



**AGENDA**

**RETIREMENT BOARD MEETING**

SPECIAL MEETING  
February 18, 2015  
9:00 a.m.

Retirement Board Conference Room  
The Willows Office Park  
1355 Willow Way, Suite 221  
Concord, California

THE RETIREMENT BOARD MAY DISCUSS AND TAKE ACTION ON THE FOLLOWING:

1. Pledge of Allegiance.
2. Accept comments from the public.
3. Update from Investment Consultant Search Committee and staff regarding the finalist for the General Investment Consultant Search.
4. Consultant presentation:  

9:30 – 10:30 am                                      Wurts and Associates
5. Consider and take possible action to retain Wurts and Associates as the General Investment Consultant.

*CLOSED SESSION*

6. The Board will continue in closed session pursuant to Govt. Code Section 54956.81 to consider the sale of a particular pension fund investment.

*OPEN SESSION*

7. Consider and take possible action regarding repairs and upgrades to the Willows Office Building as recommended by Transwestern.
8. Consider authorizing the attendance of Board and/or staff:
  - a. Institutional Investor Roundtable for Public & Taft Hartley Plans, April 22-24, 2015, Los Angeles, CA. (Note conflict with Board meeting.)
9. Miscellaneous
  - a. Staff Report
  - b. Outside Professionals' Report
  - c. Trustees' comments

The Retirement Board will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Retirement Office at least 24 hours before a meeting.



## MEMORANDUM

Date: February 11, 2015

To: CCCERA Board of Retirement

From: Consultant Search Committee

Subject: Committee Review of Consultant Search

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### **I. Overview and Recommendation**

#### **Introduction**

The Investment Consultant Search Committee has worked with CCCERA Investment Staff and Tom Iannucci of Cortex Consulting to identify candidates for the General Investment Consultant role. At the January 28, 2015 Board meeting the Committee recommended that the Board interview Wurts & Associates for this role. The interview is scheduled for the February 18, 2015 Board meeting. This memo outlines the search rationale and process, recommendation, and proposed transition to Wurts & Associates.

#### **Search Rationale**

The CCCERA Board authorized a search for a general investment consultant on January 13, 2014. This followed a series of personnel departures from CCCERA's retained consultant, Milliman, which included the planned retirement of CCCERA's long time consultant Bob Helliesen. The Board authorized the formation of an Investment Consultant Search Committee which would develop and issue the RFP, and review candidate firms with assistance from an outside vendor (Cortex Consulting) and CCCERA Investment Staff.

#### **Search Goals**

The Committee operated under a two part mandate in conducting the search for the investment consultant. First, the Committee needed to identify a team and firm that would provide CCCERA with the basics of a high quality, responsive consulting relationship. This includes: performance reporting, asset allocation studies, manager searches, and due diligence roles. Second, the Committee needed to assure itself that the team and firm selected would be a long term partner to CCCERA. Incumbent in this is the ability of a firm to maintain its business model, incentivize its key individuals, attract new talent, and deliver solutions and guidance to the CCCERA Board for years to come. Important in the role of a long term partner is the ability of the selected firm to evolve and adapt to the environment in which it operates. This requires

the firm to be forward thinking and proactive in helping CCCERA face challenges that are still beyond the horizon and as of yet are unknown.

Currently, CCCERA faces a number of intersecting challenges. CCCERA is becoming an actuarially mature plan where benefit payments exceed contributions. To date, current income from the investment program has largely bridged that gap, but contributions will soon decline and the investment program will need to produce more income. At the same time, CCCERA faces an era of lower projected returns on most asset classes. The standard asset classes, and investment approaches, may be unable to produce the returns experienced since the early 1980s. Finally, CCCERA is entering a period where new independence will allow the Board to consider alternative governance models.

This advocates for changing the way we think about the goals of CCCERA. CCCERA exists to provide a pension benefit to public employees. The investment program exists to hold assets in trust for future benefit payments and to prudently grow the assets to provide a bridge between contributions and benefit payments. Becoming actuarially mature and facing a muted short to medium investment environment calls into question whether the investment program can provide the robust portion of the benefit payment stream that it has borne in recent decades.

The investment consultant to CCCERA must be aware of its unique challenges, willing to both educate and learn from trustees, and to be unafraid to challenge conventional wisdom but still possess the humility of a seasoned investor.

## **II. Consultant Search Process**

### **Process Overview**

The search process largely involved three separate groups: the Investment Consultant Search Committee, Cortex Consulting, and the CCCERA Investment Staff. The CCCERA Investment Staff organized the initial Committee meetings to refine the objectives of the search, with much of the RFP development and management of the RFP process then handed off to Cortex Consulting. The RFP for the General Investment Consultant was issued via the CCCERA website on September 5, 2014. All responses were submitted by October 6, 2014.

### **Search Timeline:**

Below we have provided the overall timeline of the search, as well as the summary outcomes of the Investment Consultant Search Committee meetings:

January 2014: CCCERA authorizes a search for a general investment consultant.

February 2014: The Committee met for the purpose of setting minimum and preferred qualifications, defining a scope of services, and examining search options (running the search internally or with the assistance of an external third party).

April 2014: CCCERA Board authorizes use of Cortex Consulting as a third party for the investment consultant search.

July 2014: Tom Iannucci of Cortex Consulting presents to the full CCCERA Board on the role of the investment consultant, different consulting models and Board governance.

August 2014: Cortex Consulting and the CCCERA Investment Staff develop draft RFP. The Search Committee met to discuss and edit the RFP developed by Cortex and CCCERA Staff.

September 2014: CCCERA posts RFP for General Investment Consultant on website.

October 2014: All RFP responses for the RFP are completed and submitted to Cortex Consulting. The Committee removed three firms from consideration, bringing the candidate list to 10 firms.

November 2014: Cortex Consulting provides a summary report of all candidate firms to the Committee. The Committee removed two additional firms from consideration, bringing the candidate list to eight firms.

December 2014: The CCCERA Investment Staff conducts on-site visits to candidate firms and provides to the Committee a memo on its due diligence and RFP findings.

January 2015: The Committee used the Cortex report and the CCCERA Investment Staff memo to select NEPC, PCA, and Wurts for interviews at the Committee level on January 21, 2015. Following the interviews, the Committee proposed that the Board interview one candidate firm (Wurts & Associates), at the February 18, 2015 meeting. The Board accepted the Committee's recommendation.

February 2015: CCCERA Board conducts a finalist interview with Wurts & Associates.

## **Candidate Firm Distillation**

The following is a complete list of firms that responded to the RFP:

1. Callan Associates Inc.
2. Clearbrook Investment Consulting
3. FRC (Fiduciary Research & Consulting)
4. Hewitt EnnisKnupp, Inc., an Aon Company (“Hewitt EnnisKnupp”)
5. Meketa Investment Group
6. Milliman
7. New England Pension Consultants (“NEPC”)
8. Pavilion Advisory Group Inc.
9. Pension Consulting Alliance, Inc.
10. RVK, Inc.
11. Segal Rogerscasey
12. Strategic Investment Solutions (SIS)
13. Wurts & Associates

The candidate firms fell within a broad spectrum across what Staff refers to as “conservative/traditional” to “progressive/dynamic” styles of consulting, and from large firms to more boutique businesses. The first factor addresses the firms’ respective philosophy regarding risk. The size measure addresses the business side of the equation.

A conservative or traditional consulting firm is one that acts as an extension of a client’s staff, providing functions such as performance reporting, asset allocation studies in a mean-variance optimized framework, and manager research. A traditional consultant will focus on excelling on the nuts and bolts of the deliverables to a Client’s Board and Staff, but will not necessarily act as a thought leader to explore new investment opportunities.

A progressive or dynamic consulting firm will focus more on the very broad, big picture challenges a Fund may face, and will proactively seek tailored, leading edge solutions in partnership with the Client’s Board and Staff. A dynamic consulting firm may focus less on the basic deliverables of a consulting relationship in favor of dedicating more time to thought leadership and customized work.

From this original list of 13 responding firms, five firms (Clearbrook, Fiduciary Research & Consulting, Hewitt EnnisKnupp, Segal Rogerscasey and Pavilion Advisory Group) were removed from consideration due to the service model proposed, firm structure, fees, and/or a lack of philosophical fit with CCCERA’s needs.

The remaining eight firms were carefully reviewed, with Investment Staff conducting on-site visits to all offices that would be included in servicing CCCERA. Where firms had multiple offices covering different aspects of the relationship, Staff strove to meet with the key people in each office. The schedule of the on-site visits is shown below:

<b>Date</b>	<b>Consultant</b>	<b>Office</b>
December 1	Wurts	Seattle (HQ)
December 2	PCA	Portland (HQ)
December 2	RVK	Portland (HQ)
December 3	Meketa	Portland (Field Office)
December 5	Callan	San Francisco (HQ)
December 5	SIS	San Francisco (HQ)
December 8	Meketa	San Diego (Field Office)
December 9	Wurts	Los Angeles (Field Office)
December 18	Meketa	Boston (HQ)
December 18	NEPC	Boston (HQ)
December 19	Milliman	San Francisco (Field Office)
December 22	NEPC	Redwood City (Field Office)

The on-site visits clarified a large number of unanswered questions from the submitted RFPs. In reviewing the candidate firms it should be noted that each firm has specific areas of strength that are derived from their consulting philosophy and/or business model. More than anything, the in-person meetings illuminated the differences in philosophy of the various firms.

The CCCERA Investment Staff and Cortex Consulting reviewed all respondents and prepared separate memos to provide the Committee a guide for reviewing the candidate firms. The CCCERA staff memo served as a more qualitative supplement to the RFP summary report prepared by Cortex. Information in the staff memo came from both the submitted proposals of the candidate firms and the on-site due diligence meetings that were conducted by staff.

The Committee met on January 14, 2015 to review the Staff memo and subsequently narrowed the candidate list from eight to three. Firms were removed from consideration due to one or more of the following reasons:

- Consulting strategy
- Experience with large public fund clients
- Team strength
- Firm structure

### **Committee Interviews**

The three firms selected to interview with the Committee on January 21, 2015 were New England Pension Consultants, Pension Consulting Alliance, and Wurts & Associates. The goal of the Committee interviews was to gauge which firm would be the best “fit” for CCCERA. After all

firms had presented, the Committee felt that Wurts & Associates would be the best partner for CCCERA.

### **Detailed Notes on Wurts Presentation from January 21<sup>st</sup> Committee Meeting**

The Committee met with Scott Whalen, Ed Hoffman, and Jeff MacClean of Wurts & Associates. Wurts was asked to describe its consulting approach, to specify how its approach would work for CCCERA, and to summarize the long term business objectives of each of the proposed lead consultants and its business as a whole.

Overseeing risk is central to Wurts' approach to consulting. Wurts believes that risk management is a two-fold process: first - to clearly understand a client's enterprise risk tolerance (the amount of risk a client is willing to bear to keep the promise of pension benefits given the unique circumstances of the client), and, second-to clearly identify what risks a client owns. Wurts does not believe that a client's actuarial discount rate is the primary determinant of risk-tolerance. As part of its asset allocation process, and once the client's risk tolerance is clearly identified, Wurts will build portfolio options around this risk tolerance with measurable metrics (such as cost for employee, funding ratio, volatility, etc). Of the portfolio options presented by Wurts, one will be selected by the Board. Following this, the process of implementation is undertaken. Wurts will monitor risk across the entire CCCERA portfolio using indices as proxies for holdings (an actual, live holdings-based risk analysis is an optional service). Wurts seeks to improve communication about risk, and has a dedicated nine-person team that works with MSCI Barra (an industry leading risk platform) to produce risk reports for clients.

Wurts was asked to comment on what changes it felt would benefit the CCCERA portfolio. Wurts believes that CCCERA may benefit from a greater allocation to passive strategies due to the potential fee savings, and dedicated allocations to emerging market debt and equity. It was noted that Wurts felt the CCCERA asset mix was largely appropriate for the current objectives of the fund, and that a smooth transition would be expected should Wurts be retained.

The committee also asked Wurts about transparency in their manager search process, to which Wurts indicated they welcome trustee visits to their offices and to the offices of investment managers. Wurts will have a completely open dialogue with CCCERA Trustees and Staff about any search activity. Operational due diligence is embedded in their manager search process, and is headed up by the firm's Chief Financial Officer. Wurts also indicated that they are big proponents of trustee education, and engage in providing education as requested.

At the meeting it was noted that Scott Whalen has a time conflict on the 4<sup>th</sup> Wednesday of each month, which is typically when the CCCERA Board covers investment topics. A proposed solution was to have Jeff MacClean, the CEO of Wurts, be the primary consultant with Ed Hoffman as the back-up. Additional solutions are being explored, including alternate meeting days.

Wurts & Associates is actively growing as a firm. Jeff MacClean sees growth in the firm in its non-discretionary consulting services (the service that would be provided to CCCERA), discretionary consulting services, and risk reporting services. Jeff emphasized that the firm's

growth should not be measured by size (they have no current intention to grow via acquisition), and that the maintenance of the firm's culture and reputation are top priorities. Both Scott Whalen and Ed Hoffman expect to be at Wurts in five years, and hope to add several large clients over that period. Throughout the meeting, all members of the Wurts team stressed the point that they will act in a fiduciary capacity to the Board. The Wurts team is comfortable offering an opinion different than that of CCCERA's investment staff, and will seek to use the Board as an arbiter when necessary.

### **Recommendation**

Wurts was chosen by the Committee to be interviewed by the Board due to the following reasons:

- Wurts' proposed team of Jeff Maclean, Scott Whalen and Ed Hoffman appeared to be the best team fit (of the 3 proposing firms) to serve CCCERA.
- Wurts' client base, and comparable services, are an excellent fit with CCCERA and the services we wish it to perform.
- Wurts is large enough – 69 employees and 4 regional offices – that CCCERA would benefit from its understanding of best practices, but not so large that CCCERA would not be a very important client (and win) for the firm.
- If selected, Wurts has a very organized and detailed transition plan.
- Wurts is very focused on managing risk and uses a number of sophisticated tools that will help us in our efforts to manage our investment risks.
- Wurts communicates well – as indicated by its presentation and written proposal.

The Committee recommends that Wurts & Associates be retained as the general investment consultant to CCCERA. Wurts & Associates is a well-resourced, growing firm with significant 37 act clientele. As a firm, there is a strong ideological emphasis on getting the "big picture" right when building portfolios, with an additional emphasis on the risk side of the equation. The focus on risk is a differentiating factor for Wurts, and the Committee believes this will be important for a growing, maturing CCCERA portfolio. A concern with Wurts is that their discretionary consulting subsidiary, KEI, creates possibilities for conflicts of interest and for the "best and brightest" of Wurts to migrate to the more profitable side of the firm. This will be monitored closely by CCCERA Investment Staff and the CCCERA Board should Wurts be retained as the investment consultant.



### III. Wurts & Associates Proposal

#### Team

Wurts has proposed a three person consulting team, with the CCCERA Board having the ability to choose the lead consultant. In the original RFP, Scott Whalen was listed as the lead, with Ed Hoffman listed as a back-up. It was noted during due diligence that Scott has a conflict on the 4<sup>th</sup> Wednesday of each month, when investment issues typically come before the Board. To mitigate this issue, CCCERA has the option of selecting Jeff MacLean, Wurts CEO, as the lead consultant. Regardless of who serves as lead (and attends the majority of CCCERA Board meetings), all three members of the team will be involved in the CCCERA relationship. Biographies of the three proposed consultants are below:

#### ***Scott Whalen, CFA***

Mr. Whalen, Executive Vice President and Senior Consultant, joined Wurts & Associates in 2002. Mr. Whalen provides high quality strategic investment advice to ensure his clients meet their long-term investment objectives. Mr. Whalen is a Wurts & Associates shareholder and a key member of the Wurts & Associates leadership team. He sits on the Management Committee and oversees the firm's consulting staff. Prior to joining Wurts & Associates, Mr. Whalen built a distinguished career in management consulting with McKinsey & Company and Ernst & Young, where he helped corporate and public sector institutions to increase efficiency and improve operational performance. Through his vast experience working with multiple stakeholders across industries, Mr. Whalen has honed his ability to drive effective decision-making, often in challenging environments.

Mr. Whalen is a recognized speaker at industry conferences, where he has presented on a broad range of investment topics including asset allocation, alternative investing, investment manager oversight, attaining operational efficiencies in investment programs, the challenges and potential benefits of dynamic asset allocation, and the importance of maintaining a long-term perspective.

Mr. Whalen received a Bachelor of Arts degree in Economics from Wake Forest University and a Masters in Business Administration (MBA) from the University of Southern California. He is a recipient of the Chartered Financial Analyst (CFA) designation and a member of the CFA Institute and the CFA Society of Los Angeles. Mr. Whalen's client list includes Imperial County Employees' Retirement System, Kern County Employees' Retirement Association, San Diego County Employees' Retirement Association, San Luis Obispo County Pension Trust, and Tulare County Employees' Retirement Association.

