TEACHER RETIREMENT SYSTEM OF TEXAS MEETING
BOARD OF TRUSTEES
AND
INVESTMENT MANAGEMENT COMMITTEE

(Committee Chair and Members are Subject to Change at the September Board Meeting - Mr. Barth, Committee Chair; Mr. Colonnetta; Mr. Kelly; Mr. McDonald; & Ms. Sissney, Committee Members)

AGENDA

September 13, 2012 – 9:30 a.m.
TRS East Building, 5th Floor, Boardroom

1. Consider the approval of the proposed minutes of the July 20, 2012 committee meeting – Committee Chair.

2. Review of the External Public Markets Portfolio – Dale West.

NOTE: The Board of Trustees (Board) of the Teacher Retirement System of Texas will not consider or act upon any item before the Investment Management Committee (Committee) at this meeting of the Committee. This meeting is not a regular meeting of the Board. However, because a quorum of the Board may attend the Committee meeting, the meeting of the Committee is also being posted as a meeting of the Board out of an abundance of caution.

Tab 1

Minutes of the Investment Management Committee

July 20, 2012

The Investment Management Committee of the Board of Trustees of the Teacher Retirement System of Texas met on July 20, 2012 in the boardroom located on the Fifth Floor of the TRS East Building offices at 1000 Red River Street, Austin, Texas. The following committee members were present:

Todd Barth, Chair
Joe Colonnetta
David Kelly
Eric McDonald
Nanette Sissney

A quorum of the committee was present. Others present:

Karen Charleston, TRS Trustee
Anita Palmer, TRS Trustee
Chris Moss, TRS Trustee
Brian Guthrie, TRS
Britt Harris, TRS
Ken Welch, TRS
Jerry Albright, TRS
Sylvia Bell, TRS
Dale West, TRS
Janis Hydak, TRS
Jase Auby, TRS
Ashley Baum, TRS
David Veal, TRS
Patricia Cantú, TRS
Sharon Toalson, TRS
Dennis Gold, TRS
Angela Vogeli, TRS
Denise Lopez, TRS
Lynn Lau, TRS
Hugh Ohn,TRS
Dinah Arce, TRS
Dan Herron, TRS
Michelle Bertram, TRS
Steve Huff, Fiduciary Counsel
Brady O'Connell, Hewitt EnnisKnupp
Steve Voss, Hewitt EnnisKnupp
Tathata Lohachitkul, Albourne
Ann Fickel, Texas Classroom Teachers Association

Mr. Barth called the meeting to order at 9:25 a.m.

1. Consider the approval of the proposed minutes of the June 7, 2012 committee meeting

On a motion by Mr. Kelly, seconded by Mr. McDonald, the committee approved the minutes of the June 17, 2012 meeting as presented.

2. Receive a review of external manager fees.

Mr. Albright provided an overview of the external manager and hedge fund programs. He recapped the legislation authorizing 30 percent of the trust for external managers and 10 percent for hedge funds. He stated that the external management program had been initiated with the Strategic Partnership Network (SPN), which helps the fund reach a broader spectrum of global investors and reduce cost by allowing TRS to use its internal resources more effectively. Mr. Albright stated that the external management strategies had added about $500 million to the total fund, net of management fees. He noted that the Cost Effectiveness Analysis completed by CEM Benchmarking indicates that TRS aggregate costs were below peer funds' average costs.

Mr. West profiled the SPN, external manager, and hedge fund programs. He stated that as of March 31, 2012 75 managers with a total of $37.630 billion were managing TRS assets in the public markets, and that TRS had used 28 percent of the 30 percent authorized allocation in the SPN and external manager programs. Responding to a question from Mr. Kelly, Mr. West clarified that the SPN and external manager programs are subject to the 30 percent legislative limit for external managers and the hedge fund program is subject to a separate mandate of 10 percent assigned to hedge funds.

Mr. West presented the Investment Division's manager compensation philosophy and advantages. He stated that the process of negotiating a fee with a public equity manager begins with establishing what would be a normal fee for that manager, given the size of TRS' proposed allocation and the expected net alpha for that account. After that, he said, based on the fulcrum rate schedule, the manager will only achieve the fee for performance if they achieve its target. He used an example to explain the fulcrum rate schedule on which the fees would be scaled down to a much lower fee for performance below the target and scaled up for performance above the target, to a defined cap. He noted that staff used a model developed by Hewitt EnnisKnupp (HEK) for evaluating the trade-off quantitatively. He noted that for the External Manager Portfolio, about 68 percent of the assets were under performance fee arrangements. He stated that with a focus on the long term, alpha is being measured on a three-year basis.

Mr. West highlighted TRS' advantages in fee negotiations, including its fund scale, innovative approach for performance fees, and internal management capability. Responding to a question from Mr. Kelly regarding the amount of saving resulted from adjusting the fees based on the fulcrum rate, Mr. West stated that the concept is to hedge to the underperformance by minimizing the damage from underperformance. Mr. O'Connell stated that it also acts as an incentive for managers to focus on adding value for TRS.

Mr. West presented the hedge fund compensation structure. He stated that hedge funds are paid against actual profits and they charge a higher management fee, typically at 2 percent, with a performance fee of 20 percent. Other elements, he said, include lockup agreements that require hedge fund investors to pay an extra fee if they redeem investments within a certain period, often one to three years; and a high water mark, which is a protection for hedge fund investors that measures profits for performance against the highest net asset value previously achieved by that particular hedge fund. Under the higher water mark, he said, a hedge fund would not receive performance pay until it has surpassed the highest prior value, or high water mark. He responded to Mr. Kelly that a new account only receives the management fee but no performance fee if they cannot surpass the original investment's value. Mr. Barth asked if the arrangement would encourage excessive risk-taking behavior. Mr. West responded that he had not found academic research on that issue but a hedge fund manager has an incentive to invest based on their optimum level of risk because they have a variety of investors. He noted that normally a fund will disappear if its value is well under its high-water mark because investors would lose the initial value of the high-water mark and remove themselves from the hedge fund. He confirmed for Mr. Barth that staff does review the amount hedge fund managers have in their fund to monitor their performance. He also confirmed for Mr. Kelly that staff has added new capital to managers who had good performance track records but might have lost assets due to withdrawals by other investors.

Mr. West reported the performance of the externally managed programs during the three-year period ending March 31, 2012. He stated that five externally managed programs (SPN, large cap, emerging markets, world equity, and hedge funds) had outperformed their benchmarks and added dollar value to the trust beyond what could have been achieved through index portfolios. He noted that the programs that had not yet had a three-year track record, including U.S. small cap and world equity managers, had outperformed over the first few months. The only program that had underperformed was Non-U.S. Developed Markets Portfolio, which had a negative track record in alpha terms. He noted that the programs had added a total of over $500 million after fees over the three-year period.

Mr. West presented a comparison of the fees paid at a typical level of performance and the actual fees paid for each external managed program over the 12-month period ending March 2012 based on the alpha achieved. He stated that the SPN program typically used a three-year long-term alpha for setting the performance fee schedule and that no data for peer comparisons was available because neither CEM nor Morningstar broke out tactical asset allocation strategy. He stated that the U.S. large and small cap programs would pay 58 basis points of fees for every one percent of alpha made, which is higher than the average peer fees. He noted that taking into account the $10 billion in U.S. equities that were managed internally would significantly reduce the average fee level. He reported that U.S. equities generated a realized alpha of 221 basis points over the three-year period. Concerning the underperformance of the non-US developed markets portfolio, he attributed it to the incentive fee paid to a regional manager that outperformed the benchmark of the weak Japanese market, and the larger negative alpha performance of individual managers in the same portfolio that brought down the alpha of the portfolio. Mr. West stated that both the emerging market and the world equity programs compared favorably with the peers. He also reported that the hedge fund management fees were in line with those of TRS peer funds. He noted that hedge funds underperformed in 2011, which led to 16 out of the 35 funds performing below their high-water marks and receiving only the management fee. He concluded that over the three-year period, both the long-oriented External Manager Portfolio and the Hedge Fund Portfolio paid 77 percent of fee dollars to managers that outperformed.

Responding to a question from Mr. Colonnetta regarding the outlook of the hedge fund strategy, Mr. Harris stated that hedge funds are primarily for diversification purposes and during the three-year period being reported, the equity market had outperformed at about 20 percent per year, which made the hedge fund diversification strategy unnecessary. He stated that the hedge fund strategy would be needed again as the stock market would slow down eventually. He concurred with Mr. Colonnetta that average hedge fund managers had not outperformed during this period and staff would continue to carefully select those with performance potential.

Before the meeting adjourned, Mr. Harris presented a book *Devil Take the Hindmost* by Edward Chancellor to the committee. He stated that Mr. Chancellor would give a presentation at the September board meeting.

The meeting adjourned at 10:10 a.m.

