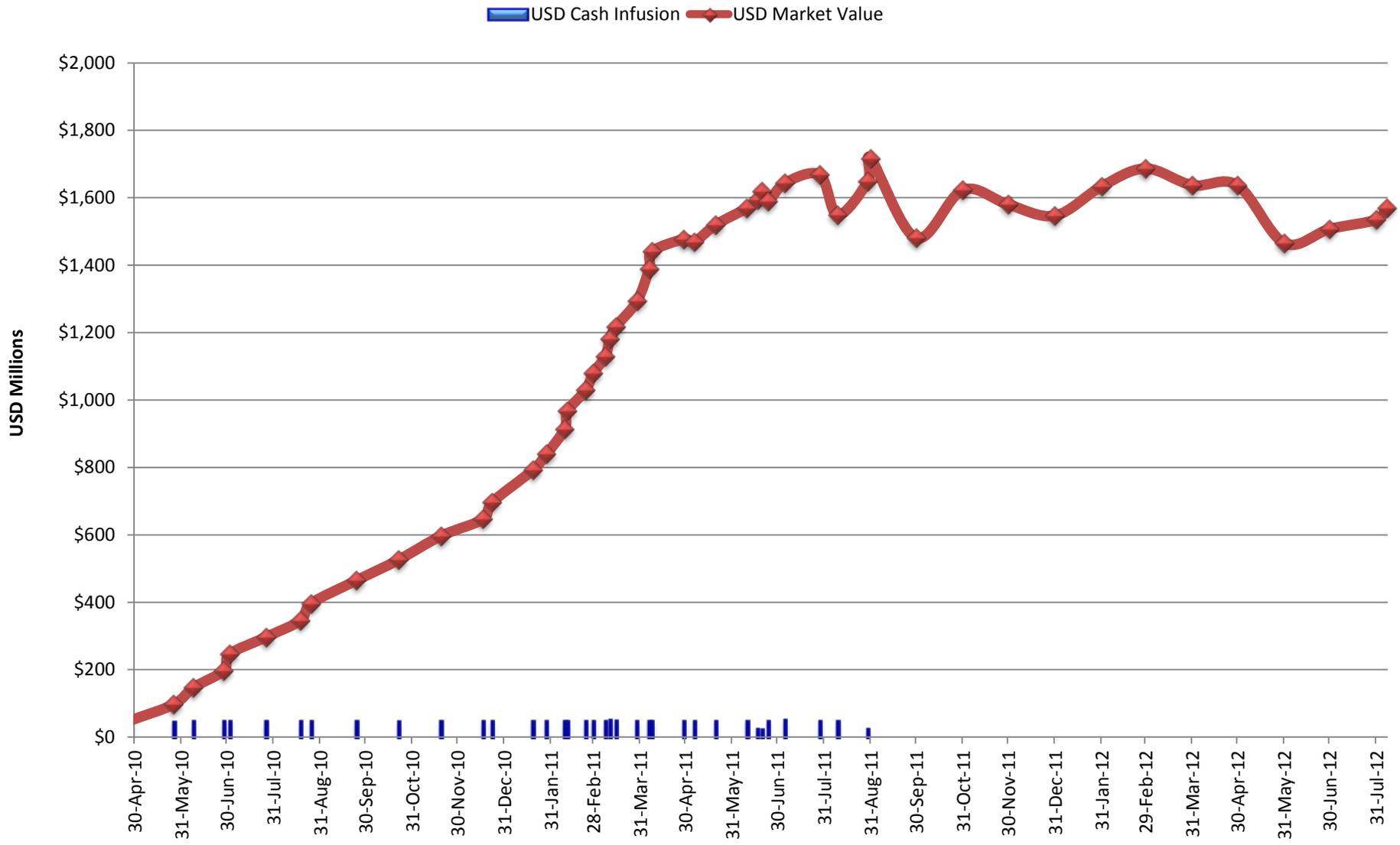
**Tracking Error**

Forecasted Tracking Error	0.06%
Historical Tracking Error	0.06%
Value at Risk	0.10%

**Comments:**

- Index Fund experienced the following funding flows in calendar 3Q11: \$250 million inflow on 8/3/11, \$250 million inflow on 8/8/11, \$250 million inflow on 8/12/11.
- Index Fund experienced the following funding flows in calendar 2Q11: \$150 million outflow on 4/5/11.
- Fund sold \$350 million in February to reduce overall plan equity allocation. February alpha number of (0.07%) was a result of trading impact for the allocation changes.
- Note on December 31 reported portfolio data: S&P made changes of the index on the close of 12/31/10 that were not incorporated into the fund until the next liquid trading day. Therefore, the risk forecasts and overweight/underweight table from the 12/31/10 IAC report are overstated. The performance impact from the timing discrepancy was nil.
- Due to a critical trading error in the issue CF Industries (Ticker: CF) as well as two unusually beneficial portfolio trades, Index Fund realized abnormally high tracking error in the 4Q FY10 period. The trading error was unwound opportunistically and processes were established to prevent similar errors in the future.
- Index Fund experienced the following funding flows in calendar 2Q10: \$200 million outflow on 4/29/10, \$250 million outflow on 4/16/10.
- Index Fund experienced the following funding flows in calendar 3Q09: \$100 million inflow on 9/24/09, \$100 million inflow on 7/29/09.
- April 2009 witnessed relatively large negative deviation from the index (-7 bps) due to a double corporate action by Time Warner, large banks raising substantial amounts of equity following the release of the infamous "stress test" results, the exit of Noble (which did not behave according to the empirically normative pattern for S&P 500 exclusions), and the tactical holding of Citi preferred shares rather than Citi common.
- Extraordinary positive tracking error was evident in the fund during March 2009 (25 bps). The deviation from benchmark returns in March primarily relates to good timing on a trade conducted March 2 and to class action litigation income posted to the fund.

## Market Value & Cash Inflows for the Canada Fund



# TENNESSEE CONSOLIDATED RETIREMENT SYSTEM

Periods Ending June 30, 2012

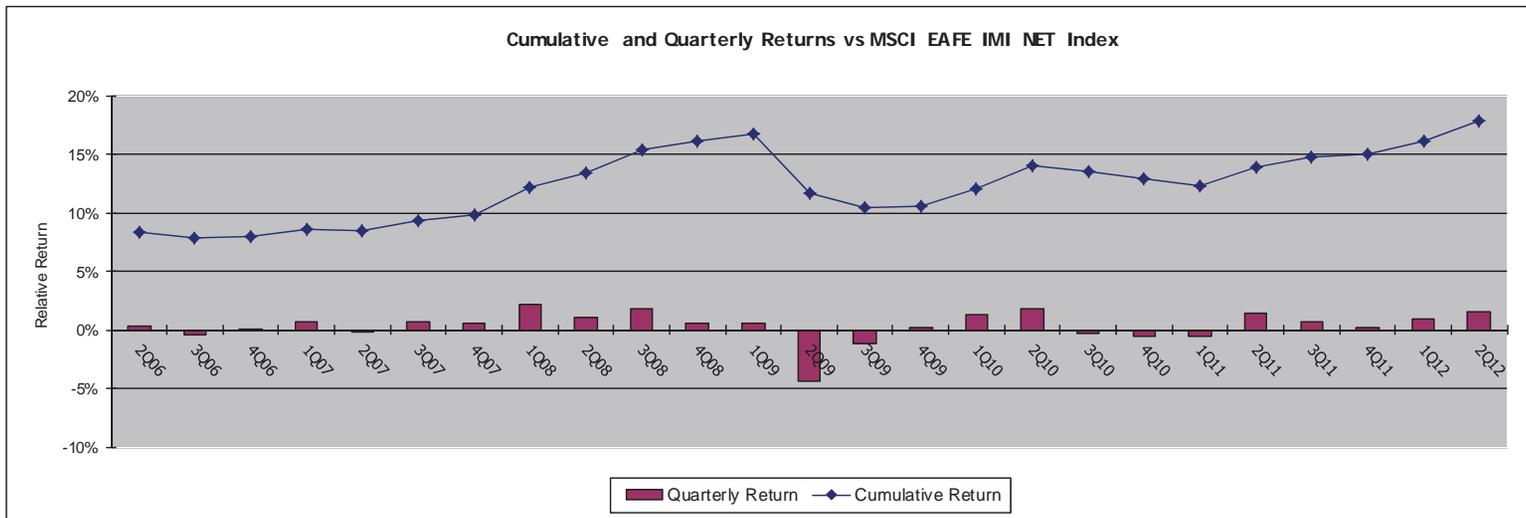
## International Manager Performance Comparison

Manager returns for the quarter ending June 30, 2012

Manager	Manager Return	Benchmark	Benchmark Return
American Century	-5.74	MSCI EAFE Small Cap NET	-8.65
Baring Asset Mgmt	-5.72	MSCI EAFE NET Index	-7.13
GE Asset Mgmt	-6.73	MSCI Europe NET Index	-7.47
Marathon	-5.90	MSCI EAFE NET Index <sup>2</sup>	-7.13
Pacific Indexed Port <sup>5</sup>	-5.85	MSCI Pacific NET Index <sup>1</sup>	-6.38
PanAgora	-5.88	MSCI EAFE NET Index	-7.13
Pyramis	-8.36	MSCI EAFE Small Cap NET	-8.65
TT International	-6.74	MSCI EAFE NET Index	-7.13
Walter Scott	-3.48	MSCI EAFE NET Index <sup>4</sup>	-7.13
International	-5.77	MSCI EAFE IM Net Index <sup>3</sup>	-7.31