#### ***Edward Hoffman, CFA***

Mr. Hoffman, Senior Consultant, joined Wurts & Associates in 2011. Mr. Hoffman has more than 19 years of experience providing a broad range of high quality services to institutional investors. Prior to joining Wurts & Associates, Mr. Hoffman served institutional clients at Causeway Capital Management and Legg Mason, Inc. In addition to his client service responsibilities at Legg Mason, Ed also served on the operating and valuation committees, led a variety of corporate development initiatives, and managed several mutual fund closures and

launches. His background in retirement plan recordkeeping and administration provides an additional and valuable perspective on the needs of Defined Contribution clients.

Mr. Hoffman earned a Bachelor of Science degree in Industrial Management with honors from Carnegie Mellon University and holds a Masters Degree in Business Administration (MBA) from the Harvard Business School. He holds the Chartered Financial Analyst (CFA) designation and is a member of the CFA Society of Los Angeles. Mr. Hoffman's client list includes Arizona Bricklayers, AVID Center, Castle & Cooke, Inc., Forever Living, I.A.T.S.E. Local #720, IBEW Local #952, Jack in the Box, The Juan De La Cruz Farmworkers, Karsten Manufacturing, Kinross Gold USA, June G. Outhwaite Charitable Trust, and Westfield LLC.

### ***Jeffrey MacLean***

Mr. MacLean, Chief Executive Officer, joined Wurts & Associates in 1992. Mr. MacLean is primarily responsible for managing the firm and providing investment advice to several clients. With over 25 years of investment experience, he has longstanding consulting experience with all asset classes working with public and private defined benefit plans, corporate defined contribution plans, public institutions, multi-employer trusts, endowments, and foundations.

Mr. MacLean chairs the firm's Management Committee and serves on Wurts & Associates' Research Advisory Committee, which provides strategic guidance to the firm's research staff on the important issues affecting clients and vetting the research department's initiatives. Mr. MacLean often speaks at various investment forums regarding the macro-economic environment, asset allocation, risk management, alternatives, and industry trends.

Mr. MacLean holds a Masters Degree in Business Administration (MBA) from the Darden School of Business and a Bachelors Degree in Business Administration (BBA) from the University of Washington. Mr. MacLean is currently the lead consultant to Southwest Pilots, Northern CA Laborers, Fresno County Employees' Retirement Association, Indiana Public Retirement System, Allergan Inc., Sound Retirement Trust, and Hamilton Family Trusts.

## Fee Proposal

Wurts proposed the fee schedule shown below. This fee schedule is an all-inclusive flat fee which includes all of the services listed under “scope of services” (the same scope of services currently in the Milliman contract) in the RFP:

Year	Fees – Full Scope
Year 1	\$375,000
Year 2	\$375,000
Year 3	\$375,000
Year 4	\$425,000
Year 5	\$425,000
Total Fees (Year 1 to 5)	\$1,975,000

An additional service included in the above fee is index-based risk monitoring and analysis on a quarterly basis. This was included at no extra cost to the Plan. Additional fees will be incurred for the reimbursement of travel expenses related to investment manager due diligence visits.

## Supporting Documents

Following are several supporting documents for the Wurts & Associates proposal. Included documents are listed below:

- A. Wurts’ proposed transition timeline
- B. Sample Asset Allocation Report
- C. Sample Manager Search
- D. Sample Quarterly Performance Report

# CCCERA Draft Implementation Plan

Task Name	Q1			Q2			Q3			Q4			Q1		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
<input checked="" type="checkbox"/> Initialize	[Summary bar for Initialize: Apr to May]														
<input checked="" type="checkbox"/> Assess	[Summary bar for Assess: Apr to May]														
Interview Trustees and Staff				█											
<input checked="" type="checkbox"/> Investment Program Review	[Summary bar for Investment Program Review: Apr to May]														
Review strategic mission and objectives of client's portfolio				█											
Review actuarial study				█											
Review existing investment policy statement				█											
Review existing investment portfolio and manager structure				█											
<input checked="" type="checkbox"/> Enterprise Risk Tolerance Assessment	[Summary bar for Enterprise Risk Tolerance Assessment: Apr to May]														
Conduct online survey					█										
Identify/evaluate unique issues affecting the plan					█										
Conduct industry/plan sponsor research					█										
Current manger assessment and fee review					█										
Review and revise initial implementation plan					█										
<input checked="" type="checkbox"/> Design	[Summary bar for Design: Apr to Sep]														
<input checked="" type="checkbox"/> Portfolio Design	[Summary bar for Portfolio Design: Apr to Jun]														
Conduct Asset Allocation Study/Asset Liability Study				█	█	█	█								
Develop Risk Budget							█	█							
Develop Manager Structure							█	█							
Develop custom education plan								█	█						
Refine custom quarterly investment report								█	█						
Revise and review draft of new Investment Policy Statement								█	█	█					
Conduct investment manager searches, if required								█	█	█	█				
<input checked="" type="checkbox"/> Implement	[Summary bar for Implement: Oct to Dec]														
On-board new managers, if required										█	█				
Transition investment portfolio(s) to target asset allocation												█	█		



**ASSET ALLOCATION STUDY**

Sample

January 2013

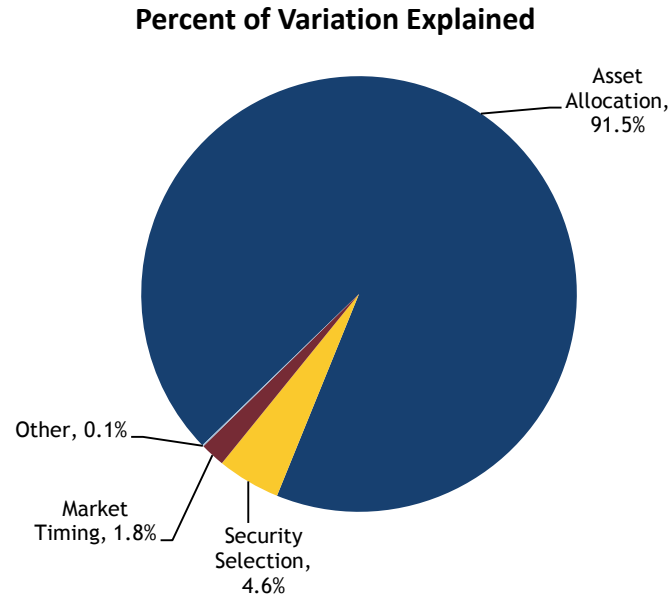
WURTS  ASSOCIATES

SEATTLE | 206.622.3700  
LOS ANGELES | 310.297.1777  
[www.wurts.com](http://www.wurts.com)

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Asset allocation drives the bulk of the variation in portfolio returns over time.



## Academic Support:

- Gary P. Brinson, L. Randolph Hood, and Gilbert L. Beebower. "Determinants of Portfolio Performance". *Financial Analysts Journal*, July/August 1986.
- Gary P. Brinson, Brian D. Singer, and Gilbert L. Beebower. "Determinants of Portfolio Performance II: An Update". *Financial Analysts Journal*, 47, 3 (1991).
- Roger G. Ibbotson and Paul D. Kaplan. "Does Asset Allocation Policy Explain 40%, 90%, or 100% of Performance?". *Financial Analysts Journal*, January/February 2000.

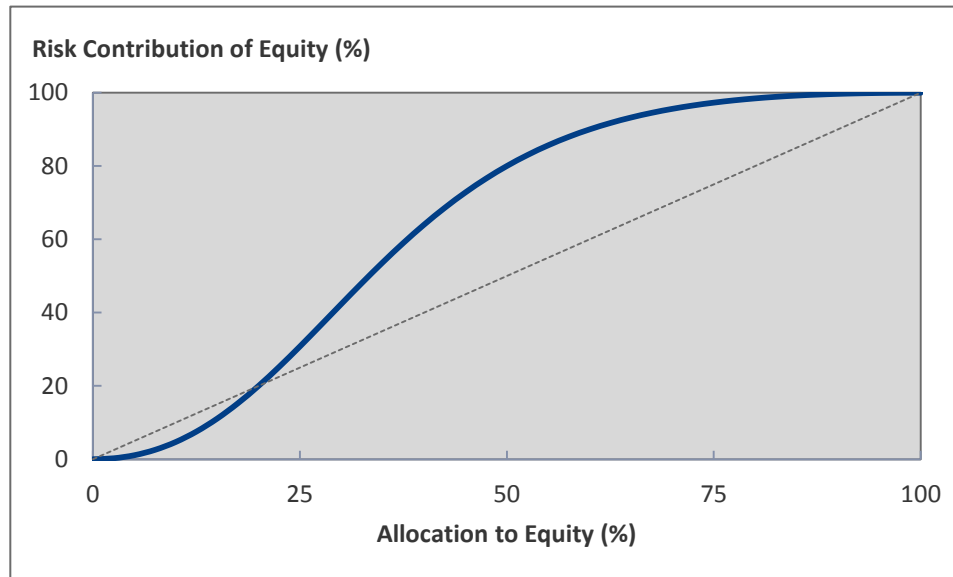
Source: Brinson, Singer & Beebower: *Determinants of Portfolio Performance II: An Update*

- **Focus on Un-Systematic Risks (Active Management)**
  - Short term focused
  - Embracing security specific idiosyncratic risks
  - Proven to be unreliable and randomly successful
  - Nearly impossible for fiduciaries to fully understand and follow; very little transparency
  
- **Focus on Systematic Risks (Asset Allocation)**
  - Long term focused, but with short term awareness
  - Embracing market forces without security specific risk
  - Far more reliable than active management
  - Easier for fiduciaries to understand and follow strategies; 100% transparency into process



- The Equity/Fixed Income allocation is the *single most important decision* for public market portfolios.
  - Equities dominate a portfolio's risk exposure (see illustration below), and should be inextricably tied to an entity's risk tolerance
  - Should be analyzed through a long term valuation & risk premium framework

## Risk Contribution of Equity at Various Allocations Levels



**Note:** The illustration above shows a simple two-asset portfolio and ignores correlation effects. Assumed volatilities of 20% for equity and 10% for fixed income.

**Source:** *At Par with Risk Parity?* Samuel Kunz, CFA. CFA Institute Conference Proceedings Quarterly, September 2011, Vol. 28, No. 3

# ASSET ALLOCATION PHILOSOPHY

## Key Tenets of Wurts & Associates' Approach:

- Consideration of overall portfolio goals
- Asset class returns are driven by macroeconomic factors and valuations
- Portfolio design should not be made solely by historic risk and return modeling
- Macroeconomic sensitivities are considered, with a focus on global diversification

We view asset allocation not only through risk and return, but also through the various roles of asset classes as they relate to macroeconomic conditions.

Furthermore, we consider how risk factors associated with each asset class impact the true diversification of the portfolio.

# THE ROLES OF ASSET CLASSES

*Why do we invest in various asset classes?*

*What do we practically expect them to contribute to the portfolio over time?*

*What will determine whether or not they serve the desired role?*

	RETURN ROLES				DIVERSIFICATION & VOLATILITY ROLES			HOW MACRO OUTLOOK/ GDP AFFECTS ROLE	
	Benefit from GDP Growth	Earn Risk Premium	Produce Stable Income	Hedge Against Inflation	Low Absolute Volatility	Low Corr. To Other Assets	Reduce Portfolio Volatility	Elements of Return for Asset Class	Sensitivity of Role to GDP
Public Equities	●	◐	◐	◑	○	◐	◐	PE's, Dividends, Earnings Growth	●
Private Equities	●	●	○	○	◐	◑	◑	PE's (exits), Financing, Opportunity Set	◐
Fixed (Treasury)	○	○	●	◐	●	◑	●	Direct Link to Yields	◑
Fixed (Credit)	◐	◐	●	◐	◐	◑	◐	Direct Link to Yields, Credit Spreads	◐
Hedge Funds (Perceived role)	○	◐	○	○	●	●	●	PE's, Credit Spreads, Fat Tails	◑
Real Estate	◐	◑	◐	●	◐	◐	◐	Unemployment, Vacancies, Cap Rates	●



GROWTH

*Rising Growth  
Falling Inflation*

Equities  
Corporate bonds  
Emerging market debt  
Infrastructure  
Mortgages  
Government bonds  
Real estate  
Commodities

*Rising Growth  
Rising Inflation*

Commodities  
Infrastructure  
Real estate  
Equities  
Corporate bonds  
Emerging market debt

INFLATION

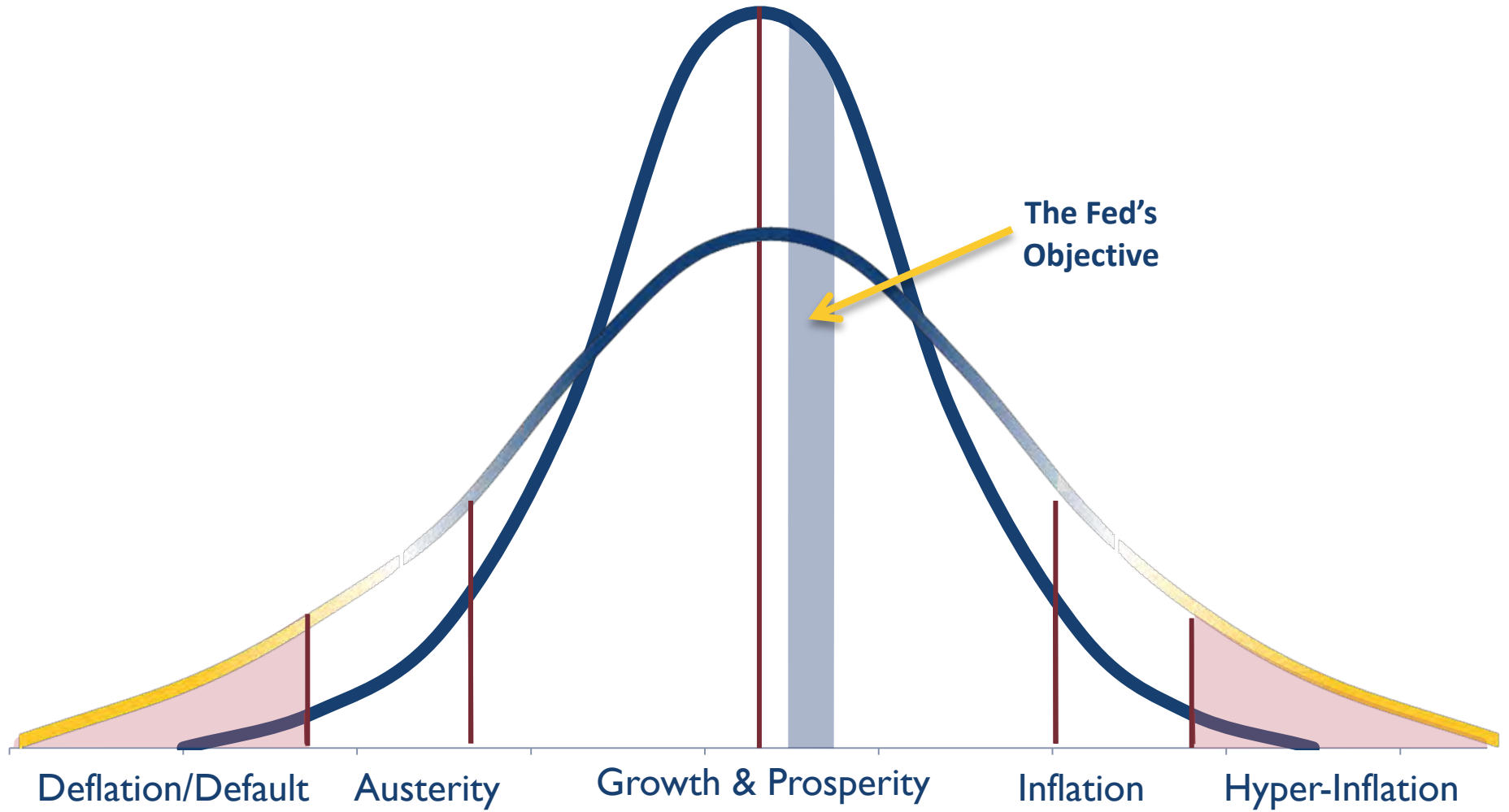
*Falling Growth  
Falling Inflation*

Government bonds  
Corporate bonds  
Emerging market debt

*Falling Growth  
Rising Inflation*

Inflation linked bonds  
Commodities  
Infrastructure  
Real estate

# POTENTIAL ECONOMIC OUTCOMES



# PORTFOLIO CONSTRUCTION PROCESS

## Strategic Long-term Policy Development

### Client-Specific Considerations

- Time horizon
- Liquidity
- Stated return objectives
- Risk tolerance

### Mean – Variance Analysis

- Forward looking asset class forecasts
- Historical correlations

### Proprietary Scenario Analysis

- Current capital market valuations
- P/Es, interest rates, spreads, growth forecasts, inflation

### Risk Factor Based Analysis

- Decomposition of risk factors in existing asset classes relative to baseline policy

### Opportunistic Beta Strategies

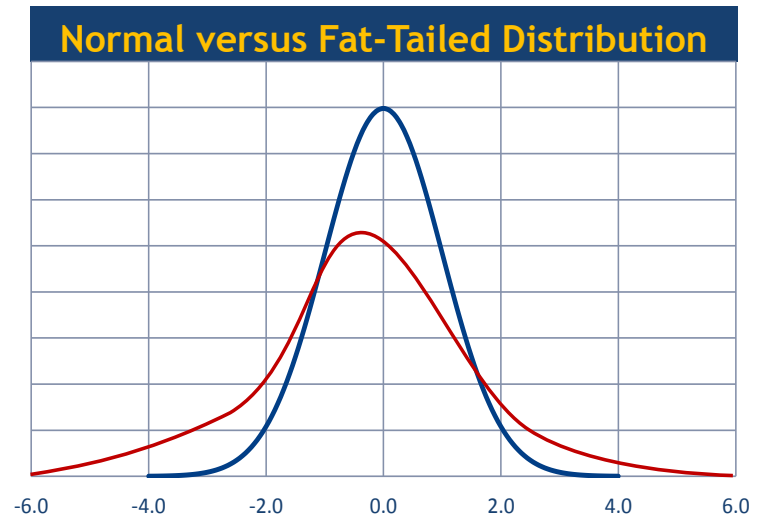
- Dislocations in capital markets creating unique opportunities

## Tactical Tilts



- What is the time-horizon?
  - What are the liquidity constraints?
    - What are the implicit or explicit liabilities?
      - Is there an actuarial assumed rate of return?
        - What is the willingness to take on risk?