Tab 2

External Public Markets

Dale West
Managing Director
September 2012

Agenda

1. Performance and Investment Summary
2. Update on 2011 Priorities
3. External Public Markets Team and Processes
4. Environment for Active Management
5. Update on Hedge Fund Program
6. Exit from Dislocated Credit Investments
7. 2012 Priorities

TRS

1. Executive Summary

As of June 30, 2012

EXTERNAL PUBLIC MARKETS					
Total Assets ($ millions)	**Percent of Trust**	**1-Year Return**	**3-Year Return**	**1-Year Alpha**	**3-Year Alpha**
$31,020	28.5%	-5.4%	10.7%	-0.9%	2.0%

PERFORMANCE						
Program	**1-Year Return**	**3-Year Return**	**1-Year Alpha**	**3-Year Alpha**	**1-Year TUCS Peer Quartile**	**3-Year TUCS Peer Quartile**
US Large Cap	3.3%	16.6%	-1.8%	0.2%	3rd	2nd
US Small Cap	0.1%	-	2.2%	-	2nd	-
Non-US Developed	-14.6%	5.3%	-0.4%	-0.9%	4th	4th
Emerging Markets	-15.3%	10.5%	0.7%	0.8%	2nd	3rd
World Equity	-5.2%	-	1.3%	-	2nd	-
Stable Value Hedge Funds	-2.6%	3.6%	-4.3%	1.5%		
Directional Hedge Funds[1]	3.0%	-	2.4%	-		
Other Absolute Return	1.6%	15.0%	-0.9%	12.7%		

ASSETS ($ MILLIONS)					
Program	**June 2011 Assets**	**Net Cash Flows**	**June 2012 Assets**	**June 2012 % of Trust**	**Long-Term Target % of Trust**
External Managers	***$21,670***	***$1,787***	***$22,585***	***20.7%***	***22.5%***
US Large Cap	$7,290	-$586	$7,135	6.6%	6.2%
US Small Cap	$1,150	$500	$1,675	1.5%	1.6%
Non-US Developed	$4,040	$650	$4,063	3.7%	4.6%
Emerging Markets	$6,380	$441	$6,139	5.6%	6.1%
World Equity	$2,810	$782	$3,573	3.3%	4.0%
Hedge Funds[2]	***$4,258***	***$2,949***	***$7,165***	***6.6%***	***9.0%***
Stable Value	$4,258	-$282	$3,862	3.5%	4.0%
Directional	-	$3,231	$3,303	3.0%	5.0%
Other Absolute Return[3]	**$2,611**	**-$1,299**	**$1,270**	**1.2%**	**0.0%**

Source: State Street Bank All 3-year performance annualized

[1] Directional Hedge Fund return and alpha are since October 2011 inception

[2] Funds valued at $1,705mm moved from the Stable Value to the Directional portfolio on October 1, 2011

[3] Net Cash Flows includes funds valued at $678mm that moved to the Private Equity portfolio on October 1, 2011

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1. Investment Highlights

- Build-out of long-oriented global equity and hedge fund portfolios
  - $4.7 billion net funded, 13 new relationships
  - Five manager relationships wound down
- Continued exit from dislocated credit portfolio
  - Sold $640 million in Residential Mortgage-Backed Securities (RMBS)
- Launched Emerging Manager program in public markets
  - $112 million invested, 7 managers approved in long-oriented global equity program
  - Three managers approved in hedge fund program (as of July 31)
- Named #6 among the 30 most influential investors and advisors in hedge funds by industry publication *HFMWeek*

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2. External Public Markets Team

Update on 2011 Top Priorities

2011 Goals	Actual	Explanation
Generating alpha across all Portfolios	• 3-year alpha achieved in US Large Cap, Emerging Markets, Stable Value Hedge Funds, and Dislocated Credit • 3-year alpha not achieved in the Non-US Developed program	See table A
Implementing increased Hedge Fund allocation	• Nine new managers approved by IIC and funded through June 30 • Four manager relationships wound down • Directional Portfolio has returned 3.0% since October 2011 inception, ahead of HFRI Fund of Funds Composite returns of 0.6%	See table B
Completing investment of External Manager Portfolio	• US Large Cap, US Small Cap, Non-US Developed, and Emerging Markets are complete as of July 2012 • Seeking one value manager for the World Equity portfolio, tentatively scheduled for IIC in November	See table C
Continuing to improve External Manager program through top quality manager relationships and risk control	• Four new managers approved by IIC and funded through June 30 • Two new managers approved by IIC in July • Development of enhanced portfolio valuation metrics (new Trend Deviation)	• Improved valuation and decision process
Managing the exit from Dislocated Credit Portfolio	• RMBS a top performing market over last 3 years providing ideal exit point • $640 million sold from RMBS	See table D

Table A

As of June 30, 2012	1-Year Alpha	3-Year Alpha
US Large Cap	-1.8%	0.2%
US Small Cap	2.2%	--
Non-US Developed	-0.4%	-0.9%
Emerging Markets	0.7%	0.8%
World Equity	1.3%	--
Stable Value Hedge Funds	-4.3%	1.5%
Other Absolute Return	-0.9%	12.7%

Table B

	June 2011	June 2012	Change
Hedge Fund Ongoing Relationships	34	39	5
Hedge Fund Assets ($ millions)	$4,258	$7,165	$2,907
Percent of Trust	3.9%	6.6%	2.7%

Table C

As of July 31, 2012	Target Relationships	Approved Relationships	Funded Relationships
US Large Cap	9	10	10
US Small Cap	7	7	6
Non-US Developed	6	6	6
Emerging Markets	8	8	7
World Equity	5	4	4

Table D

	Non-Agency RMBS[1]	MSCI USA	Long Treasuries
3-Year Return	21.0%	16.5%	14.7%

Source: State Street Bank

Note: All 3-year performance annualized

[1] Source: Amherst Securities Group LP

3. External Public Markets Group

EXTERNAL PUBLIC MARKETS

Dale West, CFA (MBA, Stanford)

CONSULTING PARTNERS
Hewitt EnnisKnupp
Albourne
Investcorp
Rock Creek Group

EXTERNAL MANAGER PORTFOLIO (Long-oriented Equity)	HEDGE FUNDS	OTHER ABSOLUTE RETURN
Susanne Gealy, CAIA (MBA, U Chicago)	Brad Gilbert, CFA, CAIA (BBA, UT Austin)	Katy Hoffman (MBA, Vanderbilt)
Rusty Guinn (BSE, Wharton)	Todd Centurino, CFA (MBA, Rice)	
Lulu Llano, CFA (BBA, UT Austin)	Rachel Clark (BA, UT Austin)	
Steven Wilson (MBA, Rice)		
Mikhael Rawls (AB, Harvard)		
Scott Gonsoulin (MS, Finance, Texas A&M)		

ANALYTICS GROUP	RELATIONSHIP MANAGEMENT / TEAM SUPPORT
Joe Tannehill, CFA (MBA, UNC Chapel Hill)	Jon Klekman (BA, SUNY Binghamton)
Kyle Schmidt (MBA, SMU)	
Patty Steinwedell (BA, North Carolina State)	
Courtney Dunn (BBA, UT San Antonio)	

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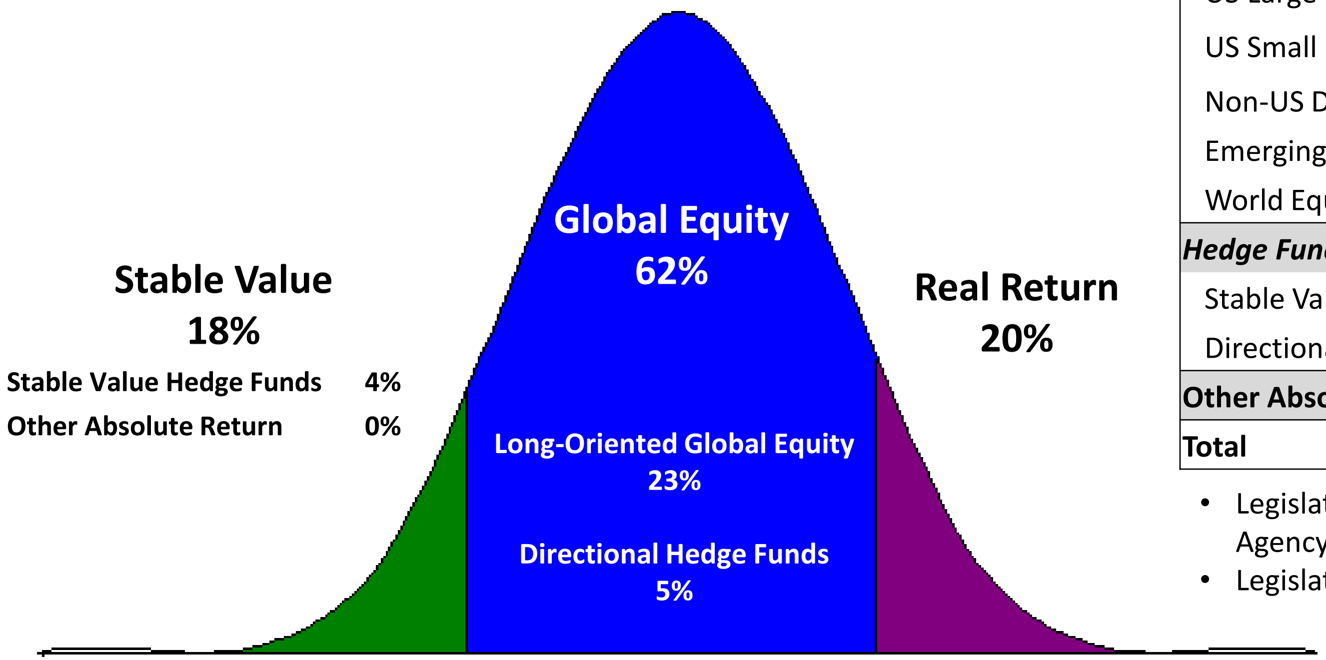
3. External Public Markets Portfolio Role



Program *As of June 30, 2012*	Percent of Trust	Long-Term Target
External Managers	***20.7%***	***22.5%***
US Large Cap	6.6%	6.2%
US Small Cap	1.5%	1.6%
Non-US Developed	3.7%	4.6%
Emerging Markets	5.6%	6.1%
World Equity	3.3%	4.0%
Hedge Funds	***6.6%***	***9.0%***
Stable Value	3.5%	4.0%
Directional	3.0%	5.0%
Other Absolute Return	**1.2%**	**0.0%**
Total	**28.5%**	**31.5%**

- Legislative cap for External Managers with Agency Agreements is 30%
- Legislative cap for Hedge Funds is 10%

Source: State Street Bank
Note: Stable Value Hedge Fund has an intermediate target of 3.5% and Directional Hedge Fund has a 4.5% intermediate target

3. External Public Critical Processes

Strategic Planning
1. Review asset allocation
2. Evaluate Premier List needs

Premier List Development
1. Initial manager proposal
2. Perform minimum criteria analysis
3. Collaborative review by TRS, Hewitt EnnisKnupp & Albourne
4. Add/reject proposed portfolio