Manager returns for five years ending June 30, 2012

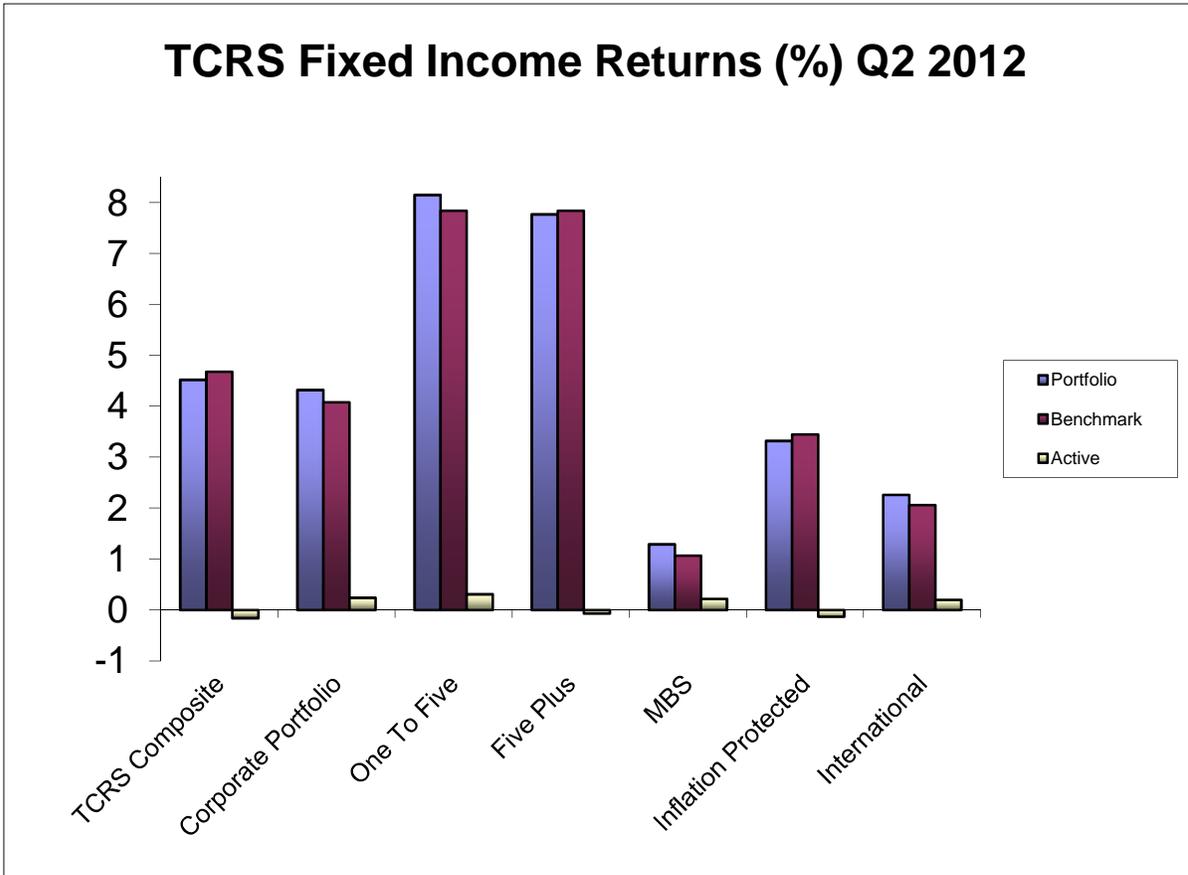
Manager	Manager Return	Benchmark	Benchmark Return
American Century		MSCI EAFE Small Cap NET	
Baring Asset Mgmt		MSCI EAFE NET Index	
GE Asset Mgmt		MSCI Europe NET Index	
Marathon	-1.75	MSCI EAFE NET Index <sup>2</sup>	-6.10
Pacific Indexed Port <sup>5</sup>	-4.75	MSCI Pacific NET Index <sup>1</sup>	-3.95
PanAgora	-4.35	MSCI EAFE NET Index	-6.10
Pyramis		MSCI EAFE Small Cap NET	
TT International		MSCI EAFE NET Index	
Walter Scott	1.53	MSCI EAFE NET Index <sup>4</sup>	-6.10
International	-3.37	MSCI EAFE IM Net Index <sup>3</sup>	-5.73



<sup>1</sup> Effective as of 7/1/04; prior was MSCI AC Asia Pacific Free Index.  
<sup>2</sup> Effective as of 5/19/06; prior was MSCI Europe Index.  
<sup>3</sup> Effective as of 10/1/08; prior was MSCI EAFE NET Index.  
<sup>4</sup> Effective as of 2/2/09; prior was MSCI Europe Index.  
<sup>5</sup> Performance was attributable to Amundi through 9/3/10; portfolio managed by TCRS staff afterward.

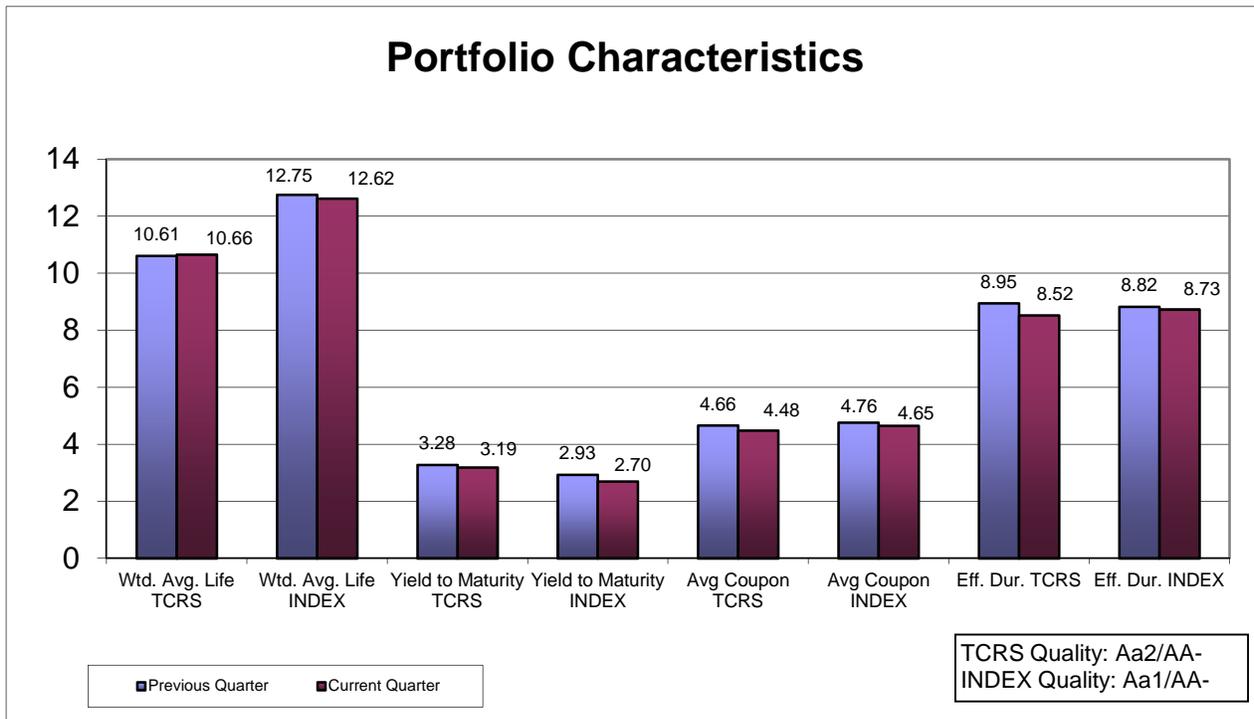
Page is intended to be blank

Portfolio	Value (Yield Book) (\$MMs)	Portfolio Return	Benchmark Return	Active Return
TCRS Domestic Fixed Income Composite	\$10,221	4.52	4.68	(0.16)
Corporate Portfolio	\$3,470	4.32	4.08	0.24
Government One To Five Years	\$1,316	8.15	7.84	0.31
Government Five Plus Years	\$1,820	7.77	7.84	(0.07)
Mortgage Portfolio	\$3,576	1.29	1.07	0.22
TCRS Inflation Protected Securities	\$2,697	3.32	3.45	(0.13)
TCRS International	\$334	2.26	2.06	0.20