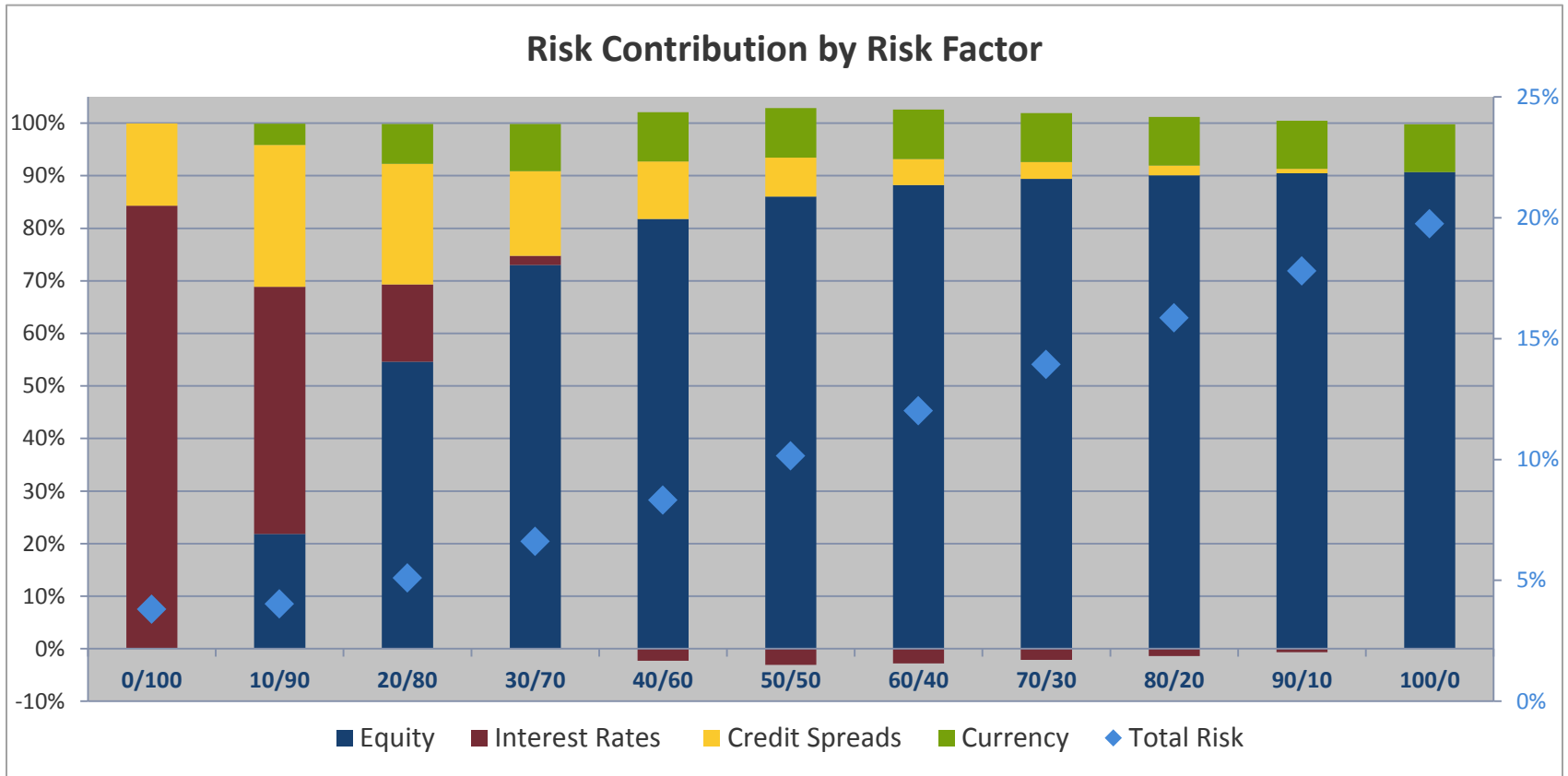
- We employ Mean Variance Optimization (“MVO”) to integrate our capital market assumptions and project a policy return and standard deviation.
- MVO is an elegant mathematical formula but by itself is not well-suited to allocate assets in the real world.
  - Historic norms are typically used in assumptions.
  - Volatility fluctuates, particularly in the case of “fat tails.”
  - Correlations are not stable over time.
  - MVO assumes that the range of possible return is normally distributed (blue curve at right); unfortunately this assumption does not hold in the real world (red curve at right).
- For all of its shortcomings, MVO is still the most widely used tool in the industry.
- To address these issues, we view asset allocation through additional lenses:
  - Scenario Analysis
  - Risk Decomposition



## SCENARIO ANALYSIS

- We subject the policy portfolios to a variety of asset valuation scenarios to estimate total portfolio drawdown risk.
- Wurts & Associates utilizes proprietary scenario analysis methodology to model the anticipated effects of various economic regimes (stagflation, strong economic growth and inflation) to confirm and validate our approach to economic diversification.
- Our proprietary scenario analysis methodology considers current valuation relative to potential future valuation based on well-established metrics.
- Additionally, we can examine how the portfolio would have behaved if we were to relive certain crises again (e.g. 2008 subprime meltdown, dot-com bubble, etc.)

Wurts Economic Scenario Analysis						
<b>10 Year Return Forecast</b>						
Stagflation	4.2	4.3	4.1	4.4	5.0	4.4
Weak Economy	3.6	3.6	3.5	3.8	4.1	3.7
<b>Average Economy</b>	<b>5.3</b>	<b>5.5</b>	<b>4.9</b>	<b>5.6</b>	<b>6.1</b>	<b>5.5</b>
Strong	7.4	7.6	6.5	7.7	8.3	7.6
Range of Scenario Forecast	3.8	4.0	3.0	3.9	4.2	3.9
Economic Shock (1 year)	-30.7	-31.7	-26.3	-31.9	-32.9	-31.6
<b>10 Year <u>Real</u> Return Forecast</b>						
Stagflation	0.4	0.5	0.3	0.6	1.2	0.6
Weak Economy	1.3	1.3	1.2	1.5	1.8	1.4
<b>Average Economy</b>	<b>3.0</b>	<b>3.2</b>	<b>2.6</b>	<b>3.3</b>	<b>3.8</b>	<b>3.2</b>
Strong	4.3	4.5	3.4	4.6	5.2	4.5
Range of Scenario Forecast	4.0	4.1	3.2	4.1	4.1	4.0



**Note:** The above analysis was performed utilizing BarraOne. A progression of simple two-asset class portfolios were modeled beginning with a 100% allocation to fixed income on the left through a 100% allocation to equities on the right. Index proxies were used for both asset classes: Barclays U.S. Universal (fixed income) and MSCI ACWI (equities).

# RISK DECOMPOSITION, CONTINUED ...

**Interest Rate Risk**  
 US Interest Rate Risk  
 Developed (ex-US) Interest Rate Risk  
 Emerging Market Interest Rate Risk

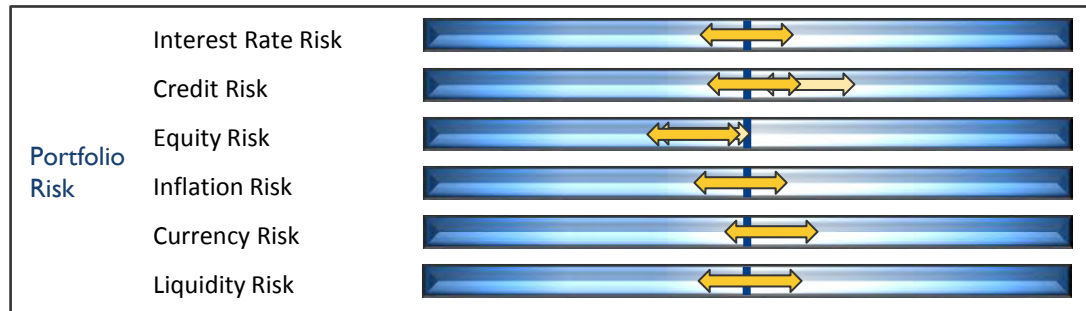
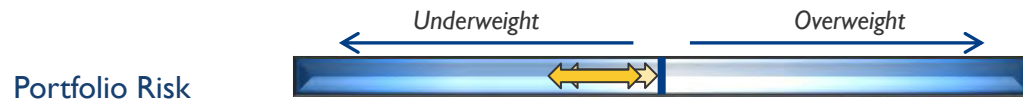
**Credit Risk**  
 Investment Grade Credit Risk  
 High Yield Credit Risk  
 Emerging Market Corporate Credit Risk

**Equity Risk**  
 US Equity Risk  
 Developed (ex-US) Equity Risk  
 Emerging Market Equity Risk  
 Large/Small Cap Equity Risk  
 Value/Growth Equity Risk

**Inflation Risk**  
 TIPS Risk  
 Real Estate Risk  
 Commodity Risk

**Currency Risk**  
 Developed (ex-US) Currency Risk  
 Emerging Market Currency Risk

- Assets are driven by their exposure to various risk factors.
- Many asset classes carry similar risks. A portfolio that is diversified by asset classes may be diversified in name only.
- Analyzing risk factors provides a better understanding of the true drivers of risk within the portfolio.



Neutral to policy      Recommended range relative to policy      Prior quarter

# OPPORTUNISTIC BETA STRATEGIES

- Wurts & Associates overlays our Capital Markets Research on the policy portfolio to determine if any strategic tilts are warranted or special opportunities exist.
- Given our heavy emphasis on understanding the economic environment and relative valuations, we may recommend modest tilts relative to the policy portfolio to improve returns.
  - Capitalization tilt within the equity portfolio
  - Heavier weighting towards credit
  - Overweight to certain regions of the world
- Special opportunities may not always be present, but we constantly look for them. Recent examples include:
  - Opportunistic allocation to distressed debt
  - Investment opportunities related to special programs like TALF



# ASSET ALLOCATION STUDY

# ASSET ALLOCATION MIXES

	Current Portfolio	Policy Targets	Conservative	Moderate	Aggressive	Alternative	CMA's (10 Yr)
Large Cap US Equity	26.6	24	20	22	18	21	6.3
Small/Mid Cap US Equity	9.4	10	6	6	5	10	6.9
<b>Total Domestic Equity</b>	<b>36.0</b>	<b>34</b>	<b>26</b>	<b>28</b>	<b>23</b>	<b>31</b>	
International Large	13.1	16	15	18	14	16	8.0
Emerging Markets	5.5	5	4	9	8	7	9.6
<b>Total Int'l Equity</b>	<b>18.6</b>	<b>21</b>	<b>19</b>	<b>27</b>	<b>22</b>	<b>23</b>	
<b>Total Equity</b>	<b>54.6</b>	<b>55</b>	<b>45</b>	<b>55</b>	<b>45</b>	<b>54</b>	
US Core Fixed Income	27.3	25	35	25	15	25	2.0
TIPS	2.8	5	5	5	5	5	2.2
<b>Total Fixed Income</b>	<b>30.1</b>	<b>30</b>	<b>40</b>	<b>30</b>	<b>20</b>	<b>30</b>	
Commodities	4.4	5	5	5	5	5	4.3
Real Estate	5.8	5	10	5	10	6	5.6
<b>Total Real Assets</b>	<b>10.2</b>	<b>10</b>	<b>15</b>	<b>10</b>	<b>15</b>	<b>11</b>	
Liquid Alts/HFoF	0.0	0	0	0	10	0	5.4
Private Equity/VC	3.6	5	0	5	10	5	9.9
<b>Total Non-Public Investments</b>	<b>3.6</b>	<b>5</b>	<b>0</b>	<b>5</b>	<b>20</b>	<b>5</b>	
Cash	1.5	0	0	0	0	0	1.7
<b>Total Allocation</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	



# RESULTS

	Current Portfolio	Policy Targets	Conservative	Moderate	Aggressive	Alternative
<b>Expected 10 Year Return<sup>1</sup></b>	<b>5.7</b>	<b>5.9</b>	<b>5.1</b>	<b>6.0</b>	<b>6.5</b>	<b>5.9</b>
<b>Mean Variance Optimizer Analysis</b>						
<b>Forecast 10 Year Return</b>	<b>6.1</b>	<b>6.3</b>	<b>5.4</b>	<b>6.5</b>	<b>7.0</b>	<b>6.4</b>
Standard Deviation	10.6	10.9	8.7	11.2	11.2	10.9
Return/Std. Deviation	0.6	0.6	0.6	0.6	0.6	0.6
1st percentile ret. 1 year	-16.6	-17.0	-13.7	-17.4	-16.9	-17.0
Sharpe Ratio	0.32	0.33	0.31	0.33	0.38	0.34
<b>Wurts Economic Scenario Analysis</b>						
<b>10 Year Return Forecast</b>						
Stagflation	4.2	4.3	4.1	4.4	5.0	4.4
Weak Economy	3.6	3.6	3.5	3.8	4.1	3.7
<b>Average Economy</b>	<b>5.3</b>	<b>5.5</b>	<b>4.9</b>	<b>5.6</b>	<b>6.1</b>	<b>5.5</b>
Strong	7.4	7.6	6.5	7.7	8.3	7.6
Range of Scenario Forecast	3.8	4.0	3.0	3.9	4.2	3.9
Economic Shock (1 year)	-30.7	-31.7	-26.3	-31.9	-32.9	-31.6
<b>10 Year Real Return Forecast</b>						
Stagflation	0.4	0.5	0.3	0.6	1.2	0.6
Weak Economy	1.3	1.3	1.2	1.5	1.8	1.4
<b>Average Economy</b>	<b>3.0</b>	<b>3.2</b>	<b>2.6</b>	<b>3.3</b>	<b>3.8</b>	<b>3.2</b>
Strong	4.3	4.5	3.4	4.6	5.2	4.5
Range of Scenario Forecast	4.0	4.1	3.2	4.1	4.1	4.0