Alignment Analysis (Legal & Compensation)
1. Preliminary review of legal terms
2. Preliminary review of financial terms

Certification Process
1. Onsite visit conducted
2. Receive/review consultant report
3. Evaluate 9 critical areas
4. Prepare certification report

Risk Analysis
1. Quantitative analysis
2. Review of current portfolio (characteristics & valuations)
3. Develop optimized asset class structure

Final Fit Analysis
1. “Alpha Stacking” demonstrated
2. Determine initial and optimal investment size

Pre-IIC Negotiations
1. Manager fee negotiated
2. Near-final terms negotiated

IIC Review and Approval
1. Investments presented to IIC for approval
2. External consultant provides prudence letter
3. Additional requirements met as needed

Final Legal Review
1. Finalize terms
2. Contracts signed

Funding Execution
1. Coordinate with Investment Operations, Asset Allocation & Legal

Portfolio Monitoring
1. Monitor manager in key areas
2. Investigate alarms with Asset Allocation

Portfolio Management
1. Adjust portfolio to maintain optimal risk
2. Implement portfolio decisions

Reporting
1. Generate Board, IIC and policy reporting
2. Generate ad hoc reporting as needed

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3. Investment Process

Certification Parameters

Organization	Investment Process	Performance	Portfolio Exposure
History	Benchmark	Beta	Country
Investment Philosophy	Objective	Correlation	Market Capitalization
Culture	Style	CUSUM Ratio	Policy Violations
Competitive Advantage	Region	Environmental Analysis	Fund Positions
Key Personnel	Instruments	Fund Track Record	
Professional Team	Idea Generation	Hit Ratio	
Ownership	Portfolio Construction	Information Ratio	
Compensation Philosophy	Strategy Implementation and Research	Maximum Drawdown	
Conflicts of Interest	Portfolio Concentration	Performance	
Employee Turnover	Portfolio Monitoring	Portfolio Volatility	
Succession Plan	Hedging	Up/Down Capture	
Firm Infrastructure		Sharpe Ratio	
Long-term Solvency			
Firm Assets			
Target Assets			
Subscription Capacity			
Client Base			
Placement Agent			

Risk Management	Diversification Impact	Fund Terms	Operation Check	Transparency
Market Risk Factors	Versus Peers	Fees	Pricing	Transparency Level
Leverage	Versus Asset Class	Hurdle Rate	Settlement Process	Transparency Frequency
Drawdown History	Versus Internal	Lock Up Period	Back Office	
Liquidity	Versus Fund	Early Redemption Penalty	Prime Brokers	
Risk Management Systems		High Water Mark	Administrator	
Audit History		Redemption Gate	Counterparty Exposure	
		Redemption Notice	Legal Resources	
		Redemption Period	Consultant Report	
		Subscription Period	Reference Check	
		Hedge Fund Test	Background Check	

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3. Investment Process

Evaluating Underperforming Managers

- Detecting underperformance
  - Sustained underperformance
  - Performance below expected level
  - CUSUM signal
  - Trend deviation valuation alarm
  - Organizational change
- Re-underwriting
- Decision

3. Re-underwriting and Decision Process

- The aim of this process is to answer the question *"Can we expect outperformance from this manager in the future?"*
- Risk Team cooperation
- On-site visits
- Decisions documented for future analysis
  - Since 2010, our team has discontinued 12 relationships in the Hedge Fund and Long-Oriented Equity portfolios
  - 83% of these firms underperformed their benchmarks subsequently or closed their firm

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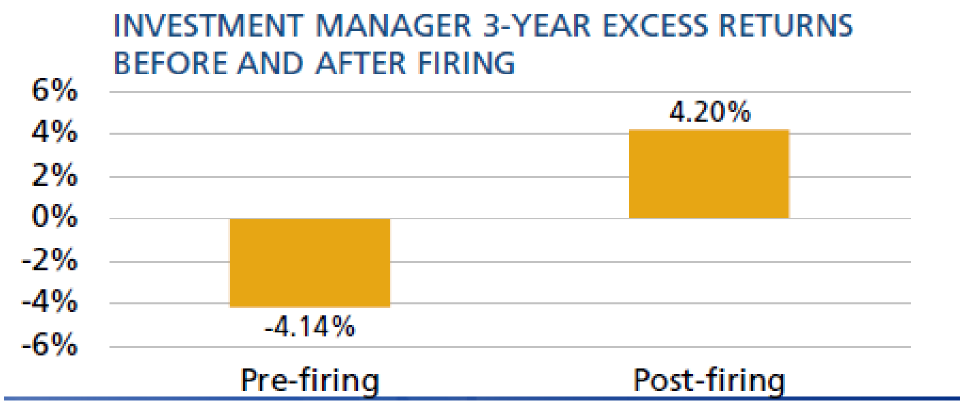
3. Institutions Typically Make Bad Firing Decisions

- Institutions tend to fire managers after a period of poor performance (often three years)
- They systematically miss positive performance from subsequent mean reversion
- *Journal of Finance* article documents finding:



Source: Goyal, Amit, and Sunil Wahal. "The Selection and Termination of Investment Management Firms by Plan Sponsors," Journal of Finance *63, no. 4 (2008): 1805-1847.*

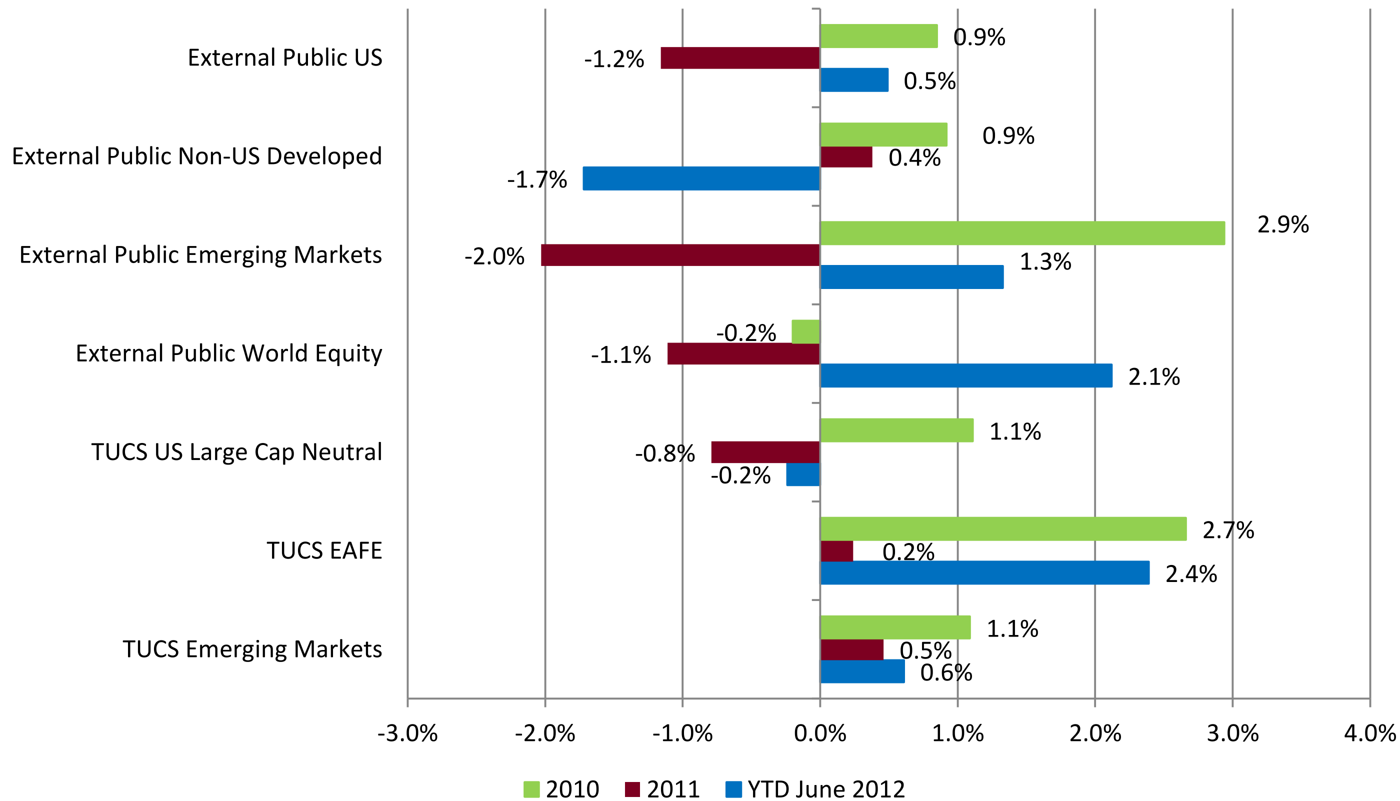
3. Research on Manager Performance Cycles

- External Public and the Risk Team conducted proprietary research on the cyclicality of manager returns
  - 25 years of institutional investment manager data
- Findings: Manager performance *persists* over the short term and *reverts* over the long term.
  - The Process: Combine 5-year and 1-year Information Ratios
- Signals:
  - Underweight managers with extreme long term <u>outperformance</u> and negative recent performance
  - Overweight managers with long term <u>underperformance</u> and positive recent performance, where there is confidence in the underlying organization and process

4. Active Managers Performed Poorly in 2011

- Underperformance was broad based among equity managers in 2011
- In most cases the trend has reversed in 2012