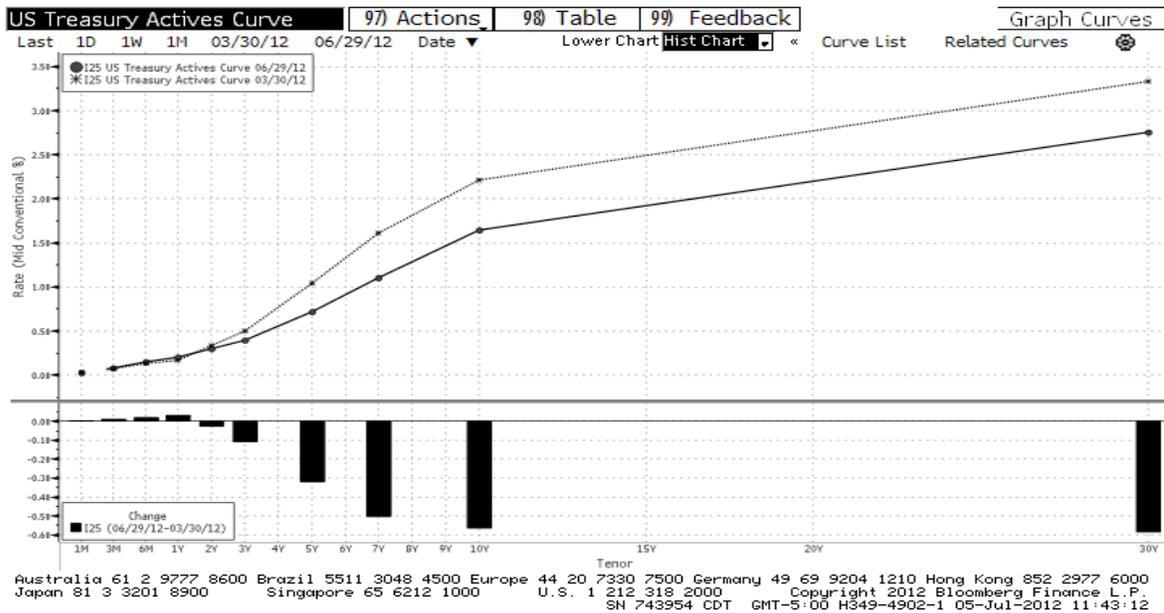


Note: All positions and market values are as of June 29, 2012

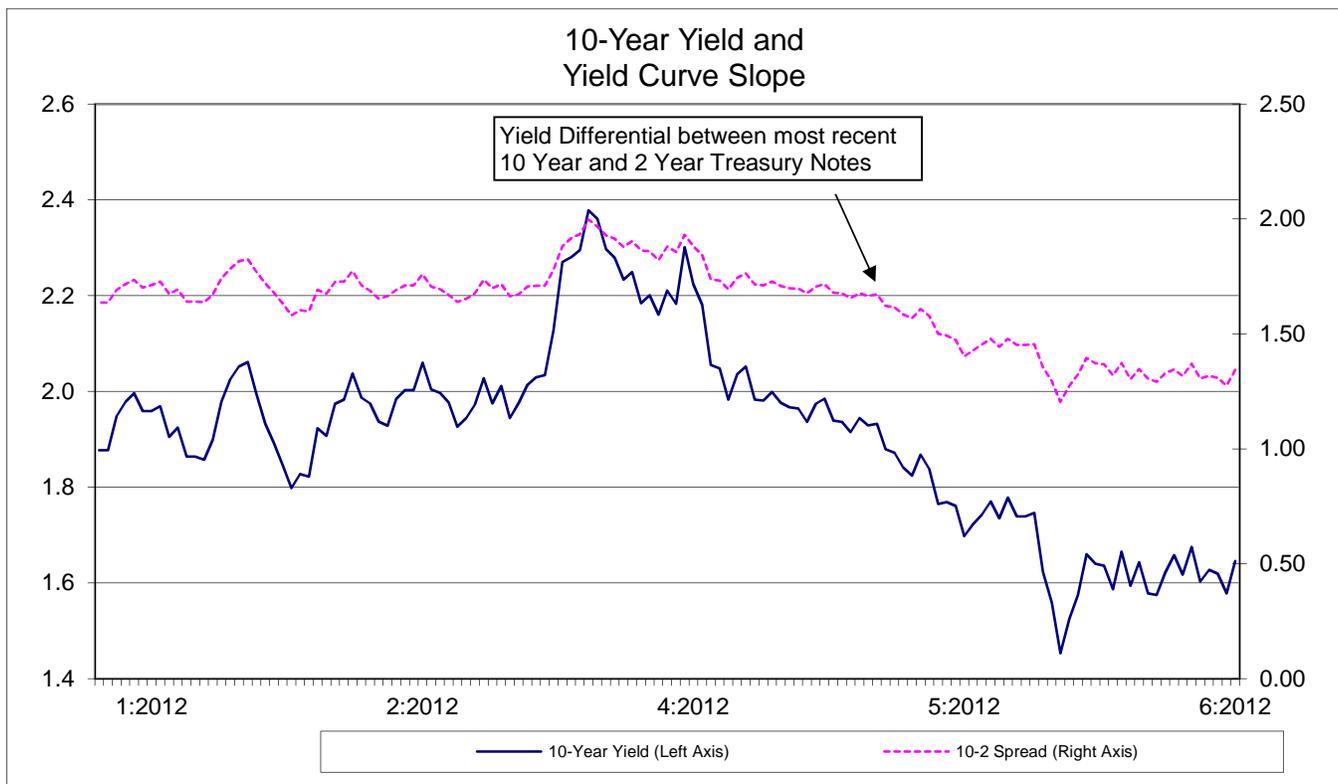
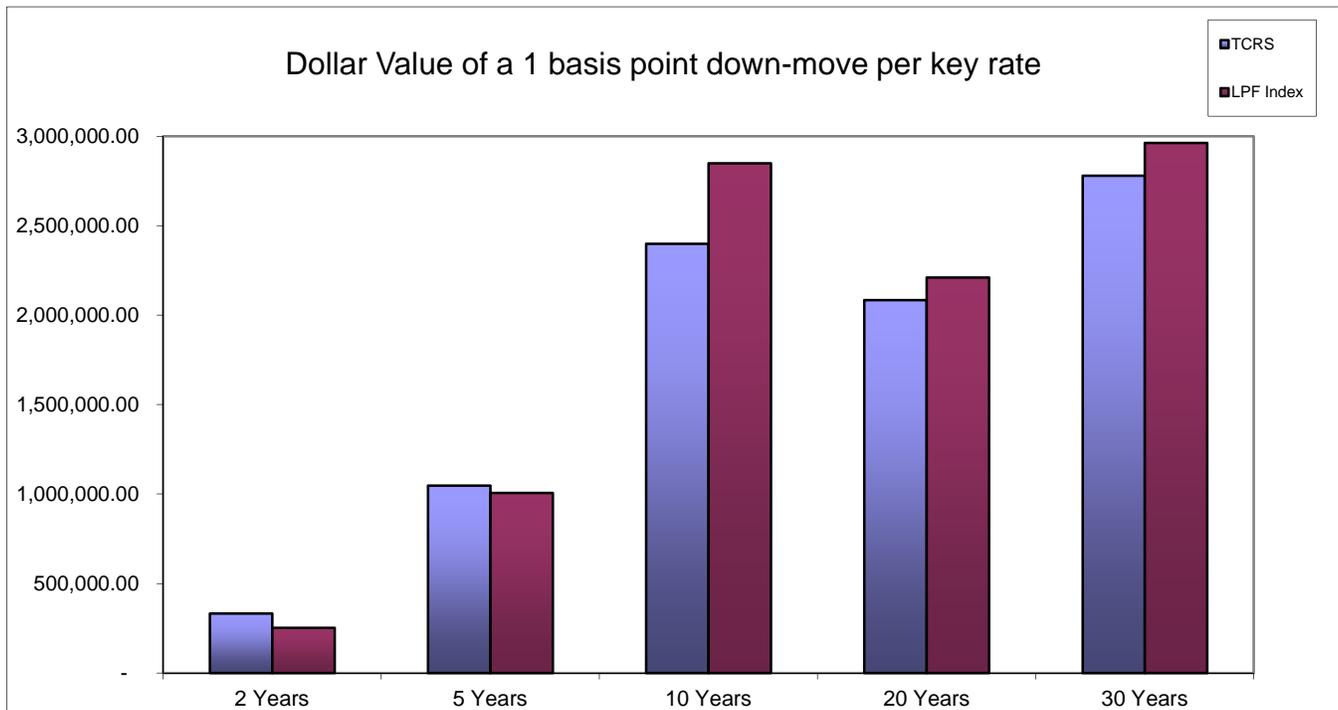
*Characteristics show a decrease in duration risk as average yields fell during the quarter*



*Yields fell and the curve flattened*

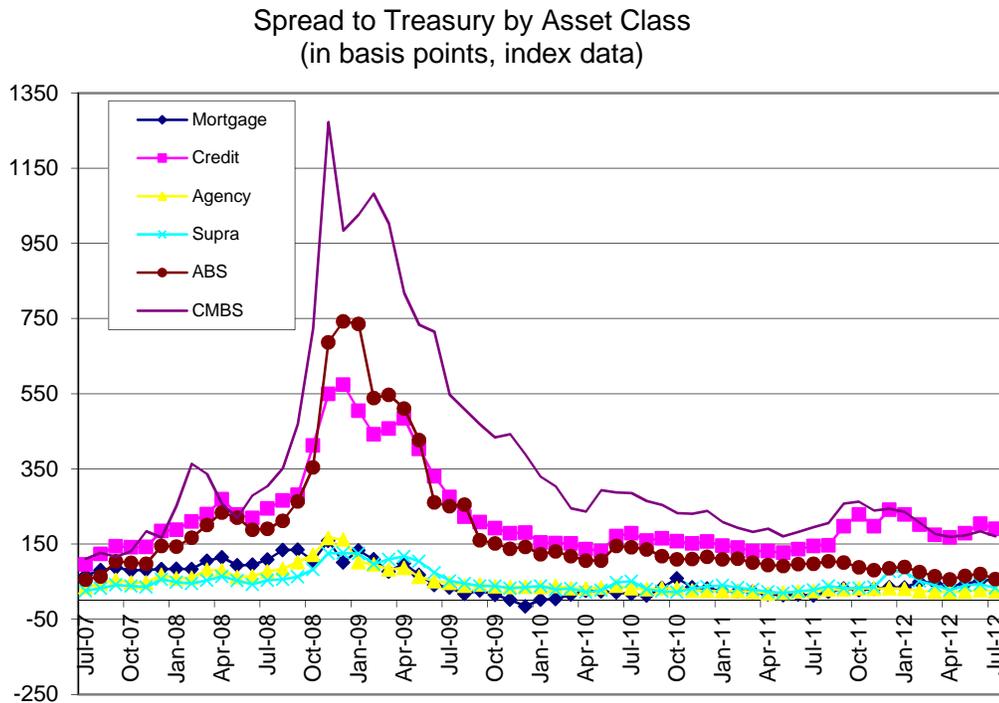
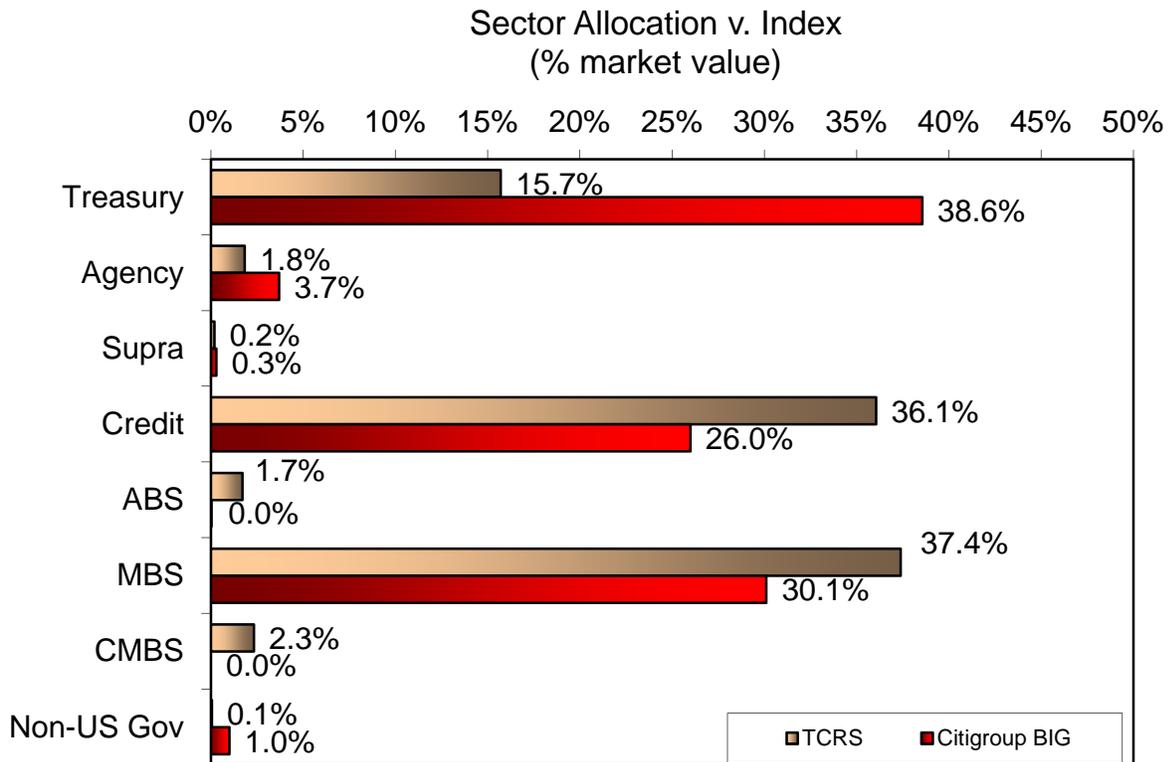


*Curve positioning reflects overweight to MBS and Credit*



source: Bloomberg

*Added to Treasury and Credit from Agency and MBS*

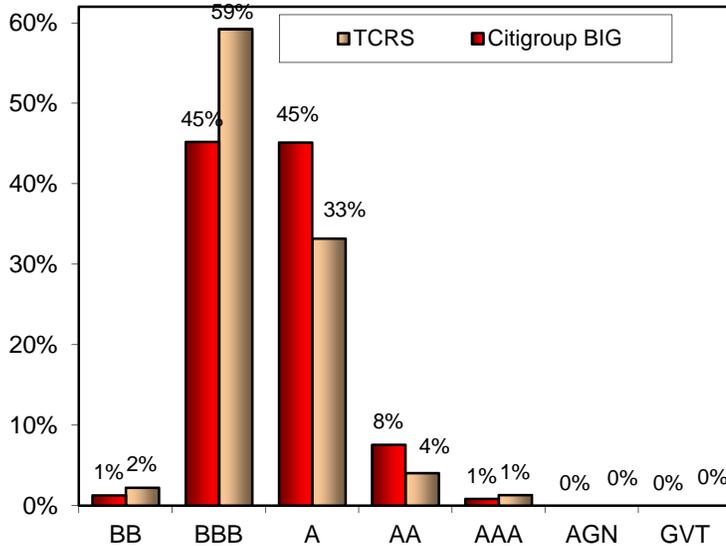


source: Yield Book

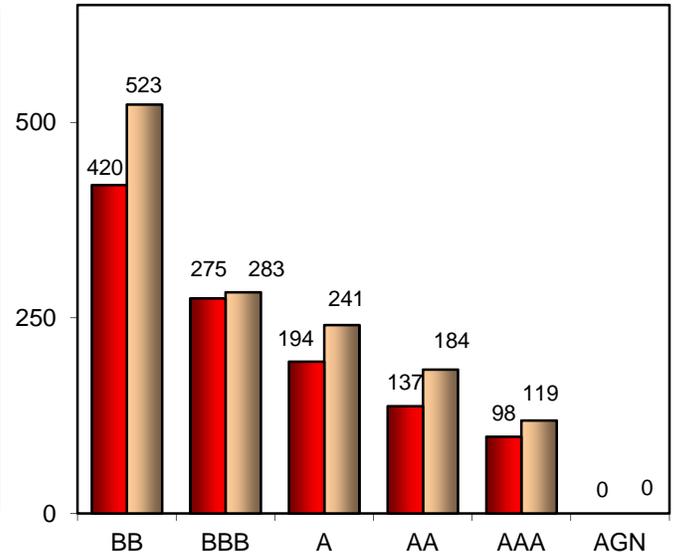
*Spreads tightened during the quarter.*

*TCRS spreads were slightly higher than the index in higher quality sectors, reflecting expectations of continued spread tightening.*