1. Expected return is average of MVO forecast and "average economy" scenario forecast

# AN ILLUSTRATION OF RISK DECOMPOSITION

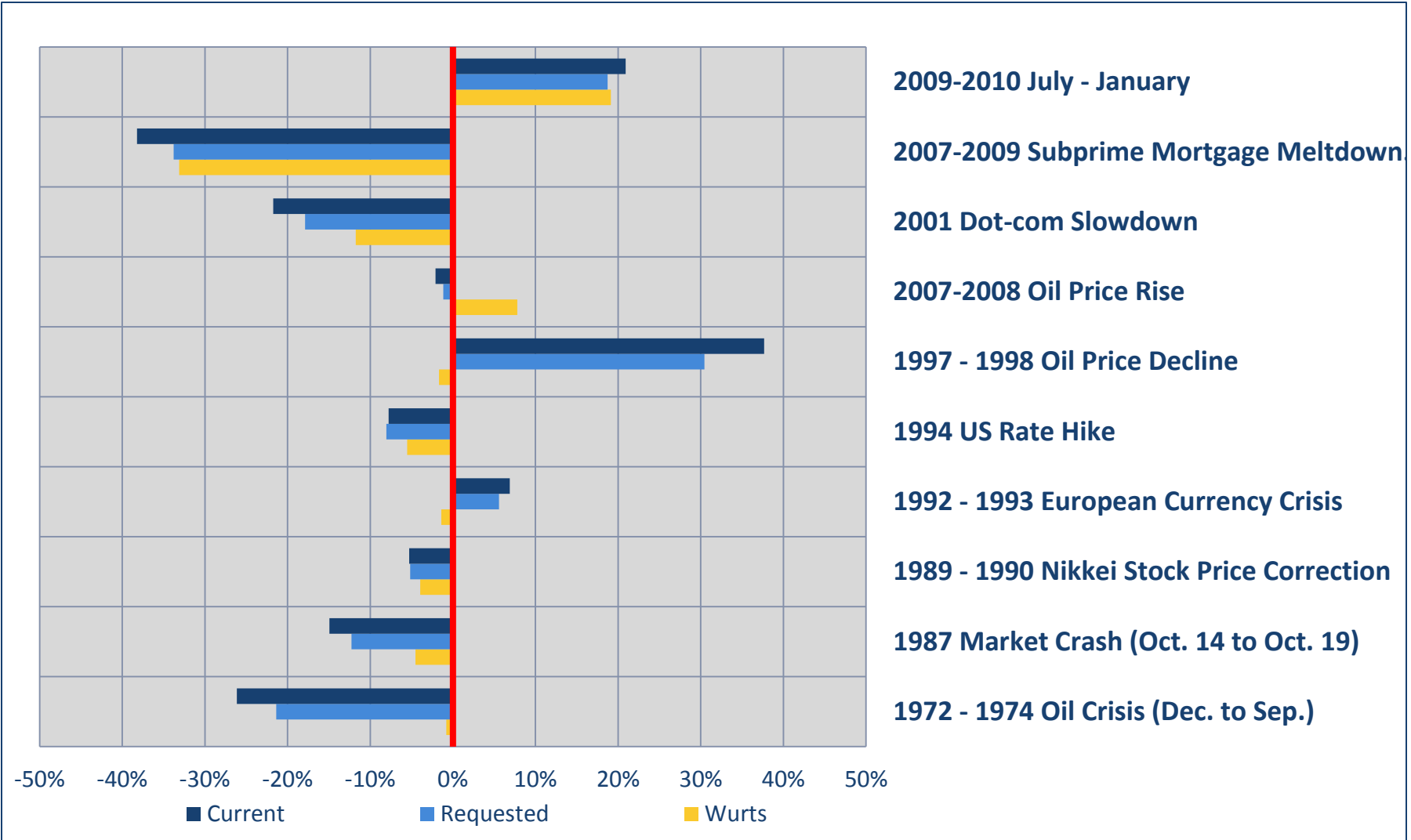
	Current Policy	Mix 1	Mix 2	Mix 3	CMA's (10 Yr)
Large Cap US Equity	13.0	20.0	24.0	24.0	7.0
Small/Mid Cap US Equity	3.0	5.0	6.0	6.0	5.5
<b>Total Domestic Equity</b>	<b>16.0</b>	<b>25.0</b>	<b>30.0</b>	<b>30.0</b>	
International Large	11.5	17.0	20.0	20.0	7.6
International Small	0.0	0.0	0.0	0.0	6.4
Emerging Markets	2.5	8.0	10.0	10.0	8.6
<b>Total International Equity</b>	<b>14.0</b>	<b>25.0</b>	<b>30.0</b>	<b>30.0</b>	
<b>Total Equity</b>	<b>30.0</b>	<b>50.0</b>	<b>60.0</b>	<b>60.0</b>	
US Core Fixed Income	35.0	20.0	16.0	14.0	2.2
High Yield Fixed Income	0.0	3.0	4.0	3.0	5.7
Emerging Market Debt	0.0	2.0	0.0	3.0	5.8
TIPS	15.0	5.0	5.0	2.5	2.6
<b>Total Fixed Income</b>	<b>50.0</b>	<b>30.0</b>	<b>25.0</b>	<b>22.5</b>	
Commodities	0.0	5.0	5.0	2.5	5.4
Real Estate	0.0	5.0	10.0	5.0	6.0
<b>Total Real Assets</b>	<b>0.0</b>	<b>10.0</b>	<b>15.0</b>	<b>7.5</b>	
Liquid Alternatives/HFoFs	0.0	5.0	0.0	5.0	5.6
Private Equity/VC	0.0	5.0	0.0	5.0	10.0
<b>Total Non-Public Investments</b>	<b>0.0</b>	<b>10.0</b>	<b>0.0</b>	<b>10.0</b>	
<b>Cash / Short-Term</b>	<b>20.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	1.9
<b>Total Allocation</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	

Risk Factor Decomposition*				
Risk Factor	Current Policy	Mix 1	Mix 2	Mix 3
Equity	78%	79%	73%	73%
Interest Rates	5%	-1%	-1%	-1%
Credit Spreads	6%	2%	3%	3%
Currency	10%	8%	9%	9%
Inflation	0%	12%	16%	16%

- Risk factor decomposition analysis performed utilizing BarraOne\*
- To model each asset class, the following indices were employed:
  - Large Cap US Equity (Russell 1000)
  - Small/Mid Cap US Equity (Russell 2000)
  - International (MSCI EAFE)
  - Emerging Markets Equity (MSCI EM)
  - US Core Fixed Income (Barclays US Aggregate)
  - High Yield Fixed Income (Barclays US Corporate High Yield)
  - Emerging Markets Debt (JPM EMBI Global)
  - TIPS (Barclays US Treasury TIPS)
  - Commodities (DJ UBS Commodity)
  - Real Estate (NFI ODCE)
  - Hedge Funds (HFRI Fund of Funds Composite)
  - Private Equity (Russell 3000 + 250 bps)

\*Due to the complexity of running risk decomposition analysis across multiple portfolios, the results shown are for representative proxies.

# SCENARIO ANALYSIS: DRAWDOWN MODELING



# RISK DECOMPOSITION

# RISK DECOMPOSITION

## Asset Allocation of Representative Portfolios

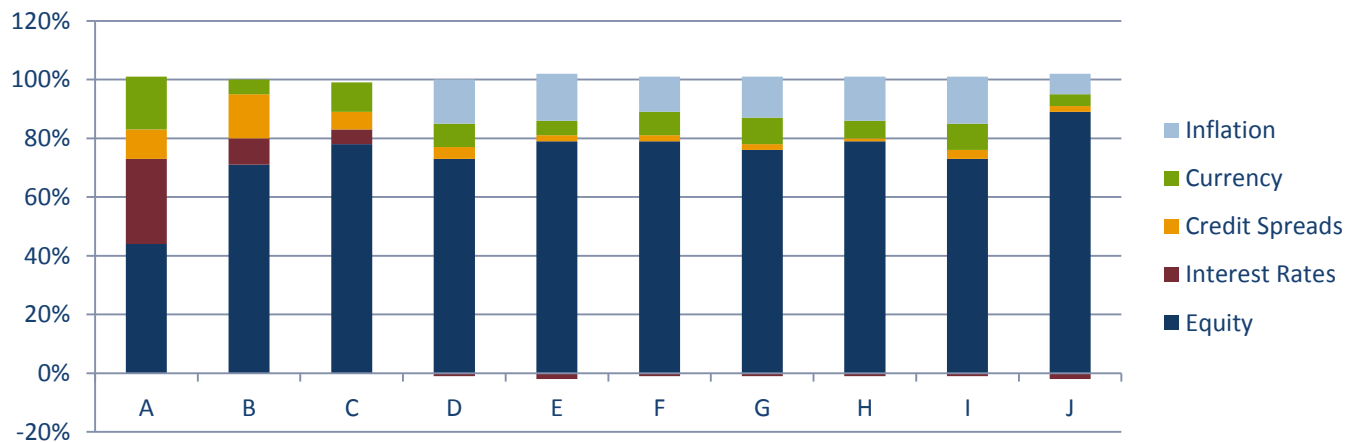
	A	B	C	D	E	F	G	H	I	J
Large Cap U.S. Equity	10	14	13	14	30	25	22	22	25	35
Small/Mid Cap U.S. Equity	0	4	3	4	4	0	5	5	7	13
International Large Cap	5	6	12	10	11	20	17	27	18	17
International Small Cap	0	0	0	3	0	0	2	0	0	0
Emerging Markets	0	1	3	5	4	5	8	0	10	2
<b>Total Equity</b>	<b>15</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>49</b>	<b>50</b>	<b>54</b>	<b>54</b>	<b>60</b>	<b>67</b>
U.S. Core Fixed Income	40	75	35	17	21	25	12	21	16	25
High Yield Fixed Income	0	0	0	4	0	0	3	0	4	0
Short Duration Fixed Income	15	0	20	0	0	0	0	0	0	0
Emerging Market Debt	10	0	0	4	0	0	0	0	0	0
TIPS	20	0	15	5	0	5	4	0	5	0
<b>Total Fixed Income</b>	<b>85</b>	<b>75</b>	<b>70</b>	<b>30</b>	<b>21</b>	<b>30</b>	<b>19</b>	<b>21</b>	<b>25</b>	<b>25</b>
Commodities	0	0	0	5	0	5	5	0	5	0
Real Estate	0	0	0	5	10	5	7	10	10	5
<b>Total Real Assets</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>12</b>	<b>10</b>	<b>15</b>	<b>5</b>
Liquid Alternatives/HFoF	0	0	0	15	20	5	15	5	0	0
Private Equity/VC	0	0	0	10	0	5	0	10	0	3
<b>Total Non-Public Investments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>25</b>	<b>20</b>	<b>10</b>	<b>15</b>	<b>15</b>	<b>0</b>	<b>3</b>
<b>Total Allocation</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

## Risk Factor Decomposition of Representative Portfolios

Risk Factor	A	B	C	D	E	F	G	H	I	J
Equity	44%	71%	78%	73%	79%	79%	76%	79%	73%	89%
Interest Rates	29%	9%	5%	-1%	-2%	-1%	-1%	-1%	-1%	-2%
Credit Spreads	10%	15%	6%	4%	2%	2%	2%	1%	3%	2%
Currency	18%	5%	10%	8%	5%	8%	9%	6%	9%	4%
Inflation	0%	0%	0%	15%	16%	12%	14%	15%	16%	7%

# RISK DECOMPOSITION - CONTINUED

Asset Allocation of Representative Portfolios										
	A	B	C	D	E	F	G	H	I	J
Large Cap U.S. Equity	10	14	13	14	30	25	22	22	25	35
Small/Mid Cap U.S. Equity	0	4	3	4	4	0	5	5	7	13
International Large Cap	5	6	12	10	11	20	17	27	18	17
International Small Cap	0	0	0	3	0	0	2	0	0	0
Emerging Markets	0	1	3	5	4	5	8	0	10	2
<b>Total Equity</b>	<b>15</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>49</b>	<b>50</b>	<b>54</b>	<b>54</b>	<b>60</b>	<b>67</b>
U.S. Core Fixed Income	40	75	35	17	21	25	12	21	16	25
High Yield Fixed Income	0	0	0	4	0	0	3	0	4	0
Short Duration Fixed Income	15	0	20	0	0	0	0	0	0	0
Emerging Market Debt	10	0	0	4	0	0	0	0	0	0
TIPS	20	0	15	5	0	5	4	0	5	0
<b>Total Fixed Income</b>	<b>85</b>	<b>75</b>	<b>70</b>	<b>30</b>	<b>21</b>	<b>30</b>	<b>19</b>	<b>21</b>	<b>25</b>	<b>25</b>
Commodities	0	0	0	5	0	5	5	0	5	0
Real Estate	0	0	0	5	10	5	7	10	10	5
<b>Total Real Assets</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>12</b>	<b>10</b>	<b>15</b>	<b>5</b>
Liquid Alternatives/HFoF	0	0	0	15	20	5	15	5	0	0
Private Equity/VC	0	0	0	10	0	5	0	10	0	3
<b>Total Non-Public Investments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>25</b>	<b>20</b>	<b>10</b>	<b>15</b>	<b>15</b>	<b>0</b>	<b>3</b>
<b>Total Allocation</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>



**APPENDIX**

# SUMMARY OF ASSUMPTIONS: RETURNS

Asset Class	Index Proxy	2012 Ten Year Forecast	2013 Ten Year Return Forecast	2013 Ten Year Annual Standard Deviation Forecast	Change in Return Expectations '12-'13
<u>Equities</u>					
US Large	S&P 500	7.0	6.3	16.8	-0.7
US Small	Russell 2000	5.5	6.9	21.1	1.4
International Developed	MSCI EAFE	7.6	8.0	19.1	0.4
International Small	MSCI EAFE Small Cap	6.4	8.3	22.8	1.9
Emerging Markets	MSCI EM	8.6	9.6	27.6	1.0
Private Equity	Cambridge Private Equity	10.0	9.9	32.8	-0.1
<u>Fixed Income</u>					
Cash	30 Day T-Bills	2.7	1.7	1.0	-1.0
US TIPS	Barclays US TIPS Index	2.6	2.2	4.6	-0.4
Core Fixed Income	Barclays US Aggregate Bond	2.2	2.0	3.8	-0.2
Investment Grade Corp. Credit	Barclays US Credit	3.5	3.0	5.2	-0.5
High Yield Corp. Credit	Barclays High Yield	5.7	4.9	9.9	-0.8
Global Sovereign	Barclays Global Treasury ex US	2.9	2.2	3.5	-0.7
Global Credit	Barclays Global Credit	4.4	3.7	7.0	-0.7
Emerging Markets Debt (Hard)	JPM EMBI Global Diversified	5.8	5.0	12.8	-0.8
Emerging Markets Debt (Local)	JPM GBI EM Global Diversified	6.5	5.7	11.3	-0.8
<u>Other</u>					
Commodities	S&P GSCI	5.4	4.3	16.6	-1.1
Hedge Funds	HFR Fund of Funds	5.6	5.4	11.5	-0.2
Core Real Estate	NCREIF Property	6.0	5.6	10.9	-0.4
REITs	Wilshire REIT	6.0	5.6	21.8	-0.4
<u>Inflation</u>	Blend	2.7	2.6		-0.1

*Estimated returns are gross of manager fees.*

*Historic standard deviations are based on the last 20 years or since inception of the index if 20 years of data is not available.*

*Hedge Funds' standard deviations was subjectively increased 50% in order to more accurately reflect the volatility of this asset class.*

*We apply our US Small Sharpe ratio estimate of 0.25 to our Private Equity return forecast to calculate a standard deviation for Private Equity.*

*Core Real Estate standard deviation was subjectively assumed to be 50% of the REIT standard deviation.*

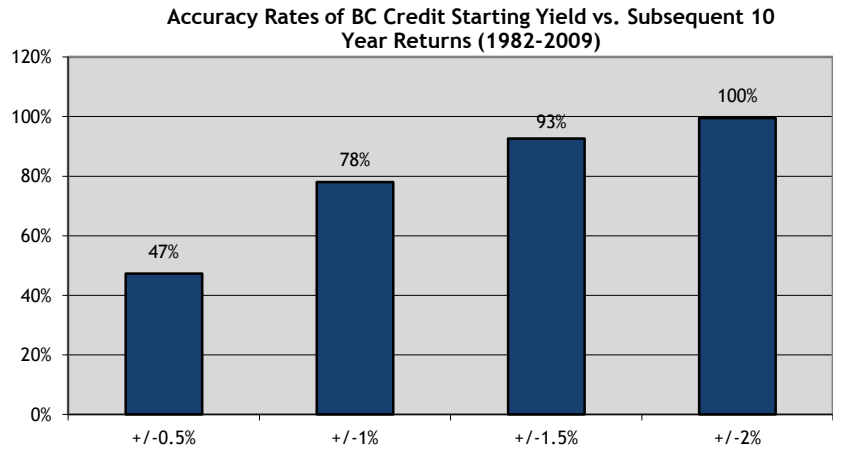
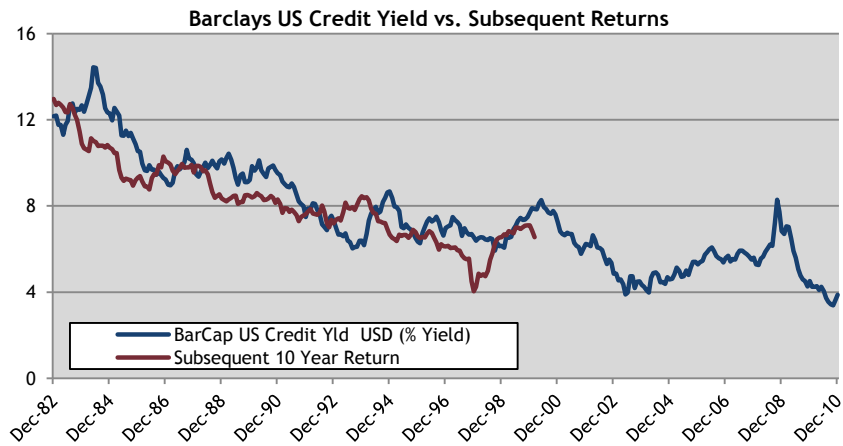
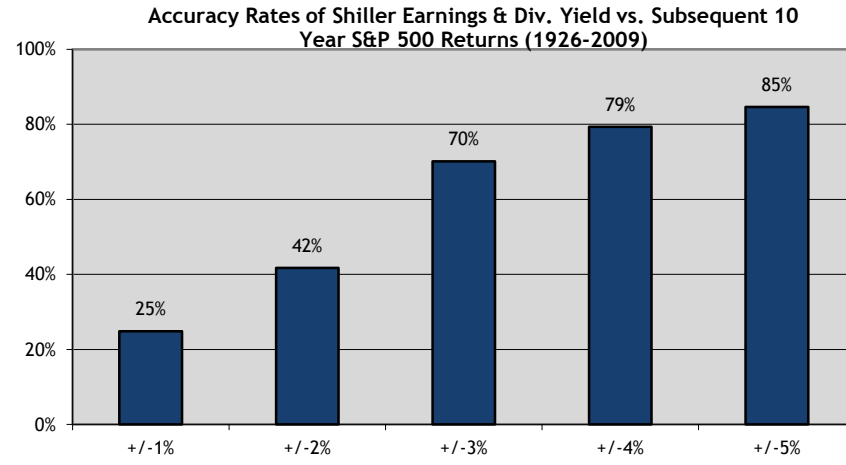
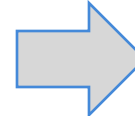
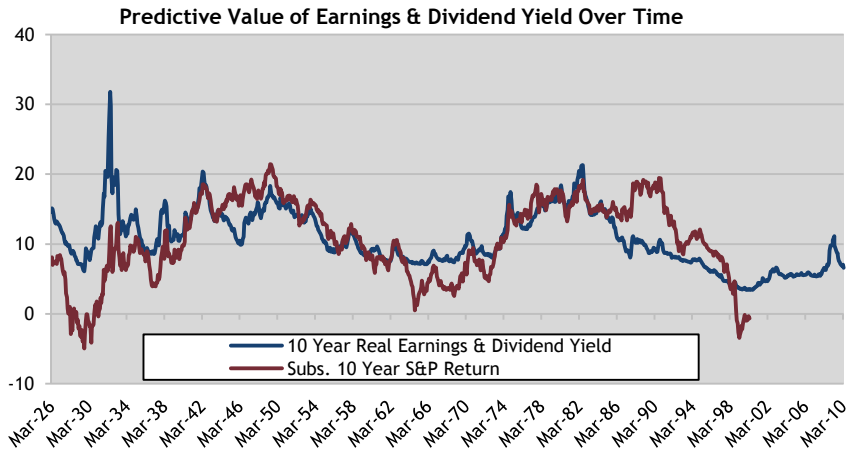