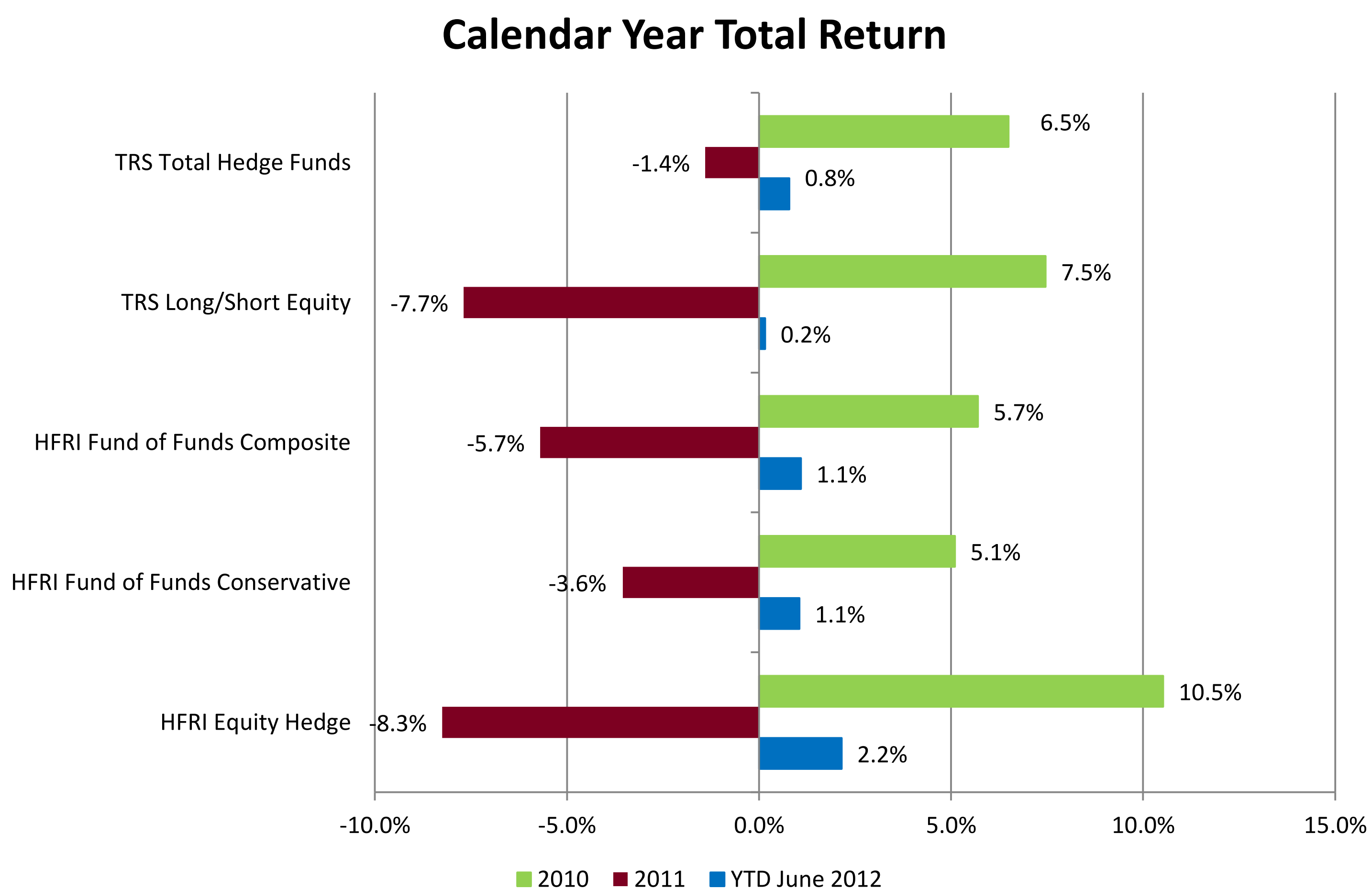
Calendar Year Excess Return



Source: State Street Bank, Wilshire TUCS™

4. Hedge Funds Returns Impacted Similarly

- Hedge Funds, especially equity-based strategies, show a similar pattern



Source: State Street Bank, Hedge Fund Research Inc.
Note: The TRS Total Hedge Fund Portfolio includes both the directional and stable value portfolios

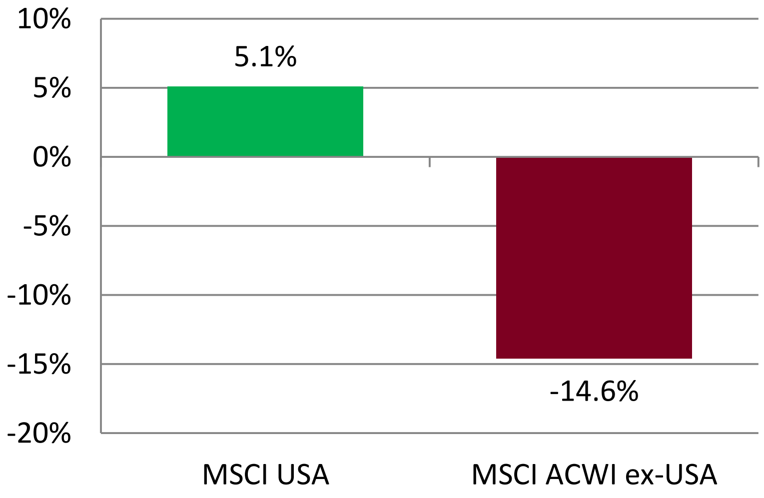
4. What Drove Returns for Equity Managers?

- Often only a few factors drive equity market returns – this has been especially true over the last 12 months, when three key exposures mattered
  - Fear of Europe exposure
  - Fear of market risk and volatility
  - Commodity weakness from: China slowdown, a glut of energy supply and a mild winter

- **US vs. The World:** US outperformed the rest of the world by nearly 20%
- **Investors vs. Their Shadows:** Investors have fled from all types of risk toward safety
  - Fear-driven markets have punished companies preferred by stock pickers and rewarded stability
- **Increasing Energy Supply vs. Weaker Demand:** Even in the US, energy stocks underperformed by 15.5% over this period

US Equities vs. Rest of the World

Trailing 1-Year Total Return as of June 30, 2012



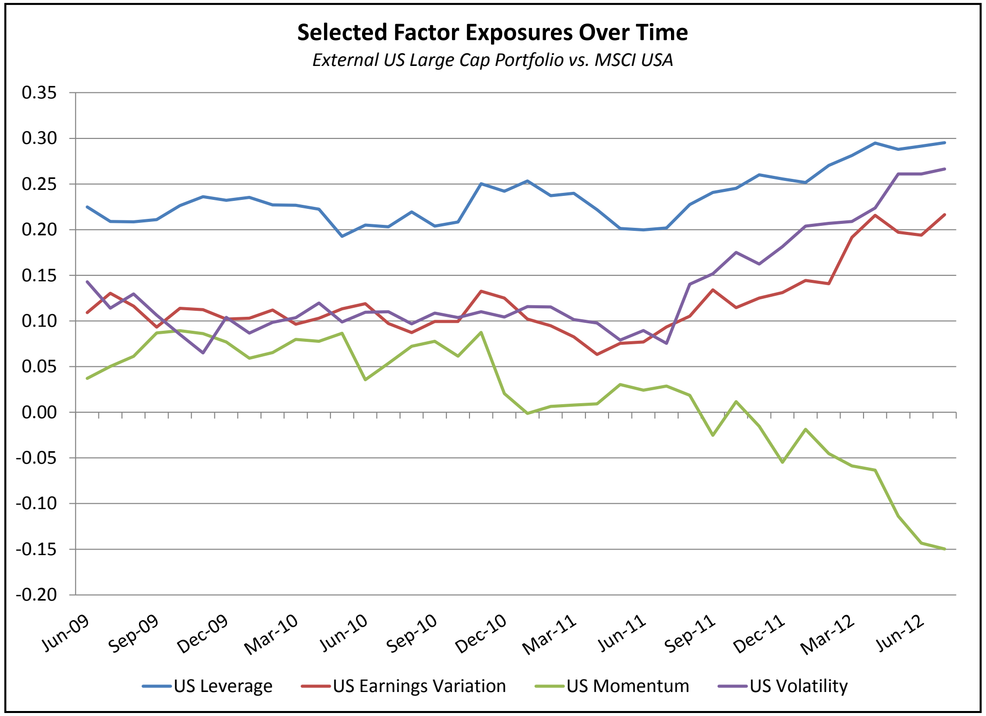
Source: Factset

4. How Are External Managers Positioning Themselves?

- TRS External Managers are currently positioning against recent trends
  - Decreasing exposure to Momentum: Buying stocks that the market has not liked lately
  - Increasing exposure to Volatility and Earnings Variation: Buying companies with more variable stock prices or profits
  - Increasing exposure to Leverage: Buying companies with more debt

- What might boost this portfolio?
  - Investors decide that very defensive, high yielding stocks are too expensive
  - Investors improve their outlook for the US and global economy
  - Actual economic improvement