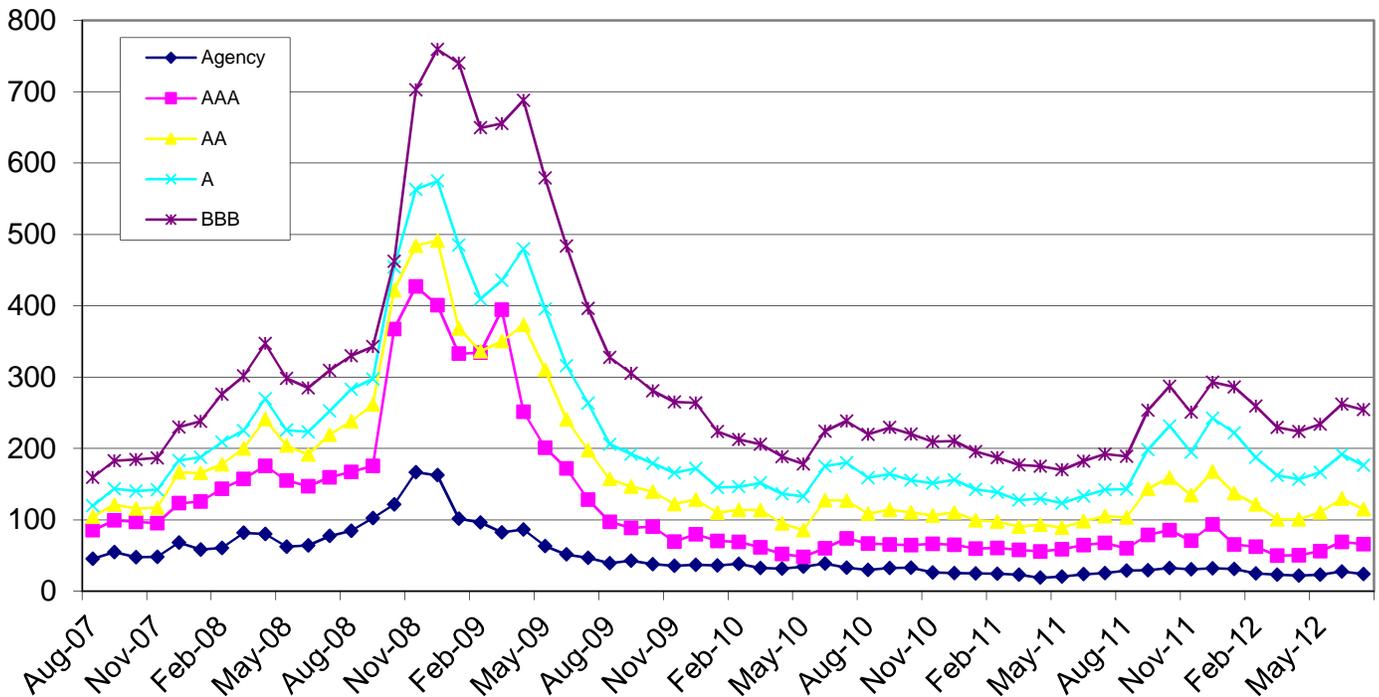
**Credit Allocation v. Index**  
 (% market value)



**OAS by Credit Allocation**



**Spread to Treasury by Credit Rating**  
 (in basis points, index data)



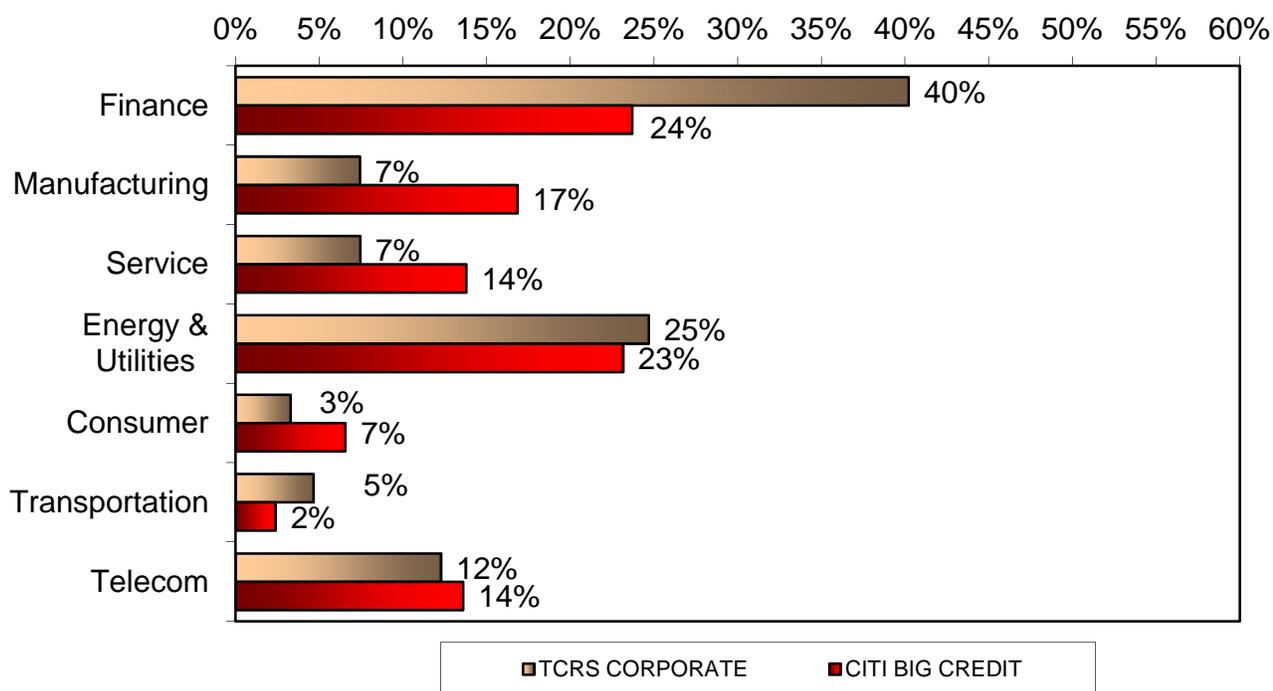
source: Yield Book

*Domestic Fixed Income*

<b>Top 5 Credit Holdings (by Market Value)</b>	MktVal	% MktVal
CITIGROUP	111,000	1.2
BANK OF AMERICA	106,000	1
GENERAL ELECTRIC CO	100,000	1
GOLDMAN SACHS GROUP	96,459	0.9
AMERICAN INTERNATIONAL GROUP	92,413	0.9

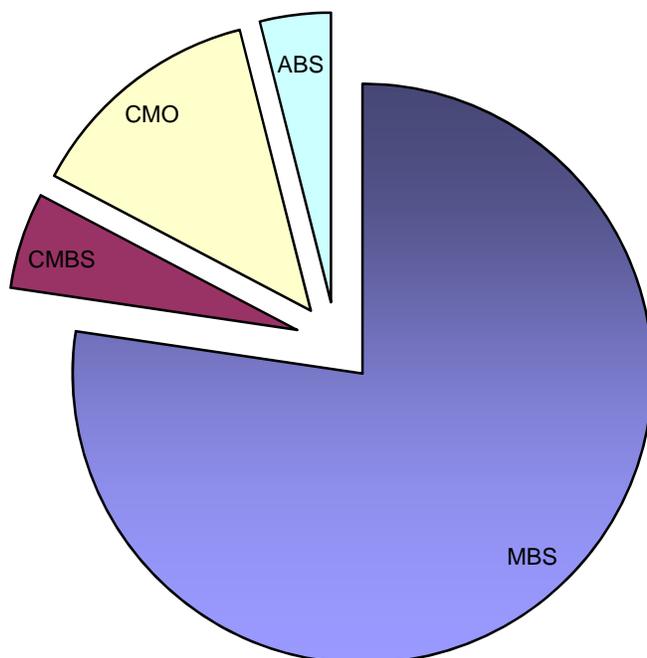
<b>Top 5 Credit Holdings (by Dollar Duration)</b>	\$ Duration	% \$ Duration
GENERAL ELECTRIC CO	87.66	1
TIME WARNER CABLE INC	85.54	1
COMCAST CORP	85.39	1
JP MORGAN CHASE & CO	84.63	1
BANK OF AMERICA	80	0.9

**Sector Allocation v. Index**  
(% market value)



	Market Value (\$MM - Yield Book)	TCRS % of portfolio	CITI	Difference
<b>Agency Mortgage Backed Securities</b>	\$3,429,807	33.5	30.1	3.4
<b>GNMA</b>				
15-Yr	\$10,559	0.1	0.1	0.0
30-Yr	\$503,359	4.9	7.2	-2.3
<b>FNMA</b>				
10-, 15- & 20-Yr	\$285,281	2.8	2.4	0.4
30-Yr	\$1,488,329	14.6	11.7	2.9
<b>FHLM</b>				
15-Yr	\$117,096	1.2	1.6	-0.5
30-Yr	\$887,835	8.7	7.1	1.6
<b>Agency Hybrid</b>	\$137,348	1.3	0.0	1.3
<b>Commercial Mortgage Backed Securities</b>	\$238,745	2.3	0.0	2.3
<b>CMO and Non Agency Passthroughs</b>	\$592,746	5.8	0.0	5.8
<b>Asset Backed Securities</b>	\$174,988	1.7	0.0	1.7
<b>Total Securitized Product</b>	<b>\$4,436,286</b>	<b>43.4</b>	<b>30.1</b>	<b>13.2</b>