# WURTS' CORRELATION ASSUMPTIONS

	S&P 500	Russell 2000	MSCI EAFE	MSCI EAFE Small Cap	MSCI EM	Private Equity	Cash	US TIPS	Core Fixed Income	Investment Grade Corporate Credit	High Yield Corporate Credit	Global Sovereign	Global Credit	Emerging Market Debt	Emerging Market Debt Local	Commodities	Hedge Funds	Core Real Estate	REITS	Inflation
S&P 500	1.0																			
Russell 2000	0.8	1.0																		
MSCI EAFE	0.8	0.7	1.0																	
MSCI EAFE Small Cap	0.8	0.8	0.9	1.0																
MSCI EM	0.7	0.7	0.8	0.9	1.0															
Private Equity	0.2	0.1	0.3	0.2	0.2	1.0														
Cash	0.1	0.0	0.0	-0.1	-0.1	0.1	1.0													
US TIPS	0.0	0.0	0.1	0.2	0.1	-0.2	-0.1	1.0												
Core Fixed Income	0.1	-0.1	0.0	0.1	0.0	-0.1	0.1	0.7	1.0											
Investment Grade Corporate Credit	0.3	0.2	0.3	0.4	0.2	-0.1	0.0	0.7	0.9	1.0										
High Yield Corporate Credit	0.6	0.6	0.6	0.7	0.6	0.1	-0.1	0.3	0.2	0.5	1.0									
Global Sovereign	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	0.2	0.4	0.7	0.6	0.0	1.0								
Global Credit	0.5	0.4	0.6	0.7	0.6	0.0	-0.1	0.6	0.6	0.8	0.7	0.3	1.0							
Emerging Market Debt	0.5	0.5	0.5	0.6	0.7	0.0	0.0	0.4	0.4	0.5	0.5	0.2	0.8	1.0						
Emerging Market Debt Local	0.6	0.6	0.8	0.7	0.8	0.0	0.0	0.4	0.3	0.5	0.6	0.0	0.8	0.7	1.0					
Commodities	0.3	0.3	0.4	0.5	0.3	0.1	0.0	0.3	0.0	0.1	0.3	-0.1	0.4	0.2	0.4	1.0				
Hedge Funds	0.6	0.6	0.6	0.7	0.7	0.3	0.1	0.1	0.1	0.3	0.5	0.0	0.6	0.6	0.6	0.4	1.0			
Core Real Estate	0.0	0.0	0.0	0.0	0.0	0.6	0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	0.0	-0.1	0.1	0.1	1.0		
REITS	0.6	0.6	0.5	0.6	0.5	0.0	0.0	0.2	0.1	0.3	0.6	0.0	0.5	0.4	0.6	0.2	0.3	0.0	1.0	
Inflation	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.2	-0.1	0.1	-0.1	0.0	0.1	0.1	0.3	0.2	0.1	0.1	1.0

Note: Correlation assumptions are based on historical observations

# WHAT'S THE RELIABILITY OF BETAS?

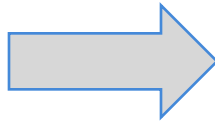


## The Equity/Fixed Allocation is the Single Most Important Decision for Public Market Portfolios

- Should be analyzed through a long term valuation & risk premium framework
- Most reliably done through PE ratios, dividends, and yields to maturity

# WHAT'S THE RELIABILITY OF "ALPHA?"

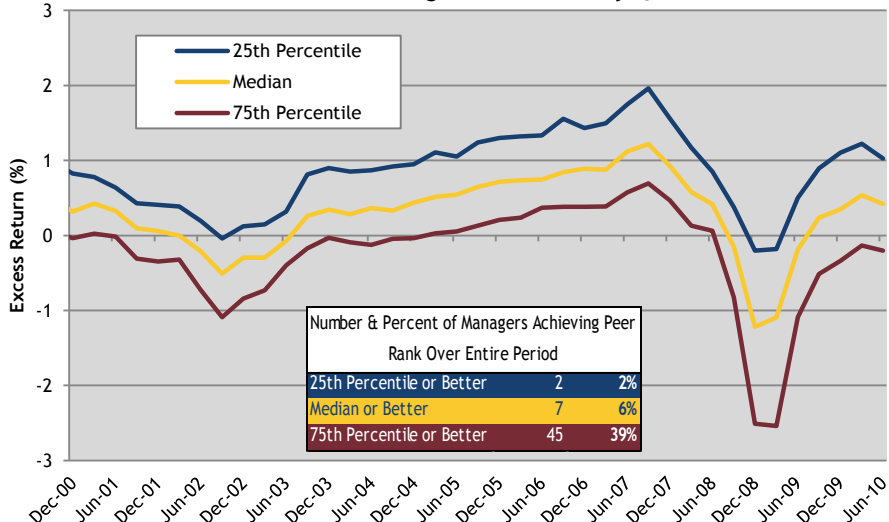
What people think they're getting with active management



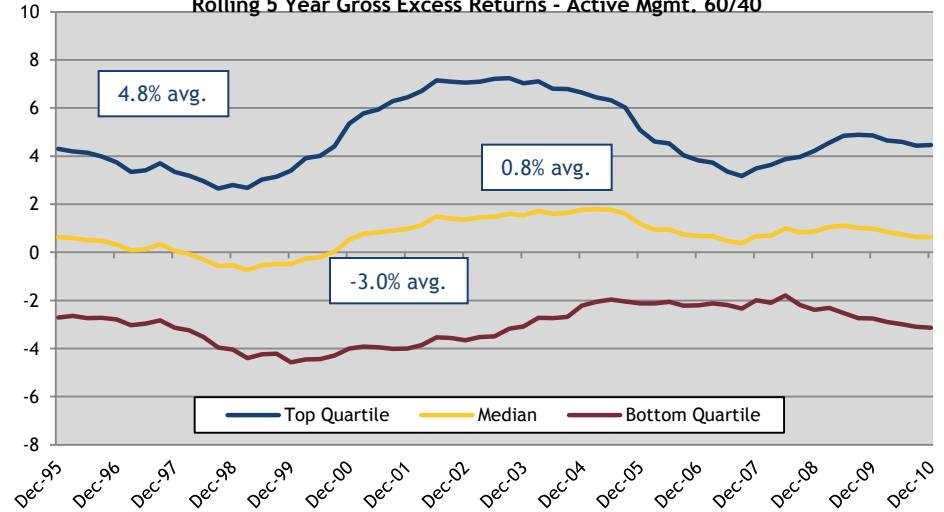
How likely they are to get it...*not very!*



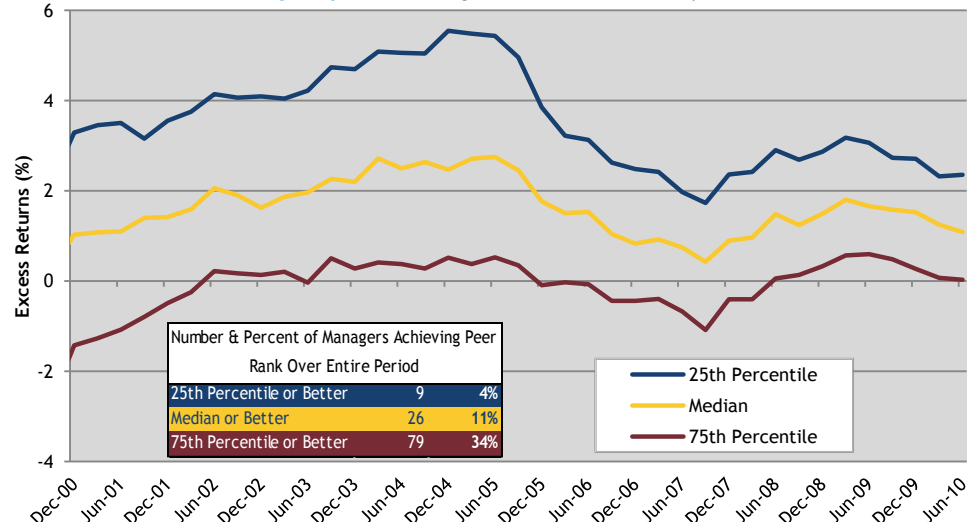
eA US Core Plus Fixed Rolling 5 Yr Excess Rtn by Quartile



Rolling 5 Year Gross Excess Returns - Active Mgmt. 60/40

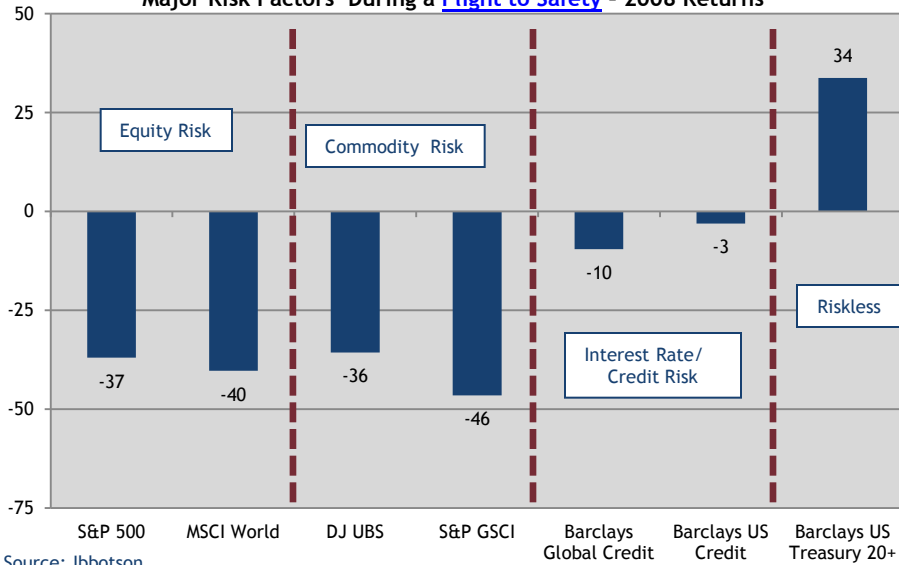


eA US Large Cap Core Rolling 5 Yr Excess Returns by Quartile

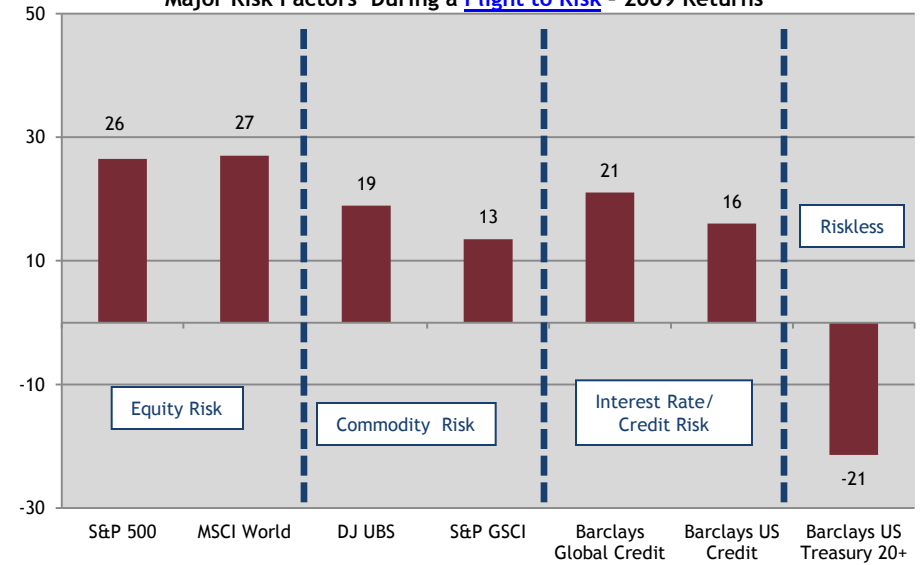


# MACRO FACTORS DRIVE THE BULK OF DIVERSIFICATION

Major Risk Factors During a **Flight to Safety** - 2008 Returns



Major Risk Factors During a **Flight to Risk** - 2009 Returns



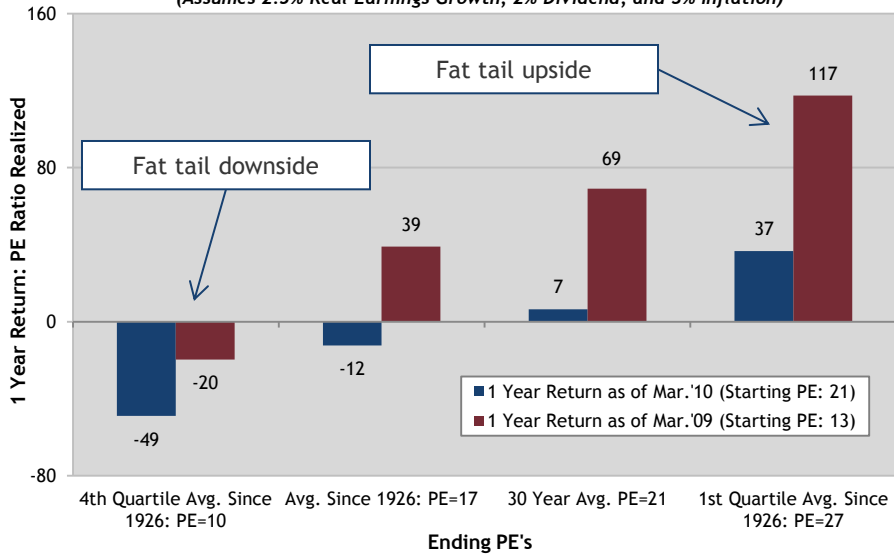
# RISK & DOWNSIDE ARE FUNCTIONS OF VALUATIONS, NOT HISTORY

Historic norms are typically used in assumptions

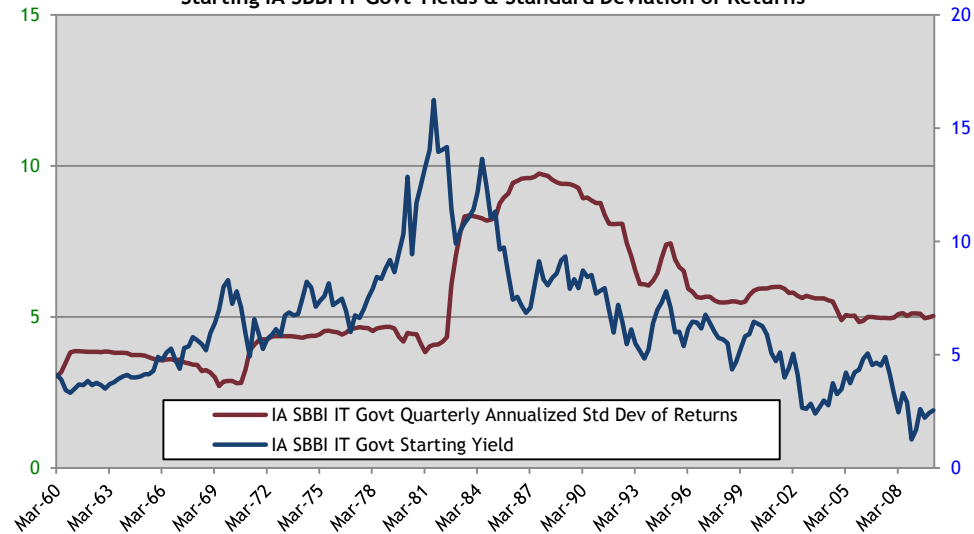
The fluctuating nature of volatility makes mean variance optimization (“MVO”) forecasts and optimizations unreliable

This is especially true in the case of “fat tails”