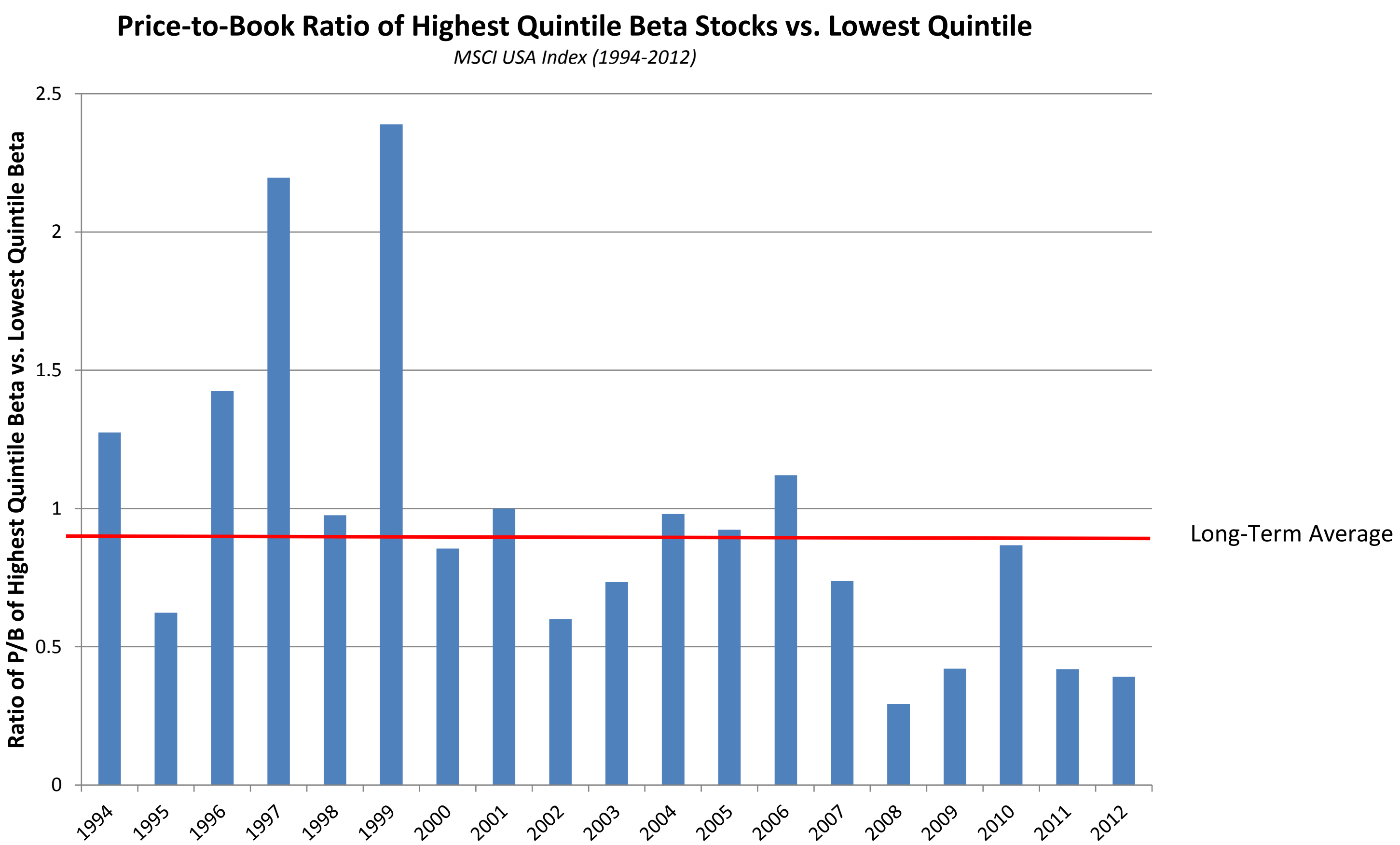
- What might hurt this portfolio?
  - Euro collapse
  - Negative surprise on US economy
  - Negative market reaction to US political stalemate



Source: Factset

4. Market-Sensitive Stocks are Historically Cheap

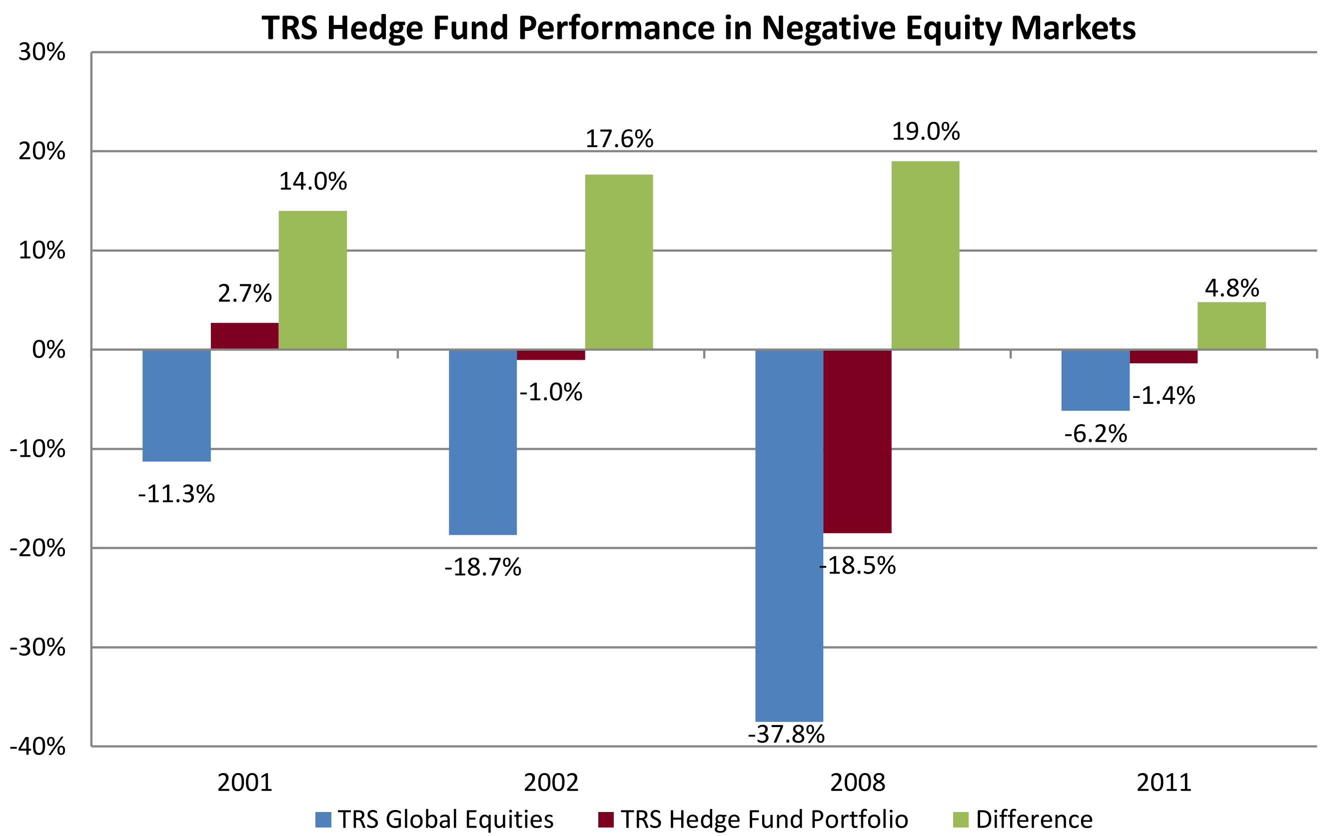
- The positioning of External Managers reflects the historical cheapness of market-sensitive stocks



Source: Factset

5. Role of Hedge Funds at TRS

- Expected to outperform Treasuries on a long-term basis going forward
- Greatest Trust impact in down markets for equities



Source: State Street Bank

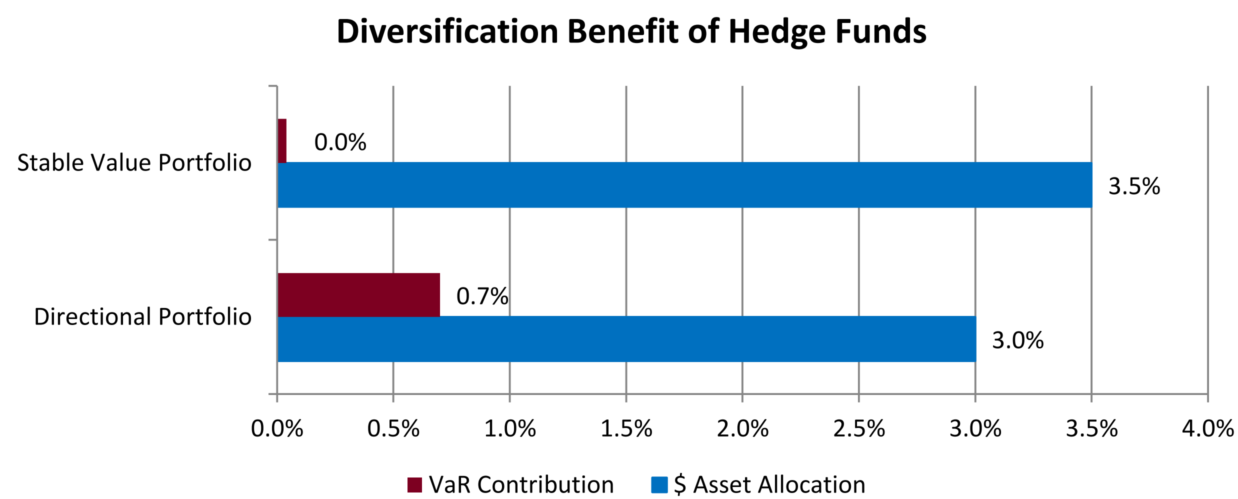
Note: TRS Hedge Fund Portfolio includes both the directional and stable value portfolios

5. Long-term Perspective on Hedge Funds at TRS

- Over the past ten years, the TRS Hedge Fund Portfolio has generated approximately 77% of the return of TRS equities with only 31% of the volatility

ANNUALIZED PERFORMANCE AS OF 6/30/2012				
	5-Year Return	**10-Year Return**	**10-Year Volatility**	**10-Year Sharpe Ratio**
TRS Hedge Fund Portfolio	-0.2%	4.6%	4.9%	0.6
TRS Global Equities	-1.3%	6.0%	15.8%	0.3

- Hedge funds have continued to provide an efficient source of diversification for the Trust