Percent of Securitized Product



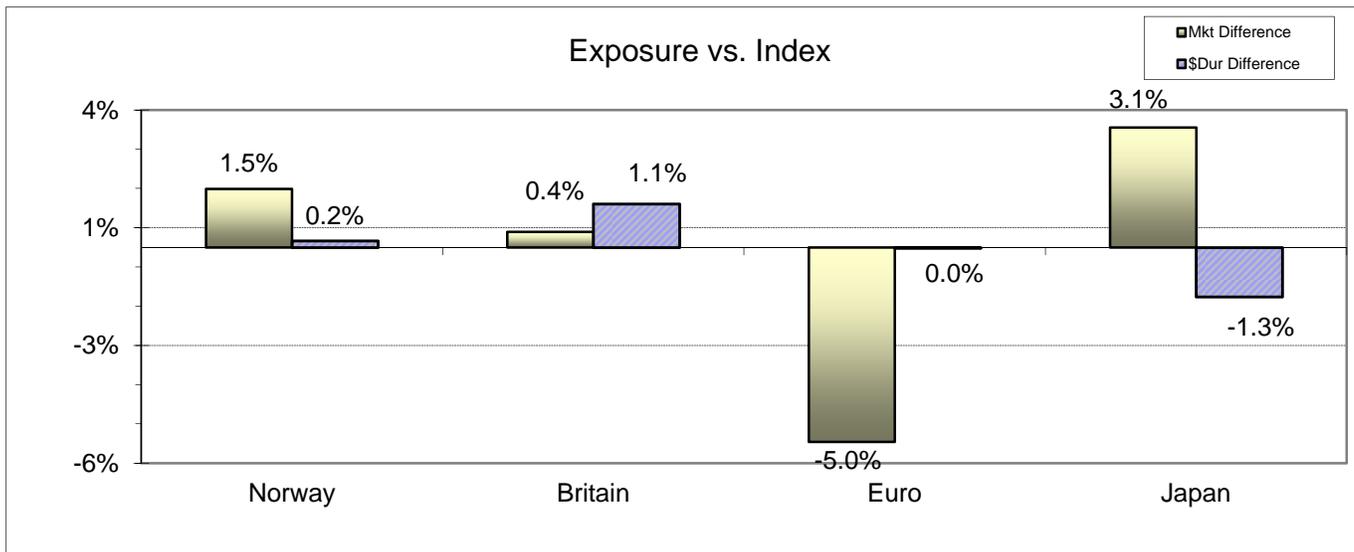
Portfolio Return: 2.26%  
Citigroup Non-US G5 Index: 2.06%  
**Active Return: 0.20%**

	TCRS		Percent of Value	Percent of \$Dur
	Yield	M. Dur		
Norway	1.59	0.87	1.5%	0.2%
Britain	2.61	10.19	11.3%	14.9%
Euro	1.61	8.17	20.4%	21.5%
Japan	0.56	7.35	66.8%	63.4%
	1.02	7.74	100.0%	100.0%

	Citigroup G5 Sovereign Index (ex-US)		Percent of Value	Percent of \$Dur
	Yield	Dur		
Britain	1.75	9.87	10.9%	13.8%
Euro	1.43	6.64	25.3%	21.5%
Japan	0.66	7.93	63.7%	64.7%
	0.97	7.82	100.0%	100%

**Difference**

	Value Differ	M. Dur Differ	\$ Dur Differ
Norway	1.5%	0.9	0.2%
Britain	0.4%	0.3	1.1%
Euro	-5.0%	1.5	0.0%
Japan	3.1%	-0.6	-1.3%
	0.0%	-0.1	0.0%

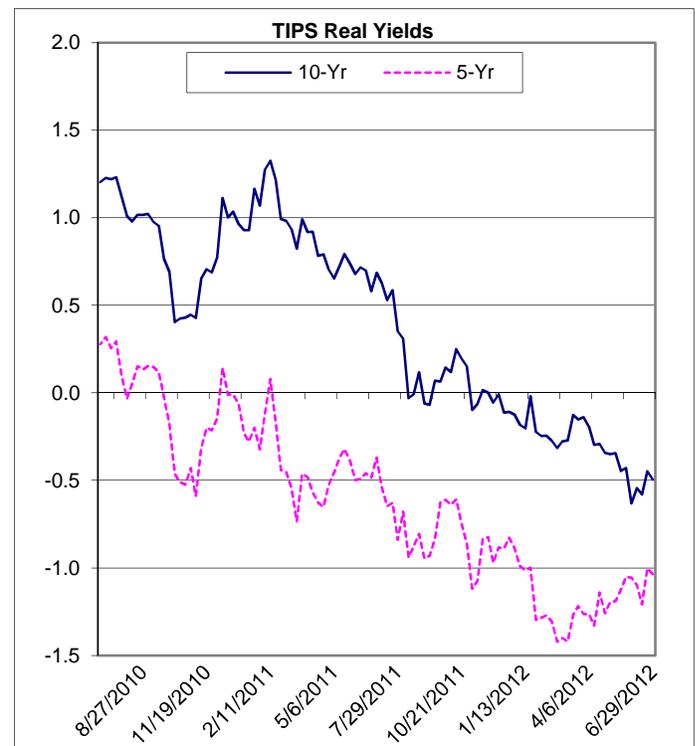
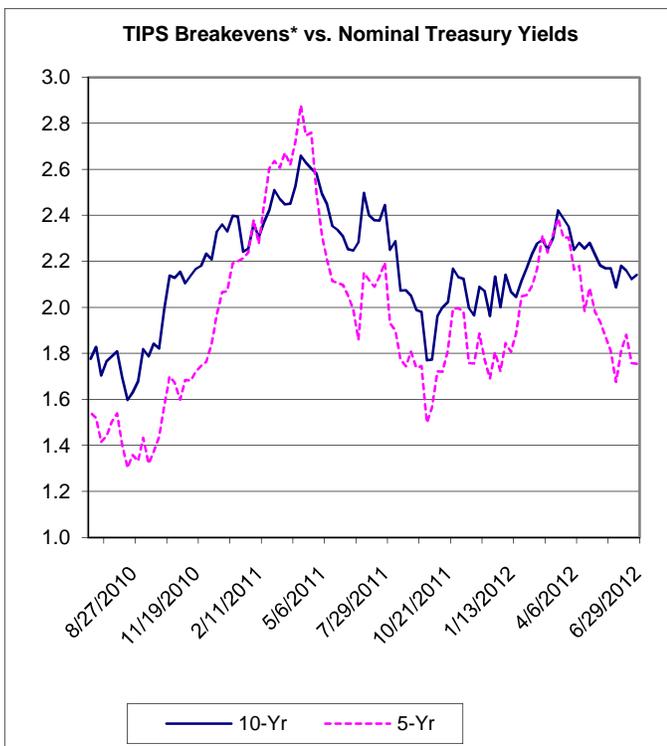


*Inflation Protected Fixed Income*

Portfolio Value (Yield Book):	\$2,697,151,340
Portfolio Return:	3.32%
Citigroup ILSI Index:	3.45%
<b>Active Return:</b>	<b>-0.13%</b>

**% Market Value by Duration**

	TCRS	CITI	Difference
0-2	0.14	0.11	0.04
2-4	0.82	0.82	0.00
4-6	0.79	1.20	-0.41
6-8	1.39	1.14	0.25
8-10	0.88	0.94	-0.05
10+	1.37	1.24	0.13

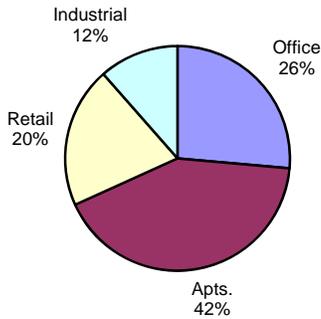


\* The "breakeven" rate is the expected rate of inflation at which investment in TIPS yield the same return as investment in Treasuries

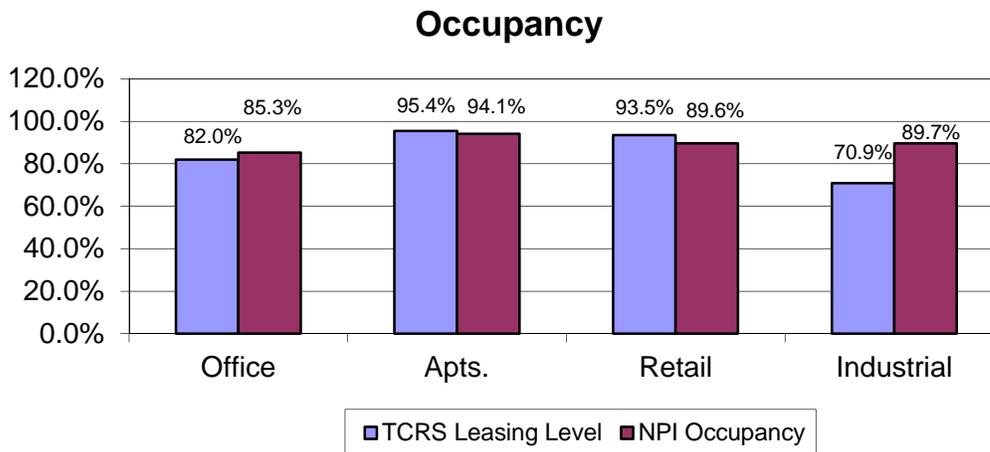
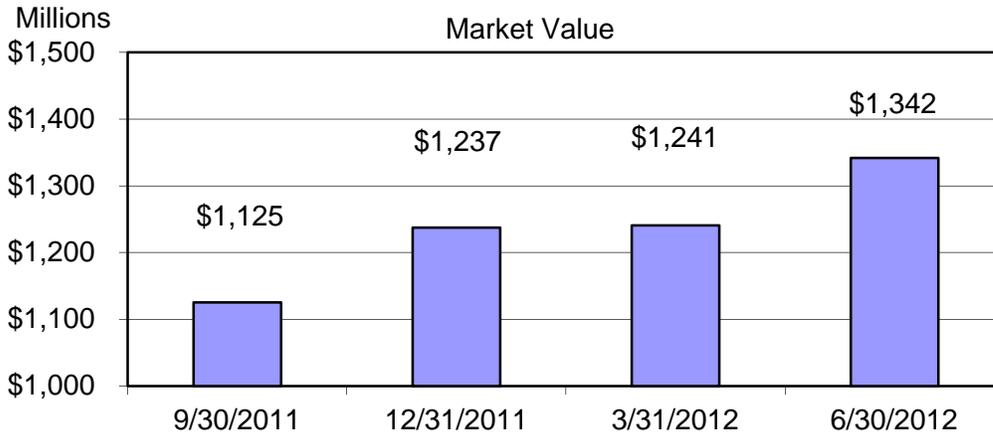
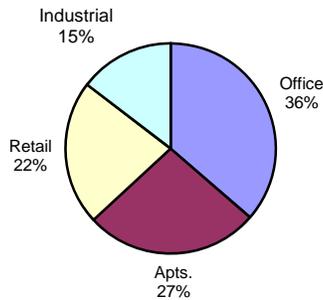
Source: Bloomberg