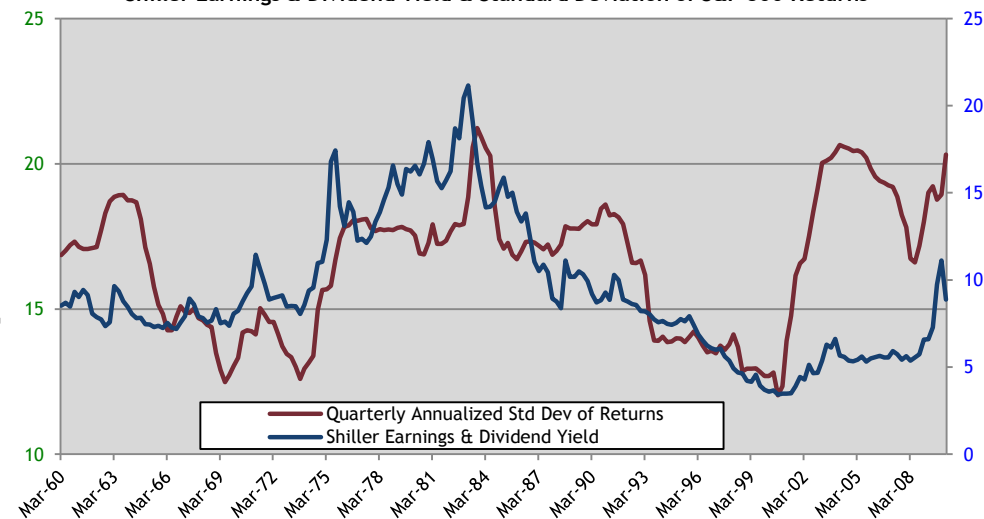
Effects of Changes in Shiller PE Ratio on S&P 500 Returns  
(Assumes 2.5% Real Earnings Growth, 2% Dividend, and 3% Inflation)



Starting IA SBBI IT Govt Yields & Standard Deviation of Returns



Shiller Earnings & Dividend Yield & Standard Deviation of S&P 500 Returns



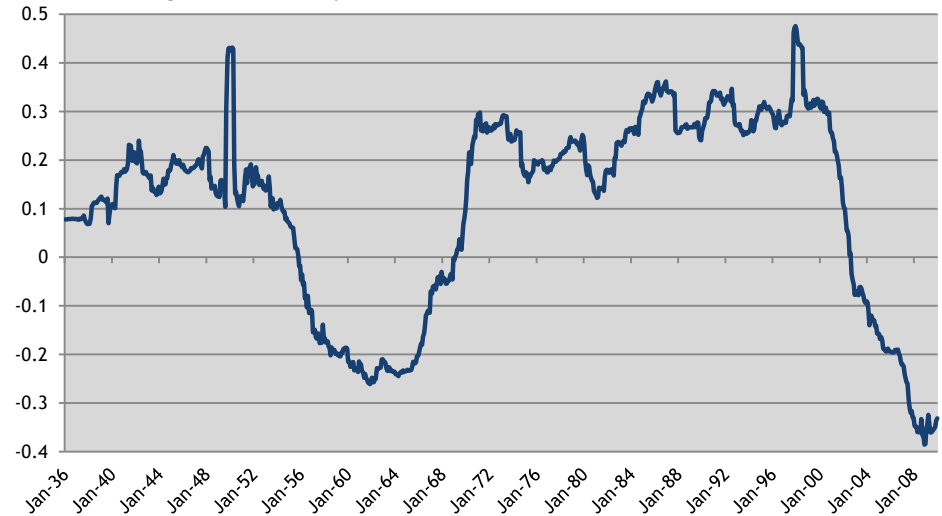
# CORRELATIONS, THE BASIS OF DIVERSIFICATION, FLUCTUATE

If correlations hold true over time, diversification is achieved on a monthly basis

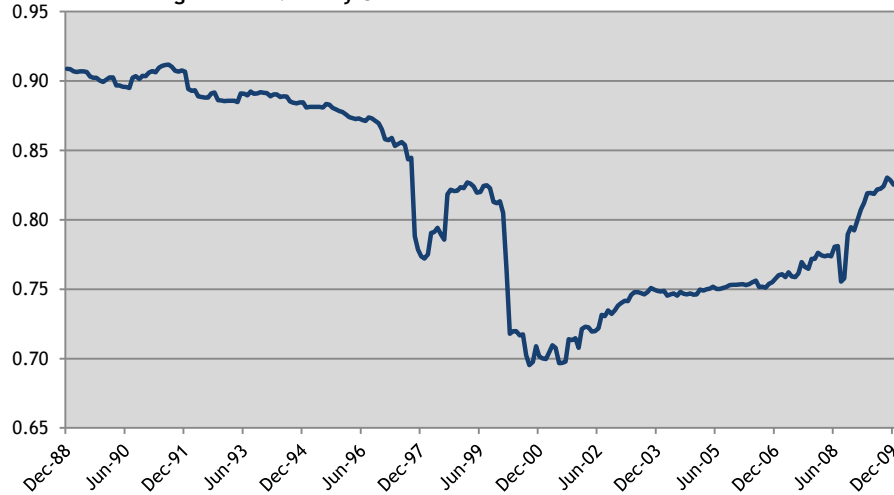
Unfortunately, they don't

In other words, MVO diversification forecasts are highly unlikely to be correct

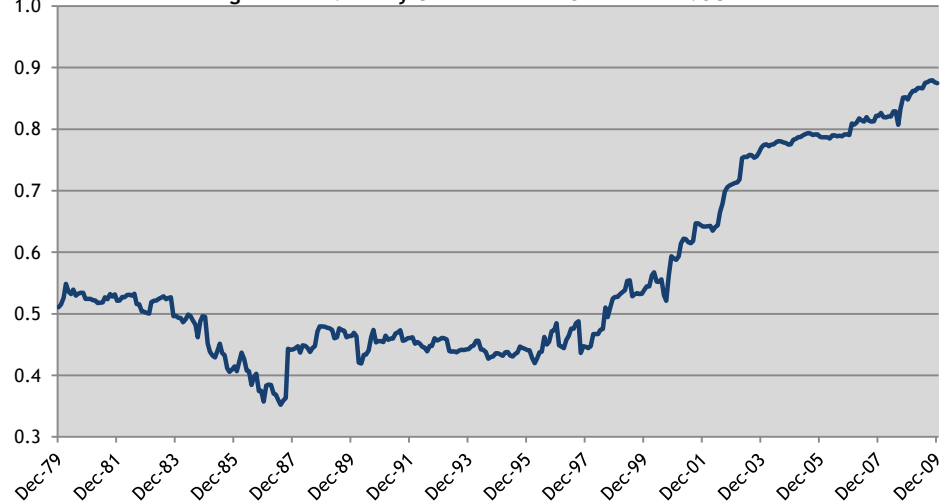
Rolling 10 Year Monthly Correlations of S&P 500 to IA SBBI IT Govt Returns

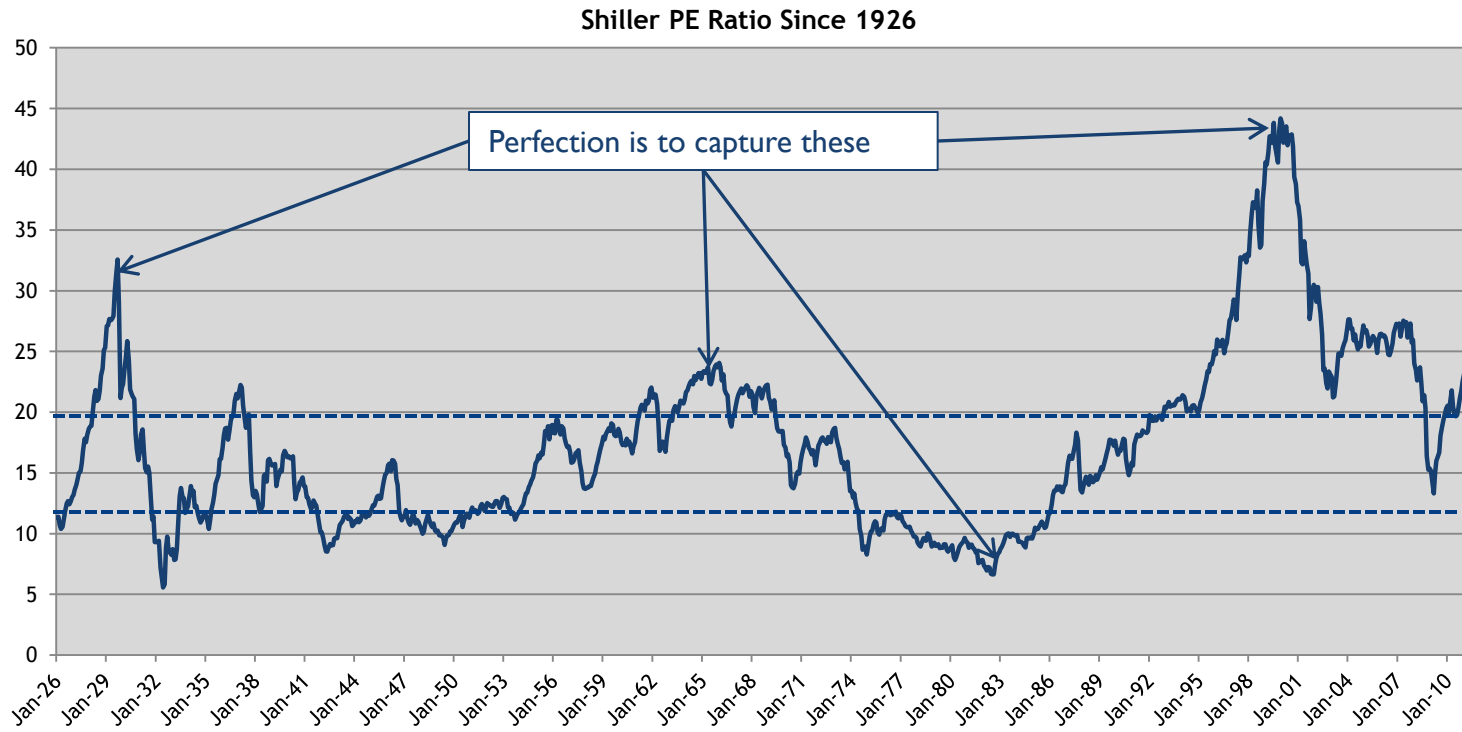


Rolling 10 Year Monthly Correlations of Russell 1000 to Russell 2000



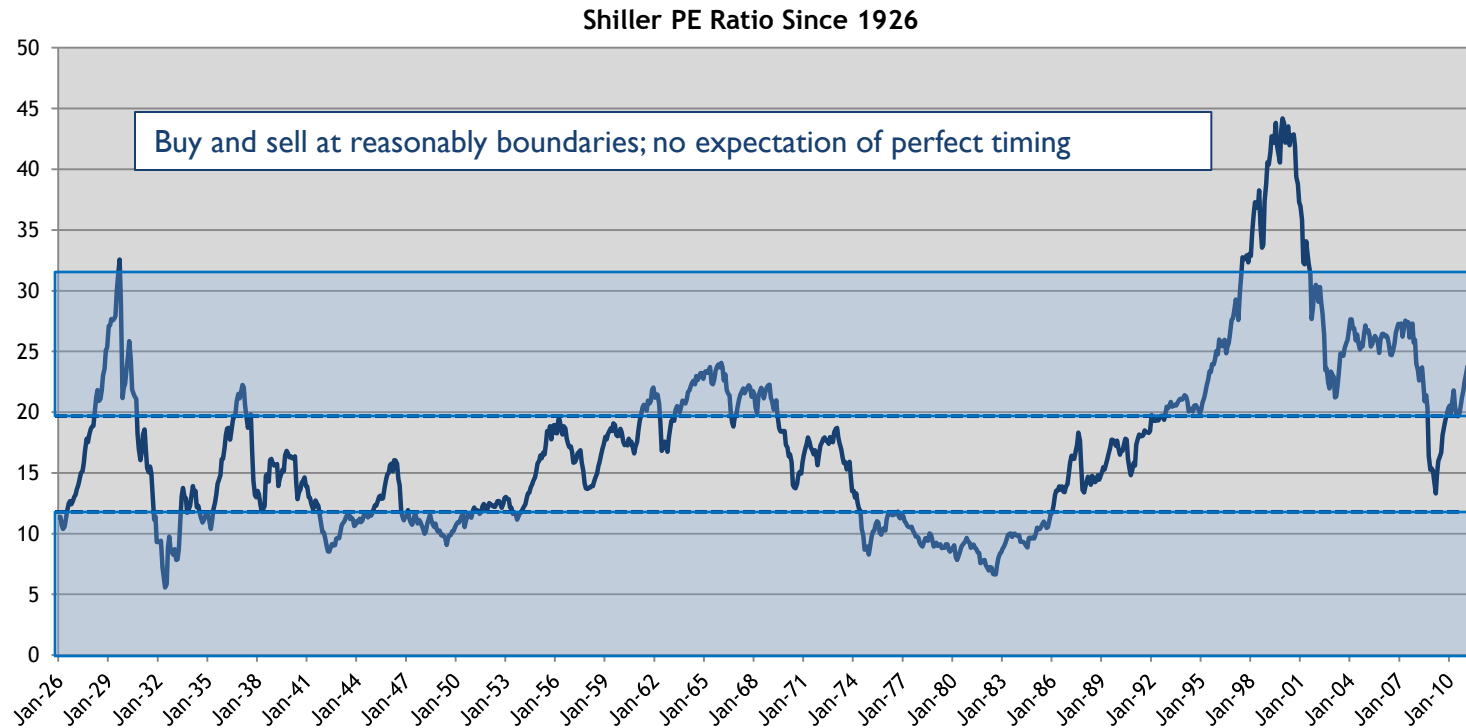
Rolling 10 Year Monthly Correlations of S&P 500 to MSCI EAFE





- In an ideal world, we want to capture peaks and troughs of valuations...in reality it can't happen
- So the conventional wisdom concludes give up and do nothing (i.e., static portfolio)
- We disagree

# A LOGICAL ALTERNATIVE TO THE PURSUIT OF PERFECTION



- We know we'll never capture peaks and troughs, but why not try at all?
- The key is having the discipline to believe a certain valuation is “good enough” to warrant a shift
- *Is this market timing or simply rational investing?*
- We believe the latter

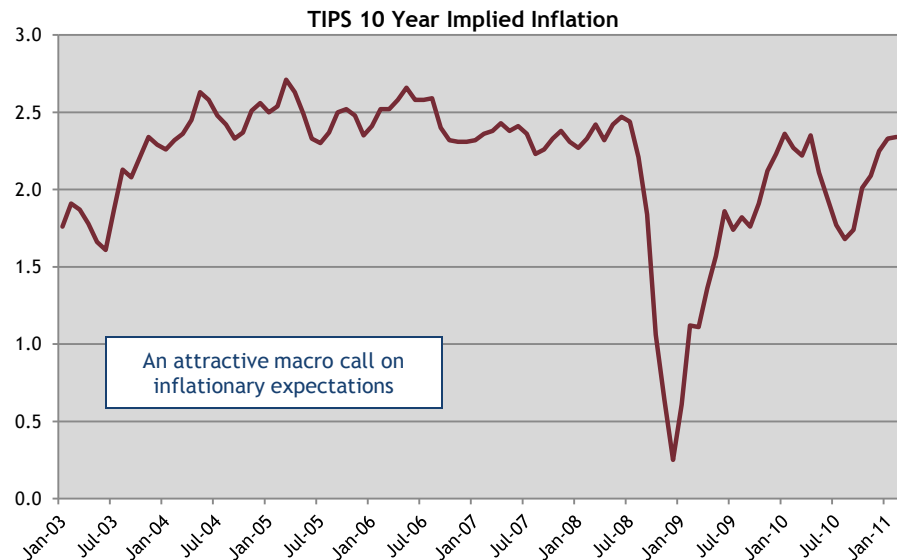
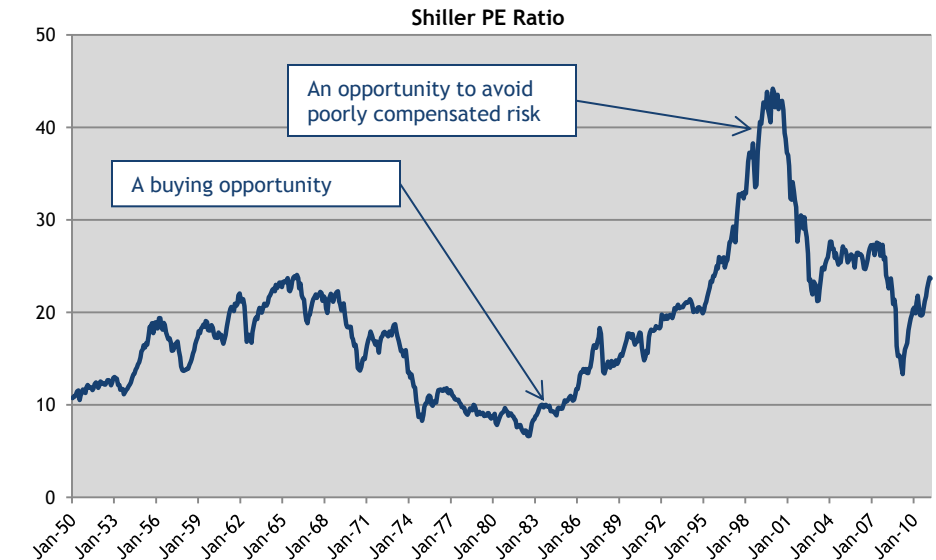
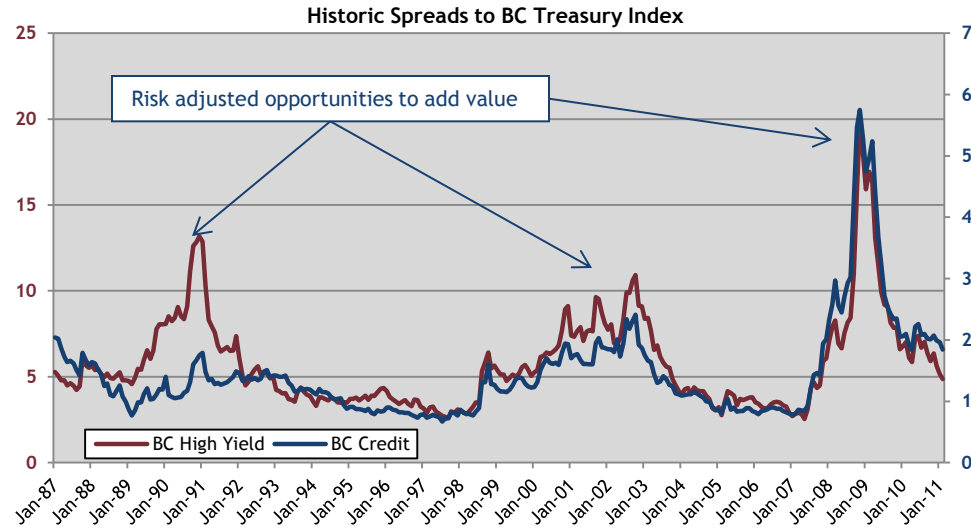