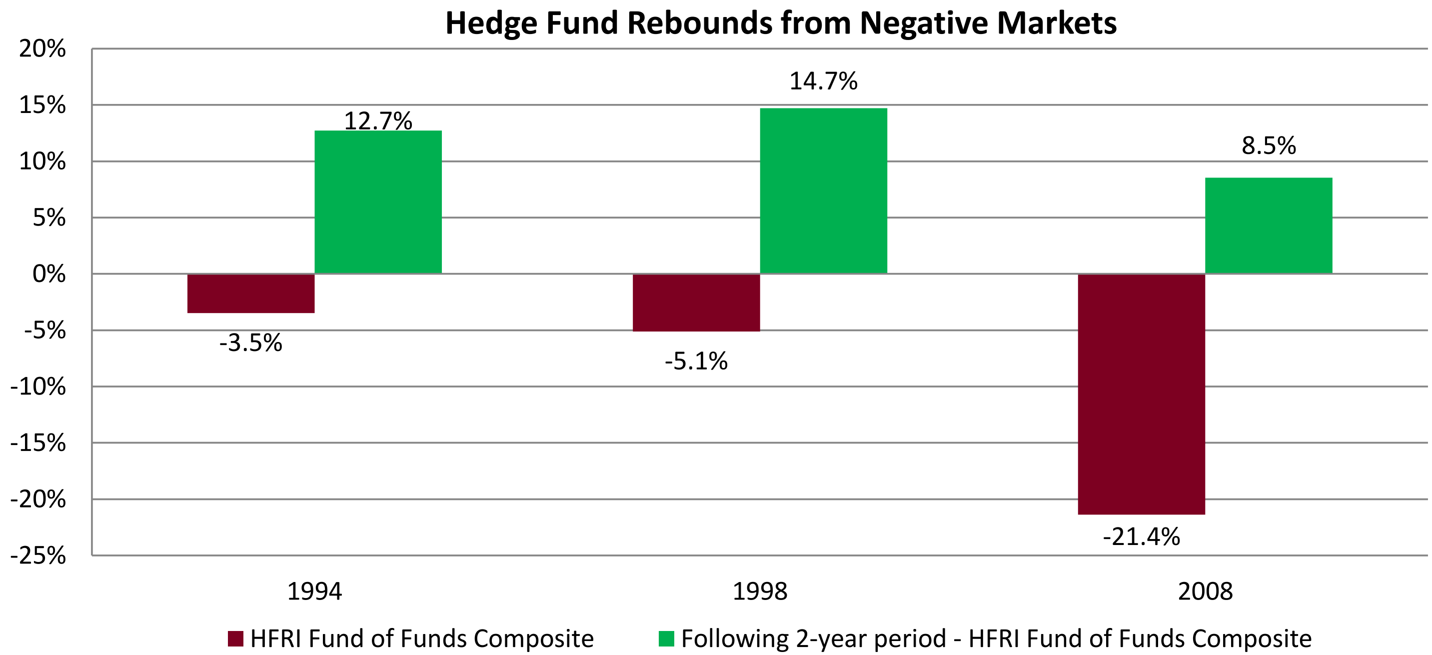


Source: State Street Bank

Note: The TRS Hedge Fund Portfolio includes both the directional and stable value portfolios

5. Hedge Fund Rebounds from Negative Markets

- 2011 was a disappointing year for the entire hedge fund industry
- Since 1990, the hedge fund industry has produced negative returns in three other years
- In the two years immediately following these periods, the hedge fund industry has produced positive returns



All 2-year performance annualized

Source: Hedge Fund Research Inc.

5. Hedge Fund Update

- In 2011, the Texas Legislature approved an increase in the limit to hedge funds from 5% to 10% of Trust assets
- TRS increased the target allocation from 4% to 9% and initiated new Directional Hedge Fund in October 2011

Stable Value Portfolio	Directional Portfolio
Stable Value Investment Objectives (4%)	Global Equity Investment Objective (5%)
▪ Focus on absolute return hedge funds	▪ Focus on equity and market sensitive hedge funds
▪ Core strategies have low to negative market sensitivity	▪ Core strategies have moderate market sensitivity, lower volatility than equities
▪ Expected to have positive returns when markets are down	▪ Expected to outperform equities when markets are down, but will underperform strong markets
▪ Expected to outperform US Treasuries over the long term	▪ Expected to outperform US Treasuries over the long term
▪ HFRI Fund of Funds Conservative benchmark with target tracking error of 400 bps	▪ HFRI Fund of Funds Composite benchmark with target tracking error of 600 bps

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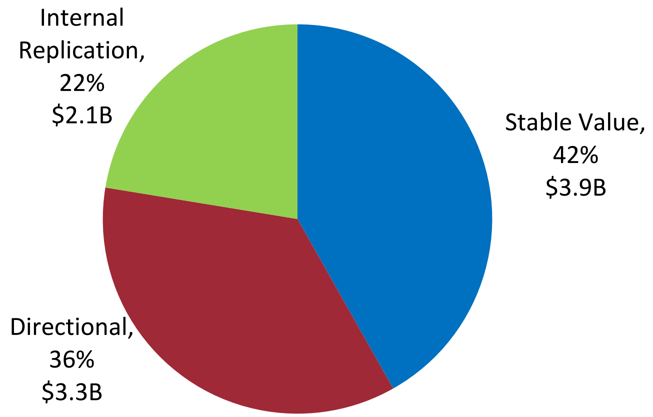
5. Hedge Fund Expansion

- Expansion is ahead of the timeline presented last year
  - Nearly $3 billion allocated to existing and new hedge funds
  - Nine new managers approved and funded
  - Over 80% complete as of June 30 and on target for 90% completion by year-end

TRS Hedge Fund Allocation
As of June 30, 2012



Source: State Street Bank

5. New Hedge Fund Strategies

- Hedge Fund Replication
  - Internal – Successfully launched hedge fund replication strategy for Directional Portfolio
    - Goal is to minimize Trust risk while building out portfolio
    - Returned 7.6% since inception vs. 0.6% for HFRI Fund of Funds Composite benchmark
  - External – Passive Hedge Fund strategy replication for Stable Value Portfolio
- Hedge Fund Seeding
  - Enhanced returns via general partner interest
  - Capture current supply / demand imbalance
- Risk Parity
  - Trust research and development on risk balanced portfolios

TRS

6. Exit From Dislocated Credit Investments

- Final stages of liquidating this opportunistic investment
- Yield-hungry investors drove up prices in Non-Agency RMBS, giving TRS an ideal exit point as market normalizes
- Program produced nearly $1 billion of profits on investments made during the financial crisis
- Multiple cross-functional working groups at TRS continually evaluating new potential dislocations including:
    - Single Family Residential Housing
    - Distressed Assets
    - European Bank Deleveraging

TRS

7. 2012 Priorities

- Generating alpha across all portfolios
- Providing diversification for the Trust with our Hedge Fund investments
- Continuing the integration and cooperation with other IMD teams
  - Private Equity and Internal Public Markets in Global Equity
  - Stable Value
- Completing public markets Emerging Manager program