Page is intended to be blank

**TCRS By Property Type**

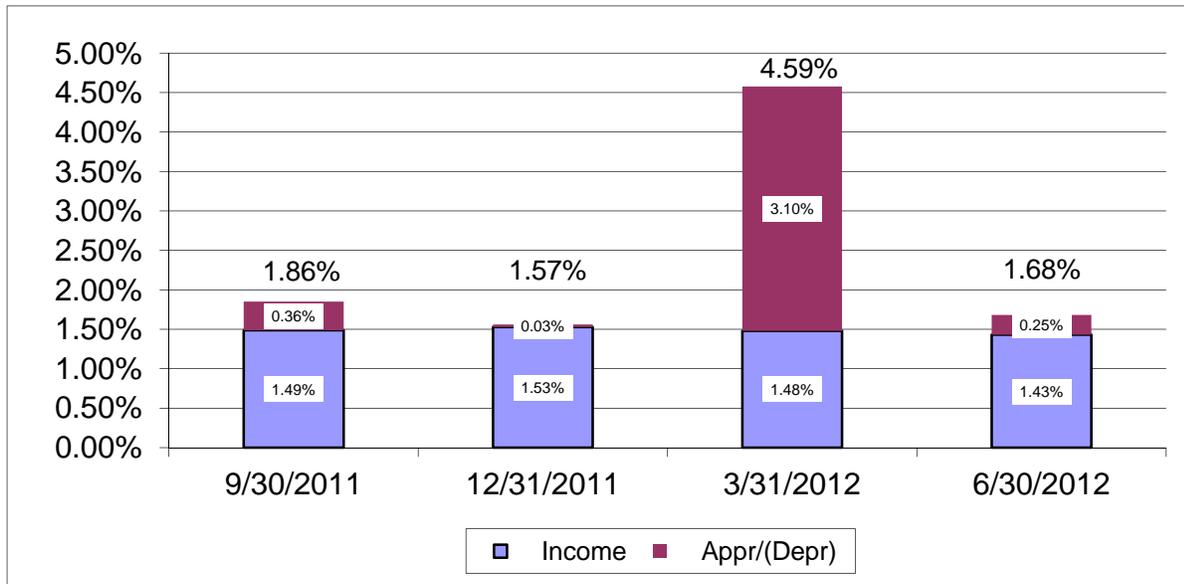


**NPI By Property Type**



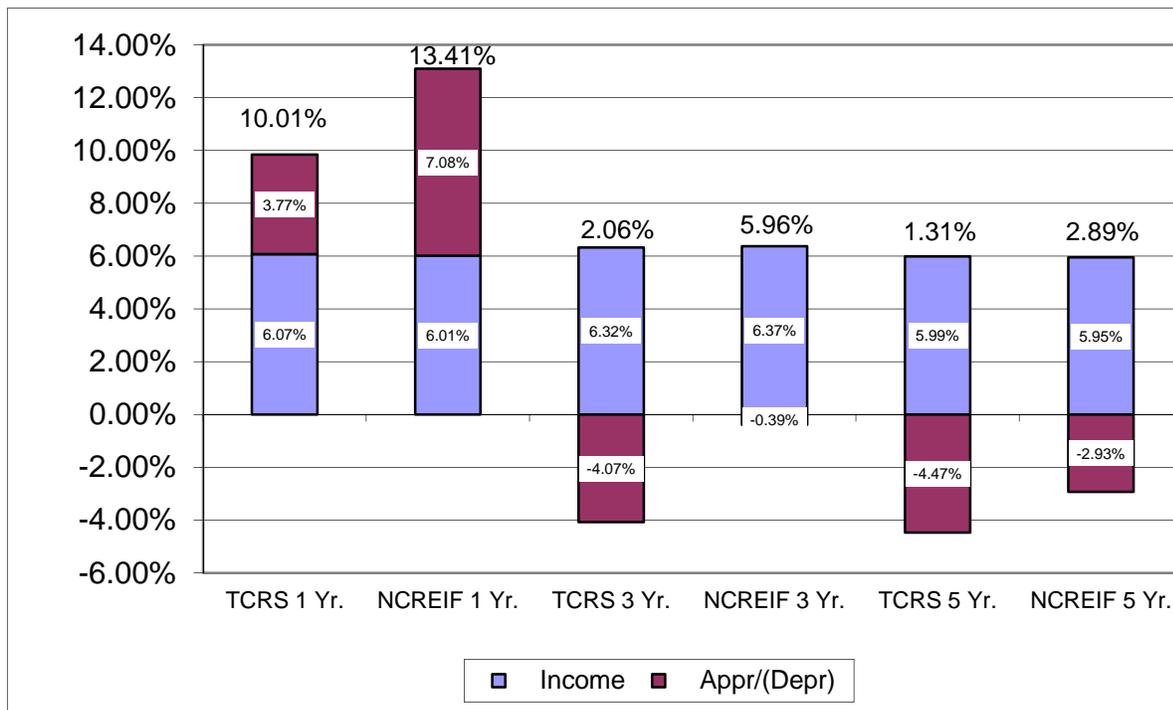
The NPI is the National Property Index of the National Council of Real Estate Investment Fiduciaries (the index used for US core properties).

Peter Katseff



All returns shown above are reported one quarter in arrears

Budgeted Annual Income Return for calendar year 2011 (excluding REITs) 5.75%



All returns shown above are reported one quarter in arrears

## Tennessee Consolidated Retirement System

Private Equity Program

Fiscal Q3 2012 Update

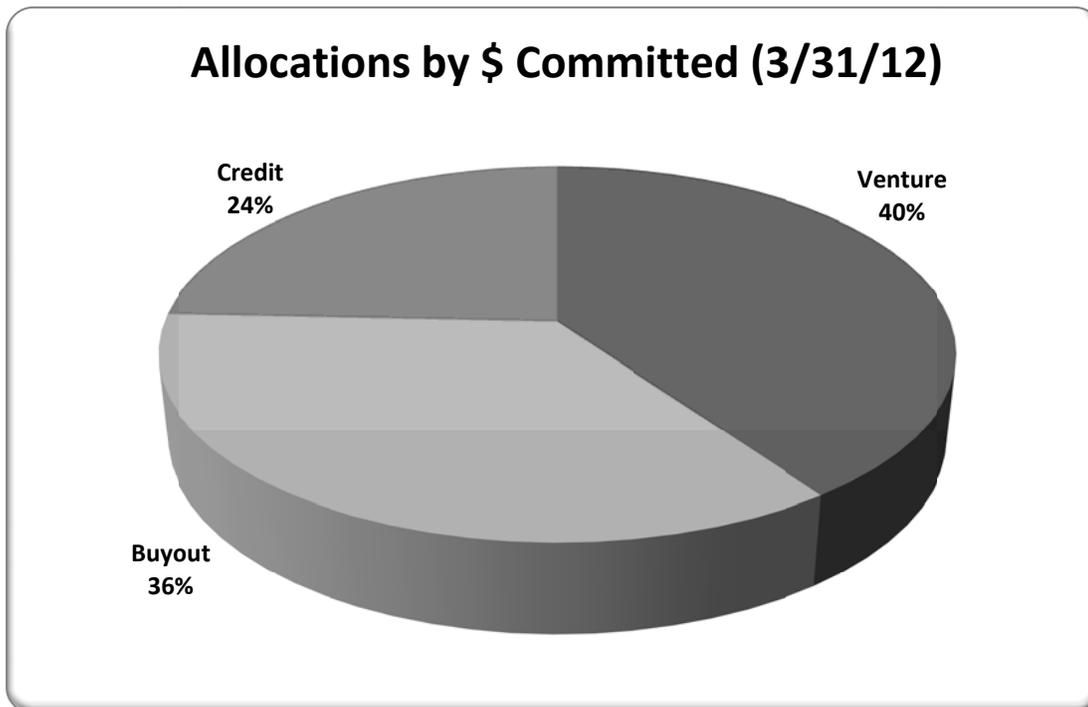
Lamar Villere, CFA

We have finalized our fiscal Q3:2012 results (3/31/12), and are pleased to report that the program continues to show positive returns. That said, early strong returns have begun to show the impact of the J-Curve, as most portfolio companies are still held at cost. Additionally, continued significant strength in the public markets negatively impacted our relative performance.

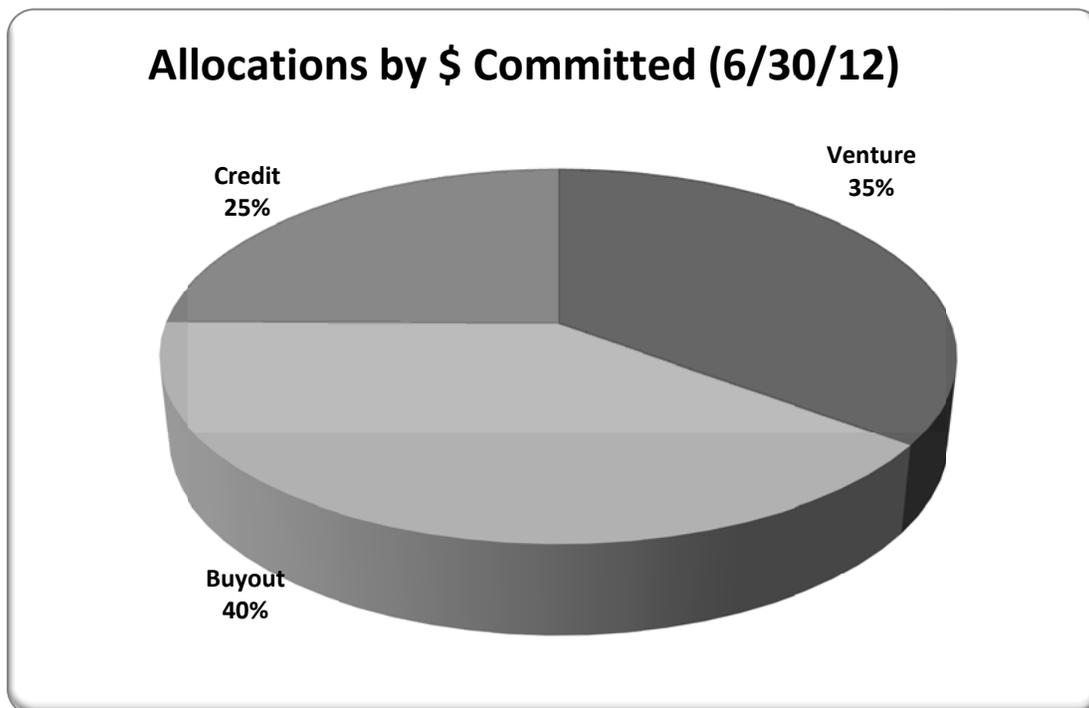
<i>IRR as of 3/31/12</i>	<b>Quarter</b>	<b>Trailing 1 Year</b>	<b>Since Inception</b>
Buyout	0.1%	-3.4%	-2.1%
Credit	6.4%	5.9%	9.8%
Venture	<u>3.9%</u>	<u>15.3%</u>	<u>11.0%</u>
<b>TCRS PE Overall</b>	<b>4.2%</b>	<b>6.7%</b>	<b>8.3%</b>
<i>S&amp;P 500 + 3%</i>	<i>13.5%</i>	<i>21.6%</i>	<i>22.6%</i>

The overall portfolio is still significantly over weighted to venture capital, a situation which should be reversed as the commitment pace in buyouts increases in the coming years.