# YOU WON'T FIND BETA OPPORTUNITIES IF YOU'RE NOT LOOKING

Compelling beta opportunities may not present themselves all the time

But when they do, it makes sense to act upon them

*And the potential value added is far greater than active asset class management*



## Overarching Themes:

- Marginally tilt away from equity risk in favor of credit as rates rise/capital market line shifts upwards
- Focus on cash flowing investments to mitigate portfolio volatility
- Protect against inflationary pressures
- Maintain liquidity to act on opportunistic situations

## Equity:

- Domestic Equity
  - US Large Cap: 80% of domestic equity
  - US Small/Mid Cap: 20% of domestic equity
- International Equity: 50% of total equity
  - Emerging Markets: 1/3<sup>rd</sup> of international equity

## Fixed Income (intermediate mandate):

- 25% Risk Free (Treasuries and Agencies, TIPS)
- 75% Credit (investment grade, high yield, EM debt)

## Real Assets:

- Commodities: 50% of real assets
- Real Estate: 50% of real assets

## Alternatives (0-20%):

- Private Equity: 0-10%
- Hedge Funds: 0-10%

## Equities

- *Globally Biased Equity Allocation* – We believe global valuations and macroeconomic risks in US economy warrant a departure from home country bias and an allocation more along the lines of global capitalization weightings.
- *Slight Explicit Underweight to Small/Mid-Cap* – Small-caps stocks do not appear priced to outperform large-cap stocks on a risk-adjusted basis. Also, US large-cap managers tend to dip into mid-cap range to add value.
- *Neutral Style Weights* - Conflicting valuation and technical indicators do not justify policy tilts.
- *Emerging Market Overweight* – Lower valuations and higher expected GDP growth warrant embracing marginal risk.

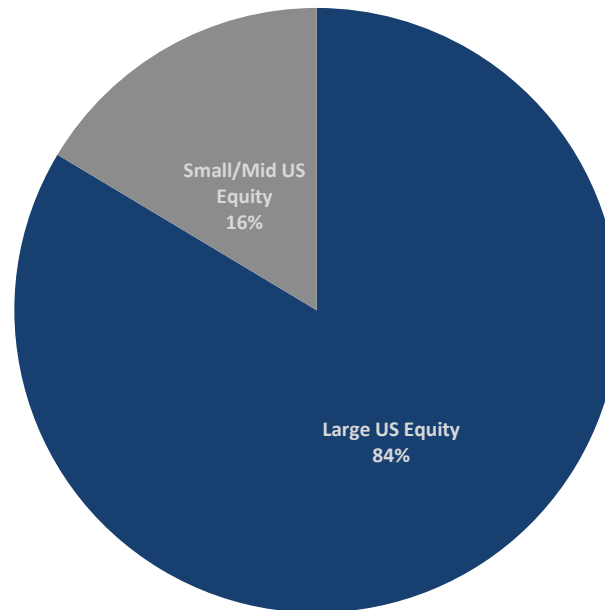
## Fixed

- *Low Exposure to Core Fixed* – Risk free yields are low due to weak economy and Fed suppression of interest rates. Rates are also likely to rebound as GDP strengthens and/or inflationary expectations rise; risk free assets will be impacted the most.
- *Allocate to TIPS* – TIPS will provide insurance against potential inflation and are likely poised to outperform other risk free assets.
- *Emphasize Core-Plus/Credit & High Yield* – Credit spreads offer ample compensation for bearing credit risk. Furthermore, credit spreads are generally unaffected by inflation and may still narrow from current levels if GDP strengthens.
- *Emerging Market Debt* – Current yields offer significant compensation against potential currency shifts and defaults, and macro conditions for emerging markets imply superior credit quality to developed nations (i.e., balance of payments and GDP growth)

## Alternatives

- *Modest Private Equity Exposure* – Most private equity strategies are burdened with a significant overhang of uncalled capital, alongside higher valuations and diminished exit opportunities. Also, credit conditions make financial engineering more costly.
- *Modest Hedge Fund Exposure* – Likely prospective market conditions may be challenging for hedge fund strategies, as they inherently require predictable market volatility and/or narrowing risk premiums to provide desired diversification benefits.

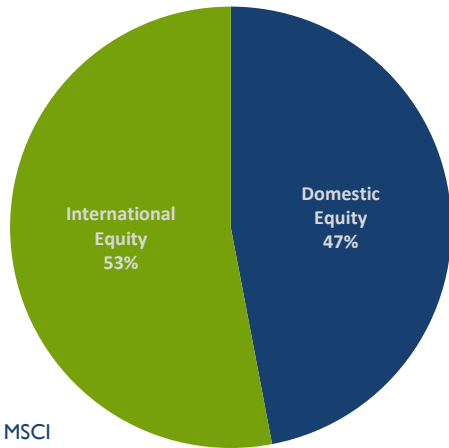
### Russell 3000 Composition (9/12)



Source: Russell

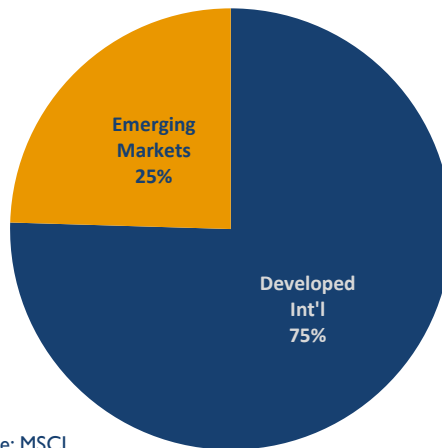
- **Market Weight** – Small-caps stocks do not appear priced to outperform large-cap stocks, but should still exhibit historic volatility. Also, US large-cap managers tend to dip into mid-cap range to add value.

MSCI All Country World Index (9/12)



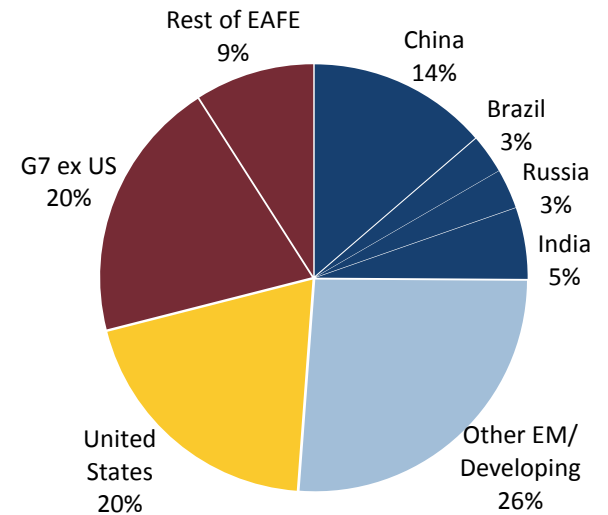
Source: MSCI

MSCI ACWI ex-US Equity (9/12)



Source: MSCI

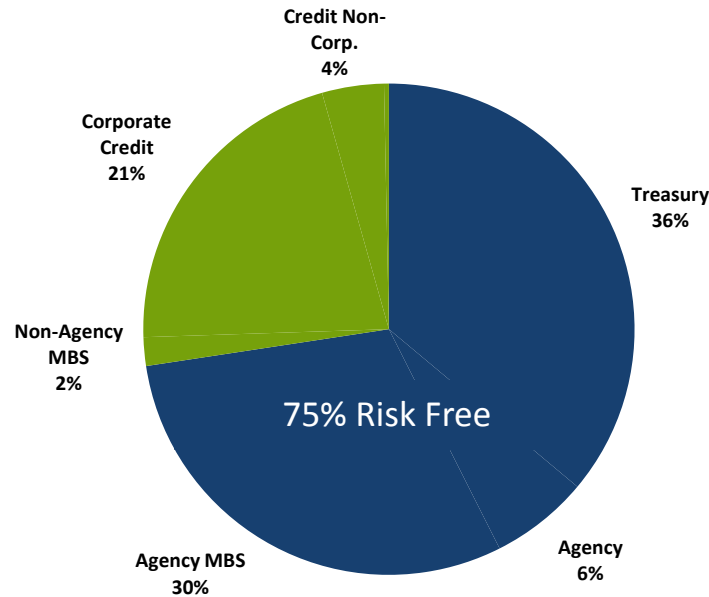
World GDP Breakdown (PPP based)



■ Rest of EAFE = EAFE - 5 countries in G7

- Globally Biased Equity Allocation* – We believe global valuations and macroeconomic risks in US economy warrant a departure from home country bias and an allocation more along the lines of global capitalization weightings.
- Slight Emerging Market Overweight* – Lower valuations and higher expected GDP growth warrant embracing marginal risk.

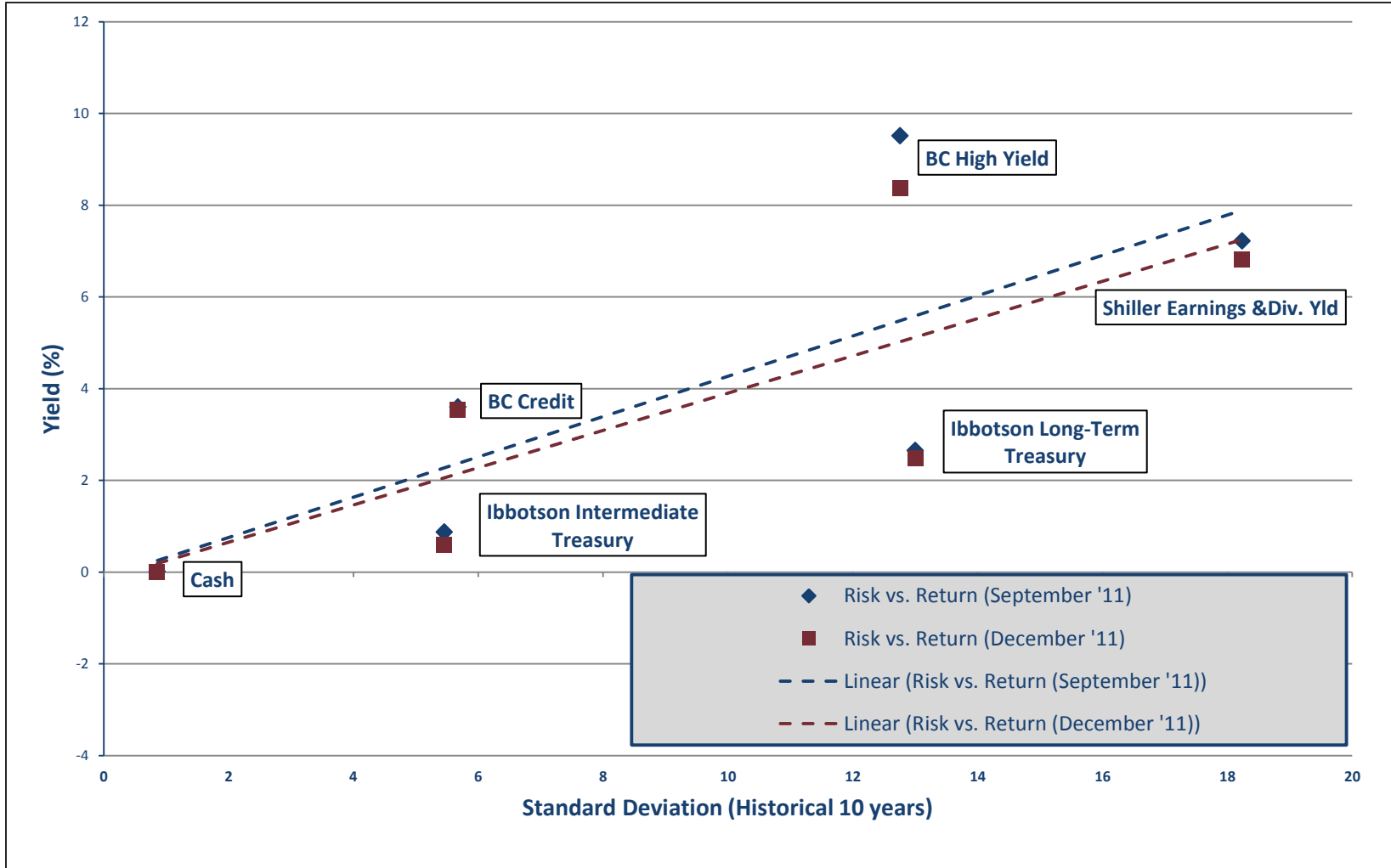
Market: Barclays Aggregate (9/12)



- *Reduction in Core Fixed* – Risk free yields are low due to weak economy and Fed suppression of interest rates. Rates are also likely to rebound as GDP strengthens and inflationary expectations rise.
- *Maintain Core-Plus/Credit & High Yield* – Credit spreads offer ample compensation for bearing credit risk. Furthermore, credit spreads are generally unaffected by inflation and may still narrow from current levels of GDP strengthens.