TRS

Appendix

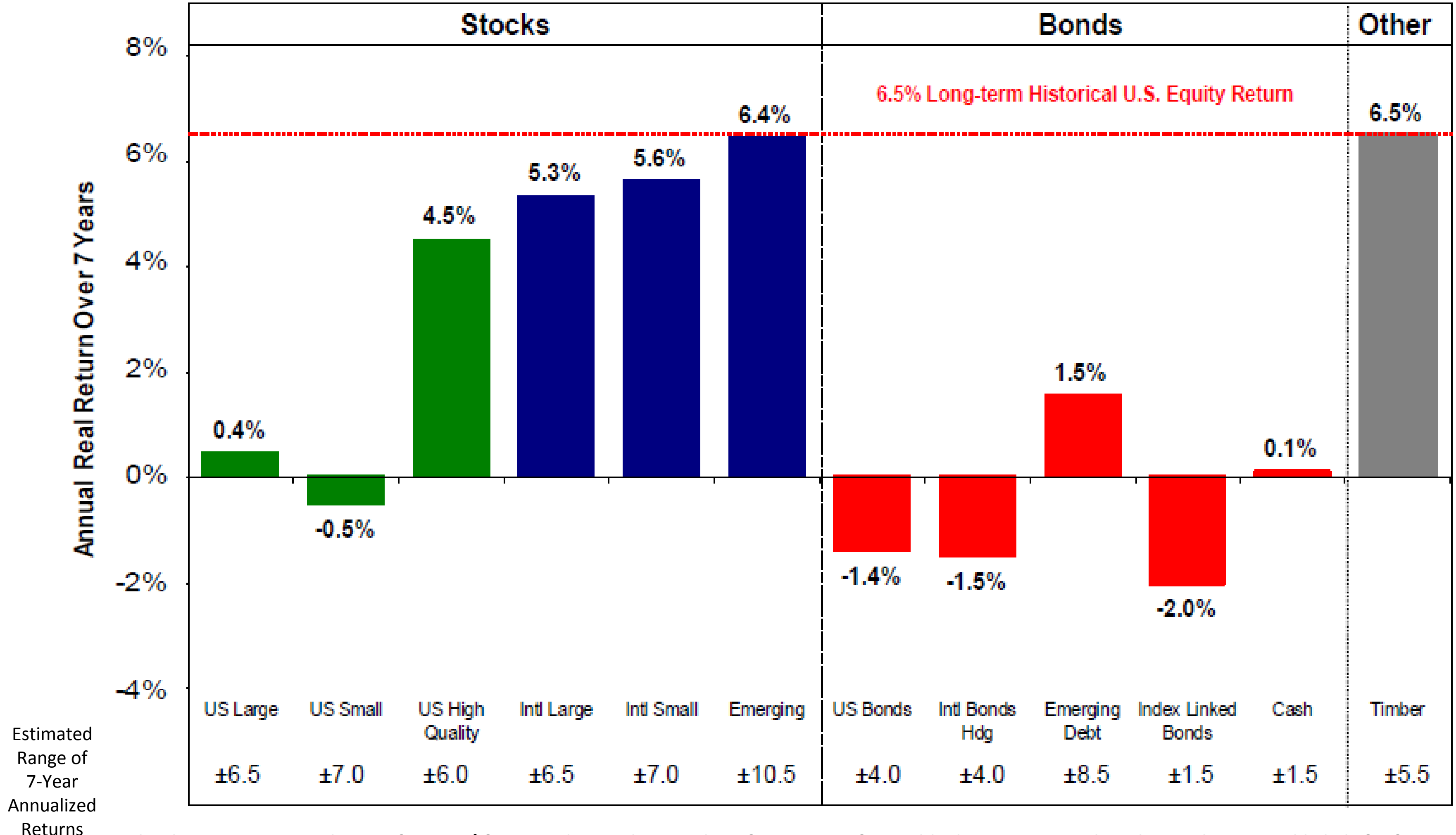
Glossary of Investment Terms

- ***Alpha:*** a portfolio's excess return compared to an appropriate benchmark.
- ***Beta:*** a measure of an asset's price sensitivity to moves in the overall market. Beta depends on the strength of the correlation between an asset's return and the market's return, and on the ratio of the asset's volatility to that of the overall market. A beta of 1 indicates that the asset's price will tend to move with the market. A beta of greater than 1 indicates that the asset's price will be more volatile than the market.
- ***CUSUM Signal*****:** a mathematical quality control signal originally developed for evaluating manufacturing processes. It calculates the *cumulative sum* of measured defects (in the case of an investment manager, negative information ratios) to detect a problem in a process more quickly than traditional statistical sampling.
- ***Factor:*** a specific characteristic of a portfolio that explains some part of its returns. Examples of factors include exposures to various industries, countries and currencies, or to specific fundamental characteristics such as cheapness (value) or recent price increases (momentum).
- ***Information Ratio*****:** a measure of risk-adjusted performance for a manager that tracks a benchmark. It is calculated as the ratio of the manager's excess return to the manager's tracking error. In general, an information ratio of 0.3 is considered good while 0.5 or above is considered very good.
- ***Residential Mortgage-Backed Security (RMBS):*** a bond where principal and interest payments are determined by payments on a pool of mortgages on residential housing.
- ***Sharpe Ratio*****:** a measure of risk-adjusted performance. It is the ratio of an asset's excess return above a risk-free rate (short-term government bonds) to the asset's volatility as measured by standard deviation of returns. Over the very long term, risky assets tend to produce Sharpe ratios of 0.2 to 0.3.
- ***Tracking Error*****:** a measure of how closely a portfolio tracks a particular benchmark. It is calculated as the standard deviation of return differences between the portfolio and benchmark, and is usually stated as an annualized figure. The term comes from the index fund industry, where deviation from the returns of the benchmark was literally an error. A typical highly active manager will tend to have a "tracking error" of 5% or above.
- ***Trend Deviation Signal*****:** a portfolio alarm that compares a manager's information ratio over various periods to certain expected normal levels. Based on the concept of mean reversion, large deviations from normal may indicate a reversal in performance trends.

TRS

GMO 7-Year Asset Class Return Forecasts

As of June 30, 2012



The chart represents real return forecasts[1] for several asset classes. These forecasts are forward-looking statements based upon the reasonable beliefs of GMO and are not a guarantee of future performance. Actual results may differ materially from the forecasts above

1 Long-term inflation assumption: 2.5% per year

Source: GMO (reprinted with permission)

Delegation Authority Detail

As of June 30, 2012

External Managers	# of Portfolios			Assets ($ billion)			Percentage of Trust		
	IMA	LP	Total	IMA	LP	Total	IMA	LP	Total
US Large Cap	8	2	10	5.9	1.3	7.1	5.4%	1.2%	6.6%
US Small Cap	4	2	6	1.0	0.6	1.7	1.0%	0.6%	1.5%
Non-US Developed	5	2	7	2.6	1.4	4.1	2.4%	1.3%	3.7%
Emerging Markets	6	1	7	5.2	0.8	5.9	4.7%	0.7%	5.4%
World Equity	4	-	4	3.6	-	3.6	3.3%	0.0%	3.3%
Total Equity	**27**	**7**	**34**	**18.3**	**4.1**	**22.4**	**16.8%**	**3.8%**	**20.5%**
Credit Strategies	**1**	**5**	**6**	**0.4**	**0.9**	**1.3**	**0.4%**	**0.8%**	**1.2%**
Strategic Partnerships	**5**		**5**	**5.4**		**5.4**	**4.9%**		**4.9%**
Other	**2**		**2**	**0.3**		**0.3**	**0.2%**		**0.2%**
Totals	**35**	**12**	**47**	**24.3**	**5.0**	**29.3**	**22.3%**	**4.6%**	**26.9%**

- 22.3% of the 30% Agency Agreement authority is currently utilized

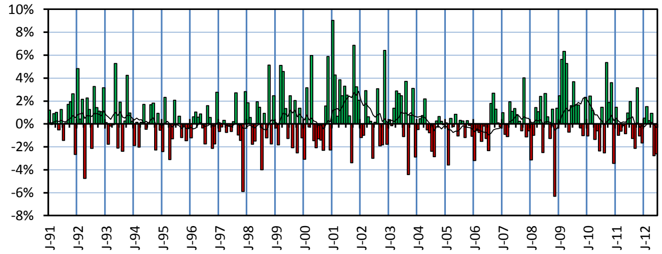
TRS

Statistical Tracking And Reporting (STAR) System

Asset 1 vs. Russell 1000 Value Index Total Return

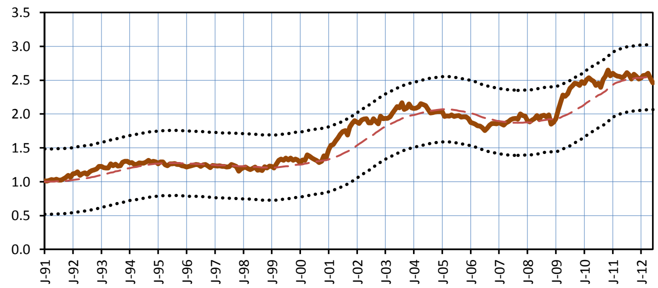
Monthly Data from 1/91 to 6/12

Monthly Excess Returns



Avg. Monthly Excess Returns: 0.38%

Trend Deviation: Relative Strength v Benchmark



Avg. Tracking Error: 7.93%

Valuation Model: Undervalued (3) - Downward Trend

Overall Performance (Since Inception 1/31/91)

Cumulative Performance:

Portfolio	1,730.30%	Periods	258
Benchmark	643.88%	R-Squared	78.91%
Excess Return	1,086.42%	Tracking Error	7.93%

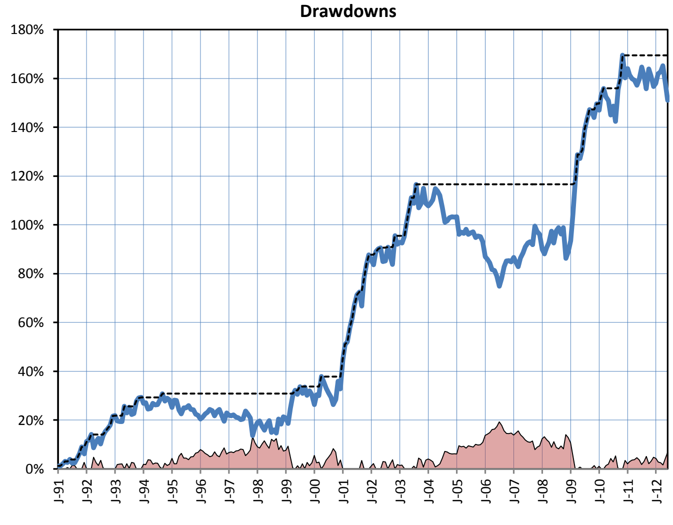
Annualized Performance:

	Portfolio	B'mark	Diff	Ex. Ret.	Risk Free
Return	14.48%	9.78%	4.69%	4.37%	3.31%
St. Dev.	17.24%	14.83%	2.42%	7.93%	0.58%
Best Month	16.00%	12.20%	9.05%	9.05%	0.57%
Worst Month	(16.02%)	(17.31%)	(6.33%)	(6.33%)	0.00%
Best 12 Mths	90.98%	56.50%		41.33%	6.04%
Worst 12 Mths	(42.53%)	(47.35%)		(11.11%)	0.04%
Up Capture	53.30%	47.02%			
Down Capture	(33.01%)	(35.76%)			

Risk-Adjusted Performance Summary:

Info. Ratio	0.59	Sharpe	0.65	Hit Rt Up	53.9%
M2 Premium	12.91%	Treynor	0.11	Hit Rt Dn	57.1%
Beta	1.03	Sortino	0.56	Hit Rt Tot	55.0%
Jensen's alpha	4.48%				

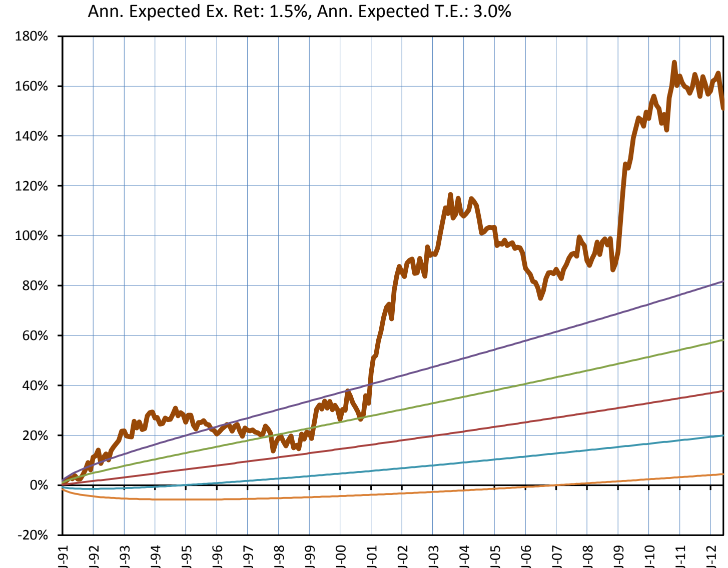
Drawdowns



Largest Drawdown: 19.28%, Peak to Trough

Cumulative Excess Returns vs Expectations

Ann. Expected Ex. Ret: 1.5%, Ann. Expected T.E.: 3.0%



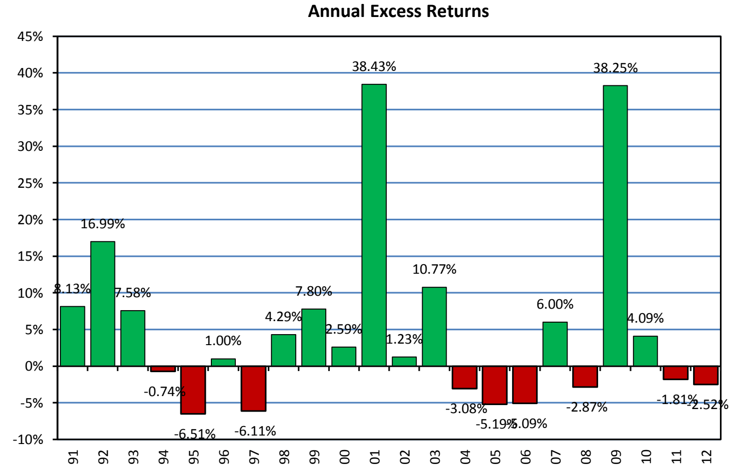
Performance by Period (Inception: 1/31/91)