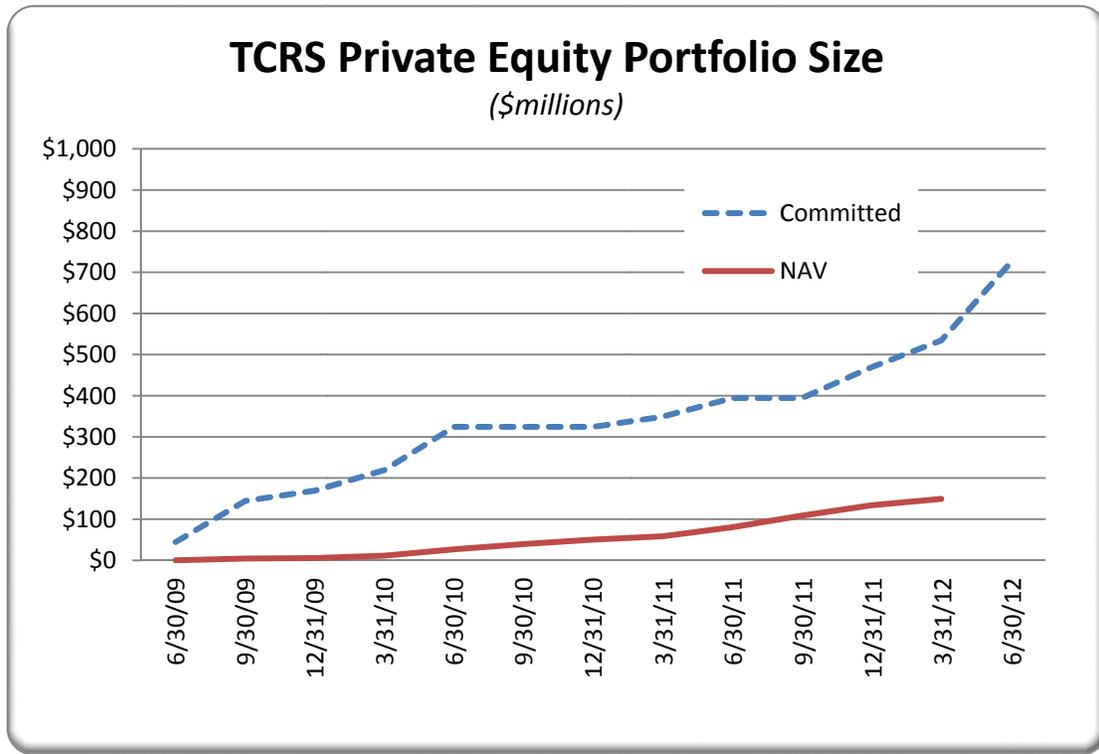
The following charts show the allocations to the sub-asset classes based on commitments for both the quarter ended 3/31/12 and the quarter ended 6/30/12.



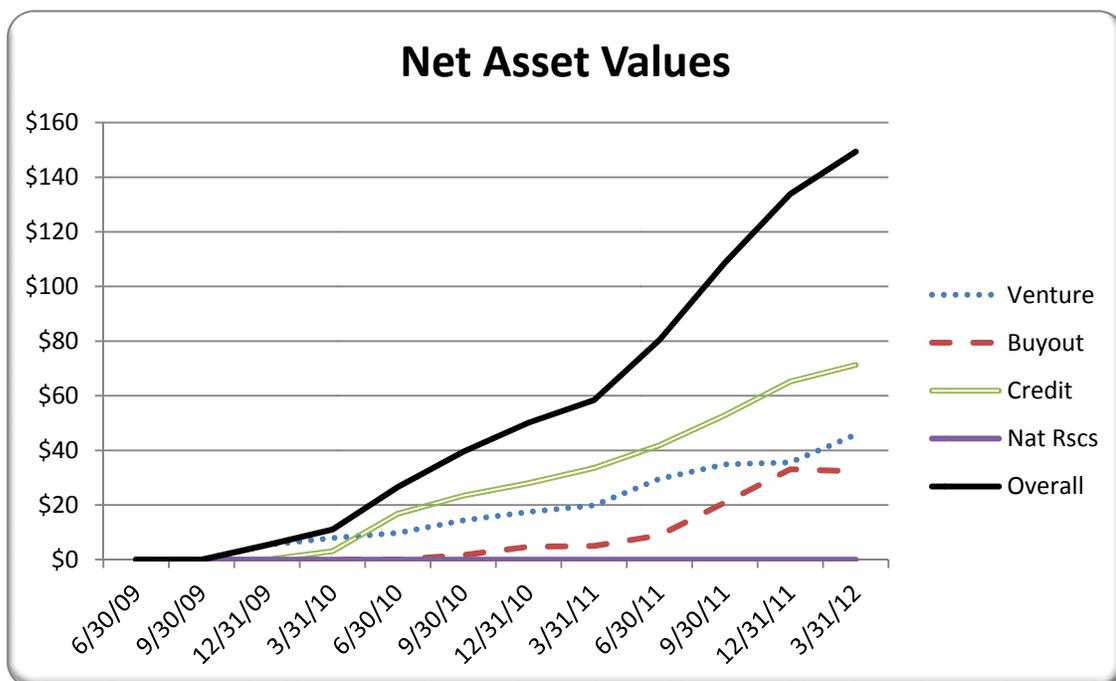
If we include the impact of the commitments made in the fiscal fourth quarter (ended 6/30/12), the allocation moves significantly toward targets. While TCRS committed to all three subcategories during the quarter, a \$100 million allocation to Advent International GPE VII had meaningful impact on allocations.



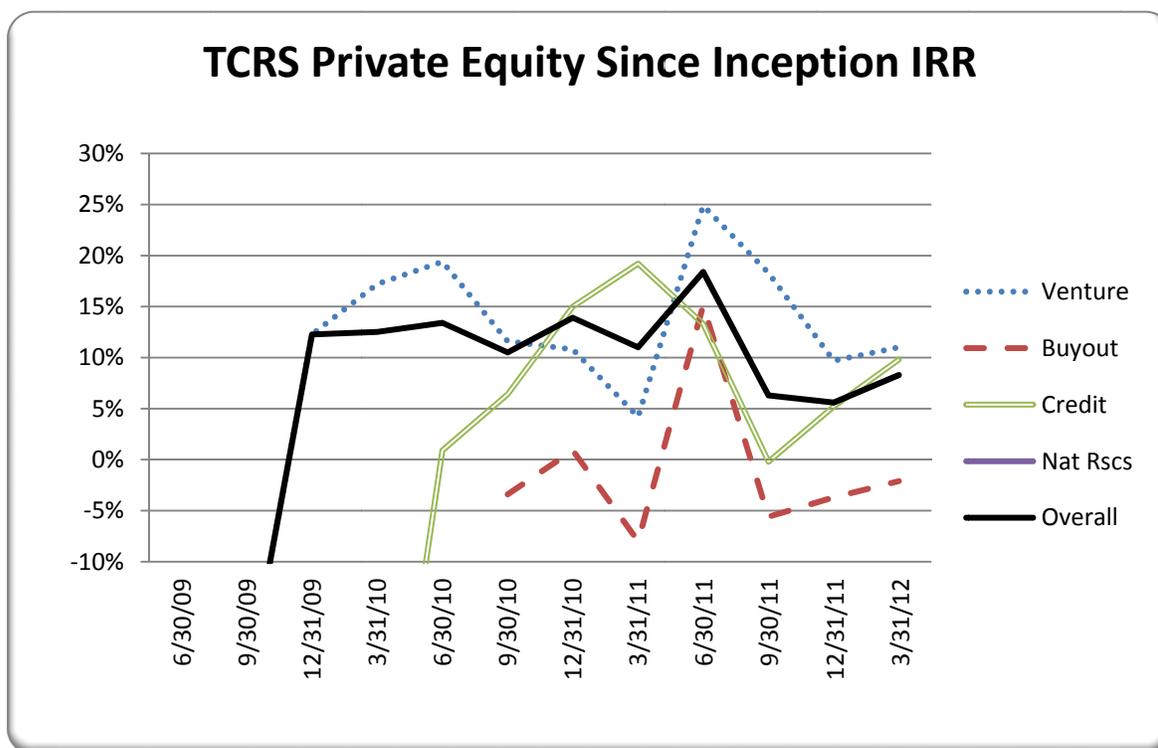
The next chart shows the overall size of the TCRS portfolio as it has grown since inception, both in terms of commitments as well as actual growth in net asset value.



The chart below illustrates the net asset value of each subcategory since the program's inception. We would expect buyout NAVs to accelerate significantly in the next 12 months.



Finally, to illustrate the early volatility of IRR (over time the since-inception program IRR will become fairly steady), we have included a chart showing the IRR of the overall portfolio and the sub-asset classes over time.



## New Commitments

For the first six months of calendar 2012, we have closed on seven new commitments, as shown in the following table (commitments shown in \$millions):

Partnership	Commitment	Description
Lightspeed IX	\$25	Early Stage IT VC
Canaan IX	\$25	Early Stage IT/HC VC
Bain Ventures 2012	\$15	Diversified VC
Khosla Seed B	\$20	Early Stage IT/Cleantech VC
IVP XIV	\$20	Late Stage IT VC
Oaktree Opps IX	\$50	Credit/Distressed Debt
Advent GPE VII	\$100	Global Buyout
	<b>\$255</b>	

Page is intended to be blank

## TCRS Equity Derivative Report

### Domestic Stock Index Futures

Roy Wellington, CFA

#### Domestic Stock Index Futures Transaction Log

Date	B/S	Contracts	Broker	Price	Total	Reason
<b>Begin</b>	B	5,950 Russell 2000	Jun 2012 Citigroup	827.7000	492,481,500	

#### Trades

6/13/2012 S		5,950 Russell 2000	Jun 2012 Citigroup	749.6000	(446,012,000)	2a
6/13/2012 B		5,950 Russell 2000	Sep 2012 Citigroup	745.1863	443,385,872	2b

#### Contracts Outstanding on March 31, 2012

<b>End</b>	B	5,950 Russell 2000	Sep 2012 Citigroup	795.4000	473,263,000	
				<b>Total 1Q FY2012</b>	\$ (107,129,750)	
		corrects previous reports		<b>Total 2Q FY2012</b>	\$ 60,154,500	
				<b>Total 3Q FY2012</b>	\$ 55,275,500	
				<b>Total 4Q FY2012</b>	\$ (16,592,372)	

1 Move equity allocation towards allocation target.

2a Swap to next contract.

2b Swap from earlier contract.

**Strategy:** TCRS is replicating a small company stock portfolio using Russell 2000 index futures. The Russell 2000 future plus cash should produce a return equal to the Russell 2000 Index. TCRS utilizes index futures to its advantage to make timely investments and to gain small cap exposure as desired. Our exposure to small cap remains below the policy target.

TCRS also believes that it can add value to the underlying equity index return by investing cash allocated to the strategy in better (in terms of duration and credit) returning instruments than those implied by futures prices. Another source of extra return comes from rolling the futures contract from one calendar quarter to the next. If these sources of extra return dry up then TCRS can opt to own the underlying equity securities.

TCRS designated certain assets that in combination with the futures represents an equity allocation. These other assets were:

Collateral:	US Treasury Notes	\$ 39,855,962
	Short Duration Fixed Income:	353,982,500
	TCRS Cash:	93,407,038

**Review:** TCRS maintained its exposure to small cap stocks by utilizing the Russell 2000 Index future. The market value of small cap stocks represented by our futures exposure fell in line with the Russell 2000 Index. The Russell 2000 Index returned slightly more than the Small Cap policy benchmark, the S&P 600. The strategy of allocating cash to Short Duration bonds and enjoying the roll from one quarter to the next earned TCRS a little extra to the Russell 2000 Index.

**Affiliations:** TCRS has used Citigroup exclusively in the quarter to trade index futures. We also have a clearing agreement with JPMorgan.