Period	Portfolio	B'mark	VFB	T.E.	I.R.
3-month	(6.58%)	(2.20%)	(4.38%)		
YTD	6.16%	8.68%	(2.52%)	4.56%	(0.55)
1-Year	(0.98%)	3.01%	(3.99%)	6.69%	(0.60)
2-Year	16.11%	15.25%	0.86%	7.66%	0.11
3-Year	18.43%	15.80%	2.63%	7.22%	0.36
5-Year	2.83%	(2.19%)	5.02%	8.40%	0.60
10-Year	8.22%	5.28%	2.94%	7.58%	0.39
Inception	14.48%	9.78%	4.69%	7.93%	0.59

Performance by Year:

	Year	Portfolio	B'mark	Excess
Start Date:	2002	(14.30%)	(15.52%)	1.23%
1/31/91	2003	40.80%	30.03%	10.77%
	2004	13.42%	16.49%	(3.08%)
End Date:	2005	1.86%	7.05%	(5.19%)
6/30/12	2006	17.16%	22.25%	(5.09%)
	2007	5.83%	(0.17%)	6.00%
	2008	(39.72%)	(36.85%)	(2.87%)
	2009	57.94%	19.69%	38.25%
	2010	19.59%	15.51%	4.09%
	2011	(1.42%)	0.39%	(1.81%)
	2012	6.16%	8.68%	(2.52%)

Annual Excess Returns

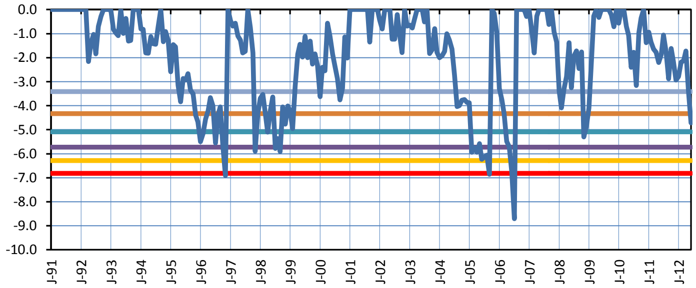


Statistical Tracking And Reporting (STAR) System

Asset 1 vs. Russell 1000 Value Index Total Return

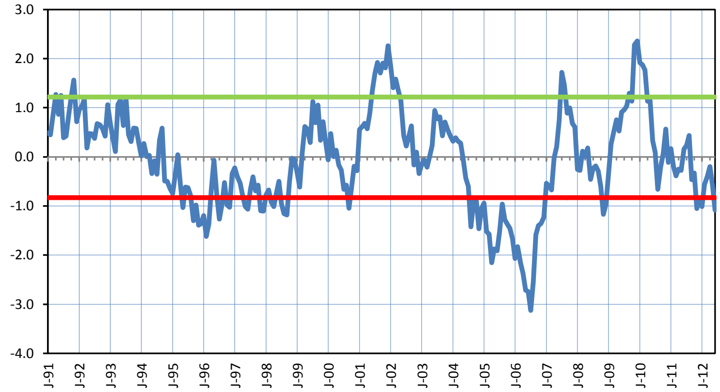
Monthly Data from 1/91 to 6/12

CUSUM Information Ratio Alarm

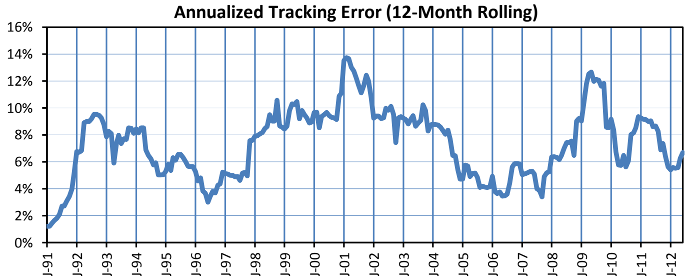


Current CUSUM Value: -4.72

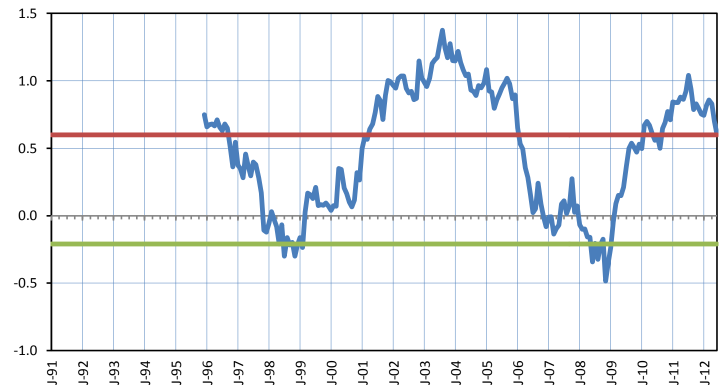
Trend Deviation: Momentum Signal (Rolling 12-Month I.R.)



Annualized Tracking Error (12-Month Rolling)

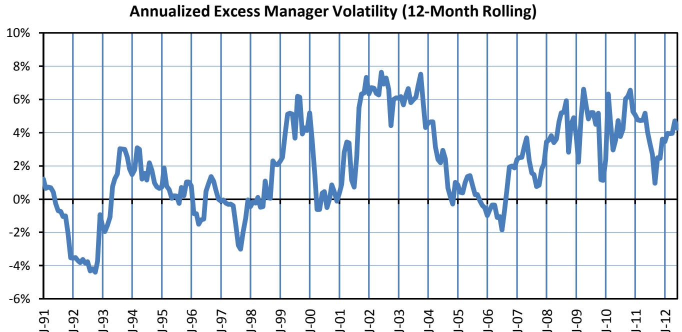


Avg. Tracking Error: 7.35%



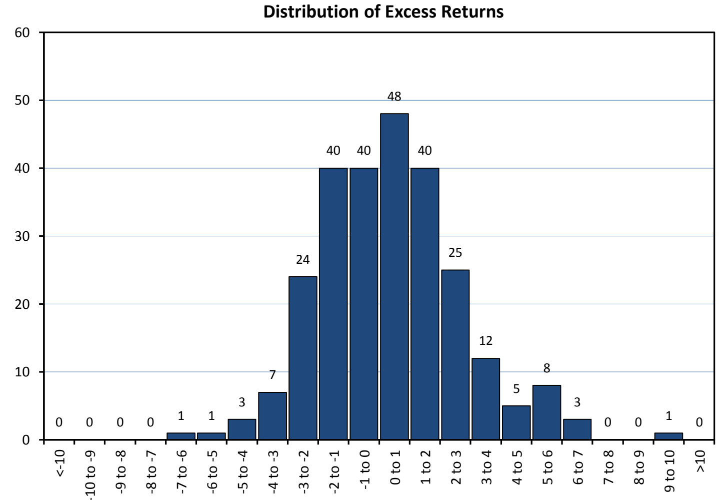
Trend Deviation: Mean Reversion Signal (Rolling 60-Month I.R.)

Annualized Excess Manager Volatility (12-Month Rolling)



Avg. Excess Volatility: 2.02%

Distribution of Excess Returns



Hit Rate Analysis:

	Periods	Hit Rate	Avg. Ex. Ret.
Benchmark Up	167	53.9%	38.7
Benchmark Down	91	57.1%	37.7
All Periods	258	55.0%	38.3

Hit Rate During Various Environments:

Value/Growth	Value Outperf.	Neutral	Growth Outperf.
Periods	77	103	78
Hit Rate	49.4%	52.4%	64.1%
Avg Ex Ret (bp)	9.7	13.2	99.8
Small Value/Small Growth	**Small Value Outperf.**	**Neutral**	**Small Growth Outperf.**
Periods	84	97	77
Hit Rate	46.4%	54.6%	64.9%
Avg Ex Ret (bp)	(13.0)	23.8	112.7
Large/Small	**Large Outperf.**	**Neutral**	**Small Outperf.**
Periods	84	77	97
Hit Rate	39.3%	49.4%	73.2%
Avg Ex Ret (bp)	(35.7)	10.8	124.3
Core/High Yield	**Core Outperf.**	**Neutral**	**High Yield Outperf.**
Periods	48	128	82
Hit Rate	41.7%	50.8%	69.5%
Avg Ex Ret (bp)	(34.9)	18.3	112.5

US Bond/Intl Bond	US Bond Outperf.	Neutral	Intl Bond Outperf.
Periods	76	108	74
Hit Rate	59.2%	51.9%	55.4%
Avg Ex Ret (bp)	65.0	26.4	28.3
Stocks/Bonds	**Stocks Outperf.**	**Neutral**	**Bonds Outperf.**
Periods	119	49	90
Hit Rate	55.5%	59.2%	52.2%
Avg Ex Ret (bp)	56.8	58.3	3.0
US Stocks/Intl Stocks	**US Stocks Outperf.**	**Neutral**	**Intl Stocks Outperf.**
Periods	91	79	88
Hit Rate	54.9%	54.4%	55.7%
Avg Ex Ret (bp)	15.8	65.2	37.6