# Domestic Fixed Income Derivatives Report

Andrew C. Palmer, CFA

## Domestic Fixed Income Derivatives Transaction Log

ACCT	SOLD	BOUGHT	NET	EXPIRATION	CONTRACT	TYPE	STRIKE	
<b>Begin</b>								
			250		SEP (U) 2012	EURODOLLAR	PUT	96
			1651		10 T-NOTE 12 JUN		FUTURE	
			4999		ULTRABOND 12 JUN		FUTURE	
			2430		T-BONDS 12 JUN		FUTURE	
<b>TRADE SUMMARY BY ACCOUNT</b>								
<b>5+ Gov't (1381)</b>								
	500	-	(500)		10 T-NOTE 12 JUN			
	500	500	-		10 T-NOTE 12 SEP			
	500	-	(500)		T-BONDS 12 JUN			
	125	500	375		T-BONDS 12 SEP			
	1,000	-	(1,000)		ULTRABOND 12 JUN			
	-	1,000	1,000		ULTRABOND 12 SEP			
<b>1-5 Gov't (1368)</b>								
	1,151	-	(1,151)		10 T-NOTE 12 JUN			
	551	551	-		10 T-NOTE 12 SEP			
	1,930	-	(1,930)		T-BONDS 12 JUN			
	-	1,930	1,930		T-BONDS 12 SEP			
	2,524	-	(2,524)		ULTRABOND 12 JUN			
	240	2,524	2,284		ULTRABOND 12 SEP			
<b>Overlay (1371)</b>								
	-	-	-		10 T-NOTE 12 JUN			
	-	-	-		10 T-NOTE 12 SEP			
	-	-	-		T-BONDS 12 JUN			
	-	-	-		T-BONDS 12 SEP			
	1,250	-	(1,250)		ULTRABOND 12 JUN			
	-	750	750		ULTRABOND 12 SEP			
<b>Corporate (1365)</b>								
	400	400	-		10 T-NOTE 12 JUN			
	300	300	-		10 T-NOTE 12 SEP			
	-	-	-		T-BONDS 12 JUN			
	50	50	-		T-BONDS 12 SEP			
	625	400	(225)		ULTRABOND 12 JUN			
	650	850	200		ULTRABOND 12 SEP			
<b>End</b>								
			250		SEP (U) 2012	EURODOLLAR	PUT	96
			0		10 T-NOTE 12 SEP		FUTURE	
			2305		T-BONDS 12 SEP		FUTURE	
			4234		ULTRABOND 12 SEP		FUTURE	

# Domestic Fixed Income Derivatives Report

Andrew C. Palmer, CFA

## Domestic Fixed Income Derivatives Transaction Log

### **SUMMARY OF LAST QUARTER'S ACTIVITY:**

#### **CONTRACTS IN USE:**

- 5-year Futures
- 10-year Futures
- Long Bond Futures
- Ultra-Long Futures
- Eurodollar Put

#### **STRATEGIES:**

- Used Ultra-Long, Long Bond and Ten-Year Futures to manage interest rate exposures in the 1-5 Gov't portfolio, the 5+ Gov't Portfolio and the Corporate portfolio and as part of the transition to the LPF Index.
- Rolled Ten-Year, Thirty-Year and Ultra Futures contracts in 5+ Gov't portfolio to replicate the duration profile of the index without using physical Treasury notes.
- Used Ultra-Long Bond Futures to offset the duration impact of a strategic overweight to the MBS portfolio.

#### **EFFICACY:**

- Futures positions performed as expected. The replication strategy produced returns similar to the LPF Government Index and the duration adjustment transactions produced the expected impact on interest rate sensitivity. The Eurodollar put option trade was held and still provides protection against a tightening of monetary policy and a widening in Eurodollar spreads.

### **PROPOSED STRATEGIES FOR CURRENT QUARTER:**

- Use Ultra-Long, Long Bond and Ten-Year Futures to manage interest rate exposures in the 1-5 Gov't portfolio, the 5+ Government Portfolio and the Corporate portfolio.
- Use Ultra-Long Bond Futures to offset the duration impact of a strategic overweight to the MBS portfolio.
- Use Ultra-Long, Long Bond and Ten-Year Futures along with cash equivalents to replicate the duration profile of the LPF Government Index without using physical Treasury notes.
- Employ Ultra-Long, Long Bond, Ten-Year and Five-Year Futures in the Corporate portfolio to offset the duration impact of timing differences in individual corporate bond trades.
- Buying out-of-the-money calls or puts on long and intermediate Treasuries to hedge big movements in rates.

# TCRS Currency Derivative Report

## Currency Forwards Activity Jesse Picunko, CFA

2012 4th Quarter Activity

**NO ACTIVITY**

---

TCRS MORTGAGE PORTFOLIO

END OF QUARTER MORTGAGE TBA POSITIONS

Jesse Picunko, CFA

	PRICE	PAR	MARKET	SETTLE	FIRM
	(\$million)	(\$million)	(\$million)		
15yr FN 3.0	104.78	20.00	20.96	JUL	C
30yr FN 3.5	105.10	7.00	7.36	JUL	BAML
30yr GN 3.5	106.98	45.00	48.14	JUL	CS
30yr GN 3.5	106.98	20.00	21.40	JUL	RBS
30yr GN 3.5	106.98	15.00	16.05	JUL	NOM
30yr GN 4.0	109.23	50.00	54.61	JUL	WFC
30yr GN 4.0	109.23	40.00	43.69	JUL	JEF
30yr GN 4.0	109.23	35.00	38.23	JUL	BARC
30yr GN 4.0	109.23	25.00	27.31	JUL	RBS
30yr GN 4.0	109.23	15.00	16.38	JUL	CRT
15yr FR 3.0	104.55	29.00	30.32	JUL	UBS
<b>Total</b>		<b>301.00</b>	<b>324.44</b>		

**By Firm  
(\$million)**

CRT	\$ 16.38
C	\$ 20.96
BAML	\$ 7.36
JEF	\$ 43.69
NOM	\$ 16.05
UBS	\$ 30.32
CS	\$ 48.14
WFC	\$ 54.61
BARC	\$ 38.23
RBS	\$ 48.70
	<b>\$ 324.44</b>

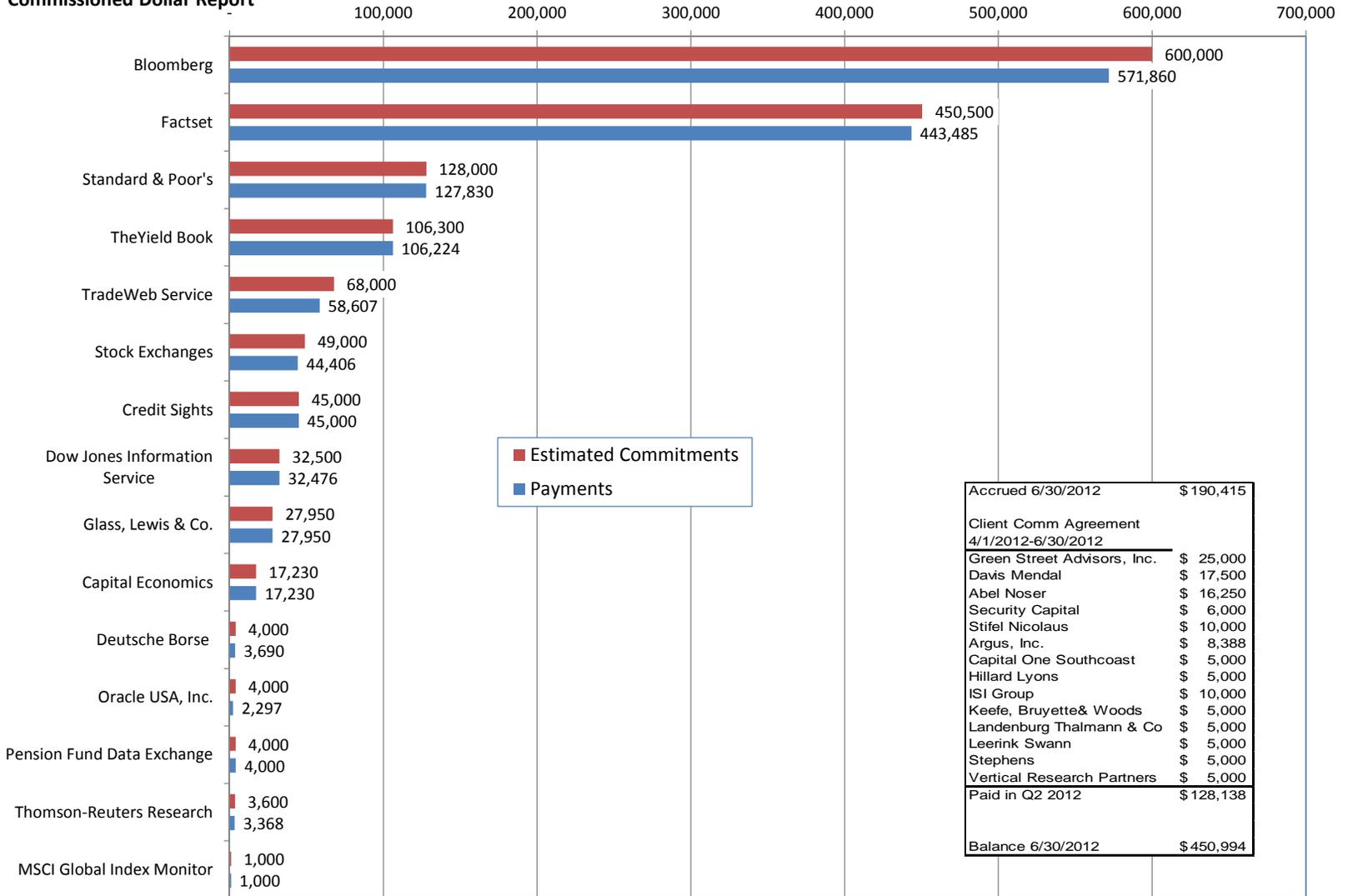
**OPERATIONS UPDATE**  
**Tim McClure, CTP**

TCRS continues to move forward with changes to the Operations area. As TCRS looks for ways to add value to the Fund, this is an area that offers some opportunity for efficiencies and technology upgrades.

Trading – Trade volume for the quarter was up slightly at 289 million shares valued at \$11 billion. Only 3% of the trades for the quarter were momentum trades, down from nearly 30% the previous quarter. With the large number of illiquid trades for the quarter, trading costs were slightly elevated. The cost for the quarter was 2.41 basis points versus VWAP, and the cost for the Abel Noser universe for similar trades was 1.56 basis points.

Trading Cost Analysis – The latest full quarter of time stamped data (April thru June 2012) has recently been reviewed. As the data that is received from Abel Noser becomes more granular and staff becomes more comfortable using the data, patterns are starting to emerge. In the very near future, recommendations will be made to management concerning trading strategies and firms that are being used.

**Commissioned Dollar Report**



■ Estimated Commitments  
■ Payments

Accrued 6/30/2012	\$ 190,415
Client Comm Agreement 4/1/2012-6/30/2012	
Green Street Advisors, Inc.	\$ 25,000
Davis Mendal	\$ 17,500
Abel Noser	\$ 16,250
Security Capital	\$ 6,000
Stifel Nicolaus	\$ 10,000
Argus, Inc.	\$ 8,388
Capital One Southcoast	\$ 5,000
Hillard Lyons	\$ 5,000
ISI Group	\$ 10,000
Keefe, Bruyette & Woods	\$ 5,000
Landenburg Thalmann & Co	\$ 5,000
Leerink Swann	\$ 5,000
Stephens	\$ 5,000
Vertical Research Partners	\$ 5,000
Paid in Q2 2012	\$ 128,138
Balance 6/30/2012	\$ 450,994