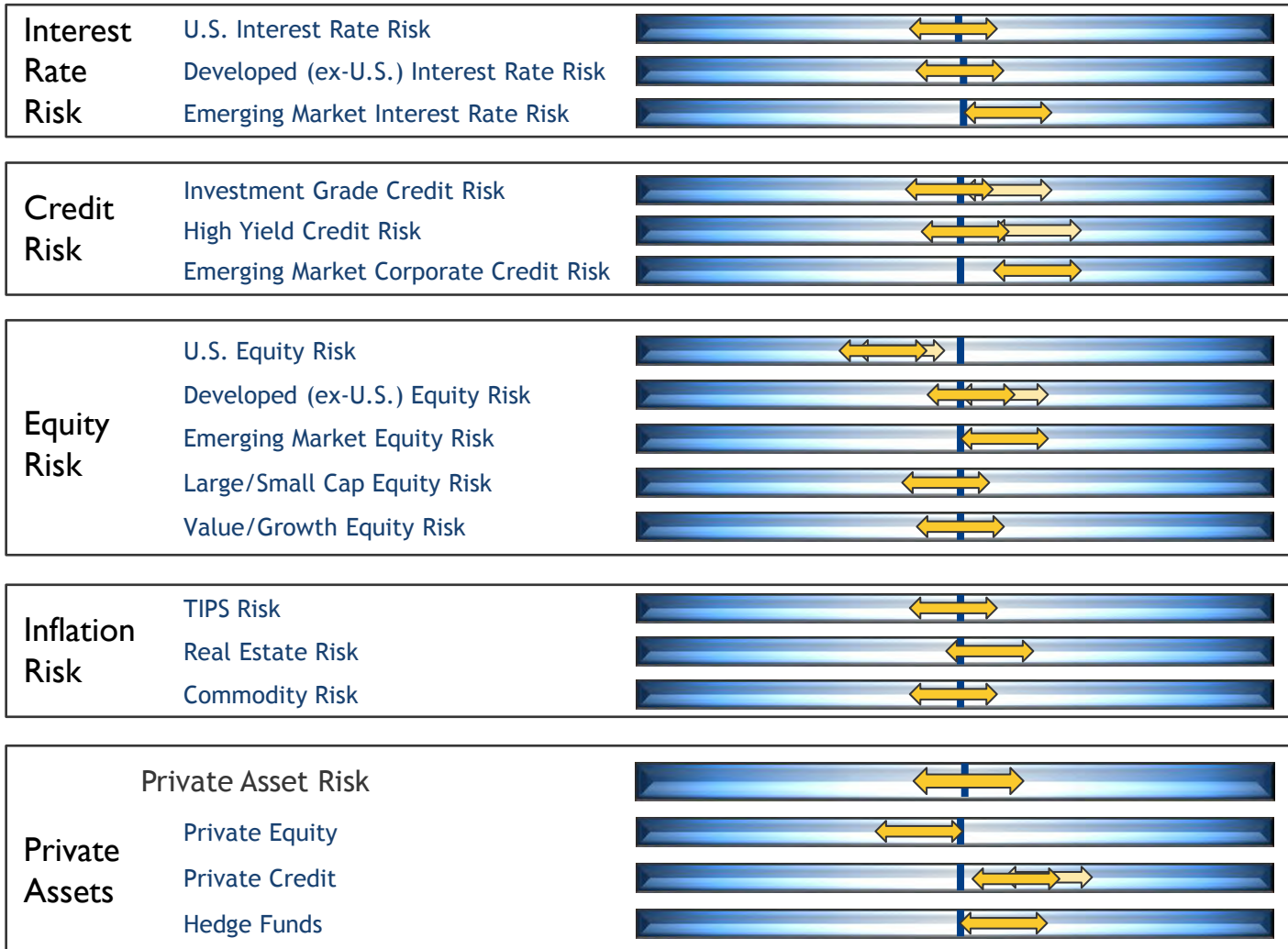
# CURRENT MARKET VIEWS

Risk versus Return





# PORTFOLIO RISK ALLOCATION (DETAIL)



| Neutral to policy    Recommended range relative to policy    Prior quarter

## LARGE CAP GROWTH SEARCH

Sample Client

April 2012

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[www.wurts.com](http://www.wurts.com)

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# MANAGER COMPARISONS

# MANAGER COMPARISONS

	<b>Sands Capital Management Select Growth Equity</b>	<b>T. Rowe Price Large Cap Growth</b>	<b>The Boston Company Large Cap Growth</b>	<b>Winslow Capital Management Large Cap Growth</b>
<b>Investment Philosophy</b>	<ul style="list-style-type: none"> <li>Seeks to own durable companies with above average sustainable earnings growth for long periods of time</li> <li>Concentrated portfolio with low name turnover</li> <li>Fundamental, bottom-up research seeks to identify industry-leading companies in growing industries with a unique business franchise that display financial strength and are attractively valued</li> </ul>	<ul style="list-style-type: none"> <li>Seeks to capitalize on two inefficiencies in US large cap growth universe: the market systematically overestimates the ability to grow at double digit rates; short-term momentum and sentiment are overestimated by investors</li> </ul>	<ul style="list-style-type: none"> <li>Seeks unique drivers of growth in each sector</li> <li>Industry/sector analysts are responsible for their respective selection and weighting decisions</li> <li>Rules based portfolio construction to mitigate risk, coupled with unique decision making process</li> </ul>	<ul style="list-style-type: none"> <li>Seeks companies it believes will produce 15%-20% earnings growth; beating consensus expectations</li> <li>Holds companies with different sources of earnings growth</li> <li>Emphasis on companies: with competitive advantages, in growth industries, and with rising return on invested capital</li> </ul>
<b>Portfolio Construction</b>	Portfolio divided among hyper growers (30%), classic growers (50%), duration growers (15-20%)	Portfolio invests in two types of growth companies: cyclical firms invested in at the right time and secular firms to be held long term	Portfolio distributes capital across 14 industry specialists organized in sector groups; weighting determined by benchmark	Portfolio divided among cyclical growth, rapid growth, and stable growth companies
<b># of Stocks in Portfolio</b>	25-30	45-70	60-100	55-65
<b>Top 10 Positions (%)</b>	53%	36%	30%	33%
<b>Active Stock List*</b>	80-100	80-120	300	100
<b>Maximum Position size</b>	12%	5%	5%	5%
<b>Differentiating Characteristics</b>	<ul style="list-style-type: none"> <li>Concentrated portfolio of best ideas</li> <li>Demonstrated ability to identify companies with above average sustainable earnings growth</li> <li>High conviction positions; low turnover</li> <li>Focused firm: growth oriented product shop</li> <li>Lowest correlation to Robeco (John Hancock)</li> </ul>	<ul style="list-style-type: none"> <li>Seeks to own companies capable of generating above average earnings growth over long periods of time and don't produce earnings disappointment</li> <li>Avoids companies whose price appreciation is driven by momentum and market sentiment rather than free cash flow growth</li> <li>"Let the winners run" philosophy</li> </ul>	<ul style="list-style-type: none"> <li>Ability to identify industry specific measures of growth and valuation</li> <li>Analysts are compensated according to the relative performance of their sector funds</li> <li>Benchmark-like industry/sector weights imply excess returns are driven by security selection</li> </ul>	<ul style="list-style-type: none"> <li>Constructs portfolio out of three sources of growth; believing this provides superior returns and diversification</li> <li>Active sell discipline that continually evaluates risk and allocates capital to strongest growth prospects</li> <li>Same two PM's have managed portfolio together for 13 years</li> </ul>
<b>Best Economic/Market Environment</b>	Up/Up	Up/Up	Down/Up	Stable/Up
<b>Explanation of Best Environment</b>	Portfolio performs well in up markets and growing economy, strategy delivers market-like performance in down markets and weak economy	Portfolio performs best in periods of strong economic and earnings growth while offering market-like performance in down periods	Portfolio performs well in various economic environments, strategy delivers market-like performance in down markets and weak economy	Portfolio does well in markets that reward fundamental valuation, but will produce market-like performance during periods of declining economic and earnings growth
<b>Potential Concerns</b>	<ul style="list-style-type: none"> <li>Strategy assets continue to climb and are high relative to number of holdings</li> <li>Ownership concentrated within family</li> <li>Concentrated portfolio subject to large risk exposures and tracking error</li> </ul>	<ul style="list-style-type: none"> <li>One of multiple LCG products relying on same research team; significant stock overlap</li> <li>\$58b in LCG strategies</li> <li>Strategy asset growth has increased rapidly from \$17b to \$22b</li> <li>Number of names in portfolio appears to have been increased to compensate for increased strategy assets</li> </ul>	<ul style="list-style-type: none"> <li>Decision to construct portfolio with benchmark-like industry/sector weights may force capital to unattractive areas</li> </ul>	<ul style="list-style-type: none"> <li>Assets have increased from \$8b in 2008 (at time of Nuveen acquisition) to \$29b today</li> <li>Clark Winslow no longer involved in security selection</li> <li>Since acquisition by Nuveen, excess returns and growth in assets have fallen</li> </ul>

\*Active Stock List is the number of stocks that are actively tracked for potential inclusion in the portfolio.

# MANAGER COMPARISONS

	Sands Capital Management Select Growth Equity	T. Rowe Price Large Cap Growth	The Boston Company Large Cap Growth	Winslow Capital Management Large Cap Growth
<b>Location</b>	Arlington, VA	Baltimore, MD	Boston, MA	Minneapolis, MN
<b>Founded</b>	1992	1937	1970	1992
<b>Ownership</b>	Employee owned	Public company	Owned by BNY Mellon	Owned by Nuveen
<b>Firm AUM (\$mm's)</b>	\$18,759	\$489,498	\$37,483	\$29,377
<b>Strategy Inception Date</b>	Jul-92	Jan-02	Jul-05	Jul-92
<b>Product AUM (\$mm's)</b>	\$15,407	\$21,812	\$2,900	\$29,377
<b>Team Size PMs/Analysts</b>	3 / 16	4 / 123	1 / 15	2 / 5
<b>Avg. Tenure PMs/Analysts</b>	17 / 11	16 / 8	25 / 14	25 / 25
<b>Vehicle* / Minimum / Fee</b>	MF(CISGX) 500,000 / 80bp	MF(TRLGX) 1MM / 57bp	CF: 3MM 65bp First 25MM MF(DWOIX**): 1,000 / 88bp	CF: 1MM First 15MM 65bp

\* Vehicles shown are those available at \$5MM

\*\* The Boston Company is the sub-adviser to the Dreyfus Research Growth I fund (DWOIX)

# MANAGER COMPARISONS

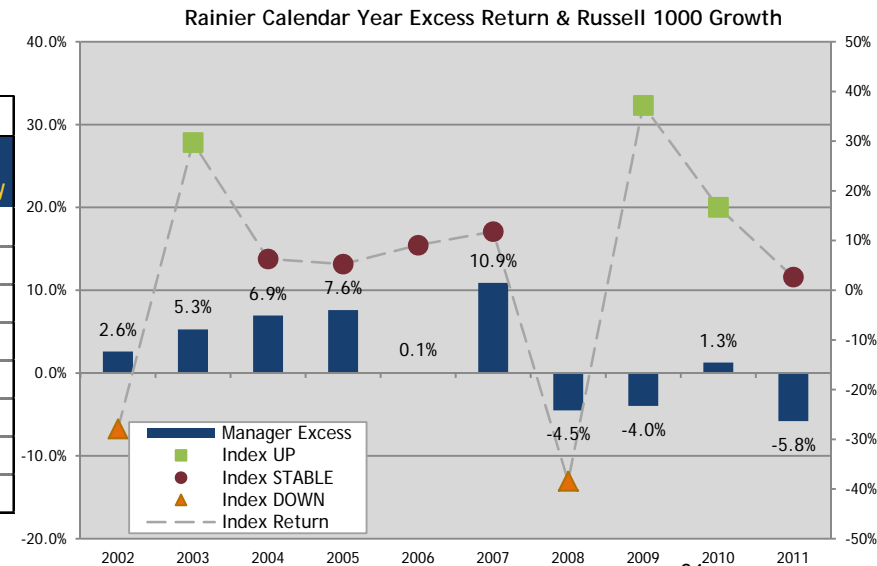
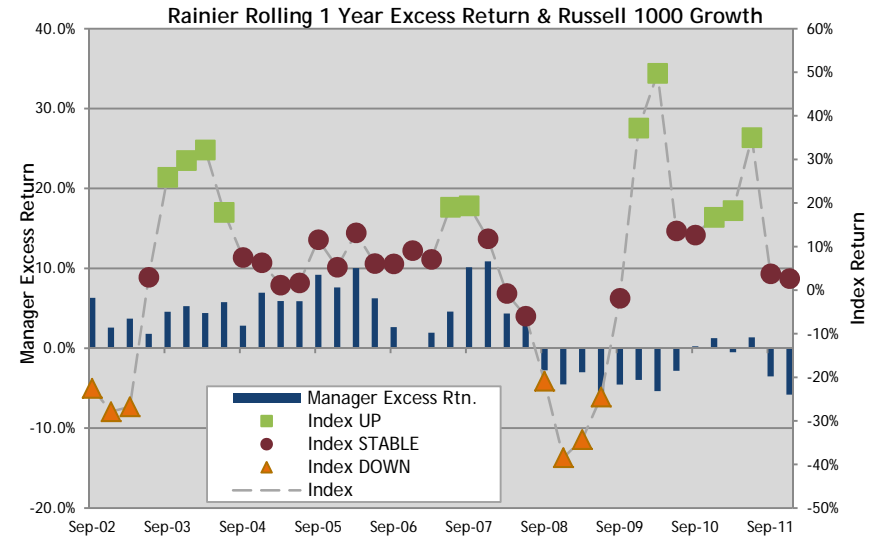
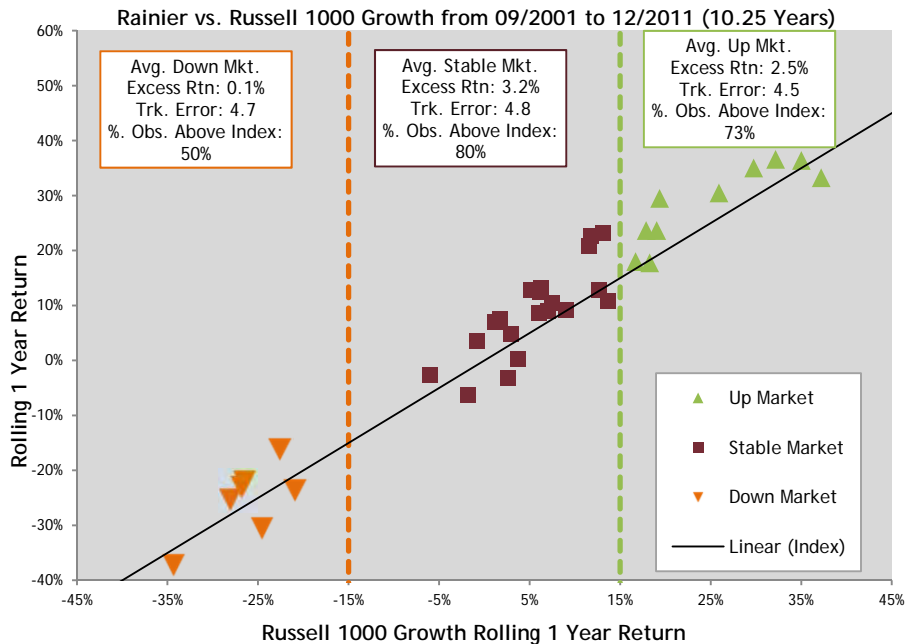
	Sands Capital Management Select Growth Equity	T. Rowe Price Large Cap Growth	The Boston Company Large Cap Growth	Winslow Capital Management Large Cap	Russell 1000 Growth
R-squared (5yr)	0.91	0.96	0.98	0.96	-
Beta (5yr)	1.15	1.11	0.99	1.04	-
Standard Dev. (5yr)	23.05	21.51	19.15	20.19	21.26
Tracking Error (5yr)	7.53	4.64	2.75	3.85	-
Info. Ratio (5yr)	0.58	0.11	0.50	0.53	-
Current P/E (12 mo. trailing)	25.10	20.83	15.10	18.80	15.19
Current Dividend Yield	0.58%	0.61%	1.35%	0.78%	1.6%
Current Wtd. Avg. Mkt. Cap (\$mm's)	\$73,000	\$69,937	\$72,210	\$61,080	\$97,490
Holdings	29	70	86	61	588
Annual Turnover	15%	58%	96%	42%	-
<b>Performance (Gross Returns vs. Russell 1000 Growth as of 12/31/2011)</b>					
MRQ	8.7	9.6	9.2	9.6	10.6
YTD	3.0	-1.2	-2.2	0.6	2.6
1 Year	3.0	-1.2	-2.2	0.6	2.6
3 Years	31.2	21.2	19.0	18.5	18.0
5 Years	6.9	3.0	3.9	4.5	2.5
10 Years	5.9	4.6	-	4.9	2.6
<b>Calendar Year (Gross Return vs. Russell 1000 Growth)</b>					
2011	3.0	-1.2	-2.2	0.6	2.6
2010	27.2	16.8	24.2	17.2	16.7
2009	72.2	54.3	38.6	41.0	37.2
2008	-48.4	-40.4	-37.6	-38.6	-38.4
2007	19.7	9.4	15.3	22.3	11.8
2006	-5.2	6.9	9.1	8.0	9.1
2005	11.0	8.4	-	10.9	5.3
2004	21.0	11.3	-	14.9	6.3
2003	36.7	38.9	-	30.0	29.7
2002	-26.9	-24.5	-	-27.7	-27.9

\* Values in red indicate underperformance relative to the index.

# MANAGER MULTI-FACTOR CHARTS

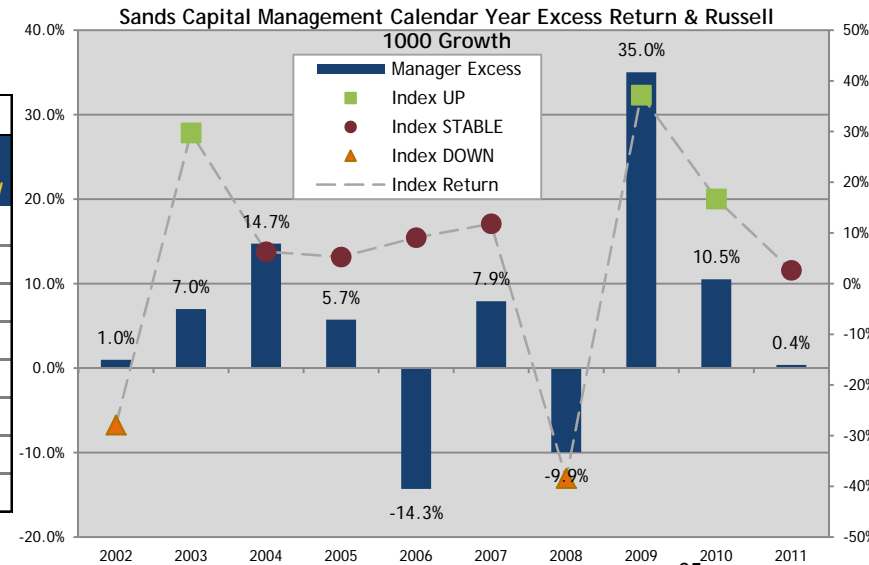
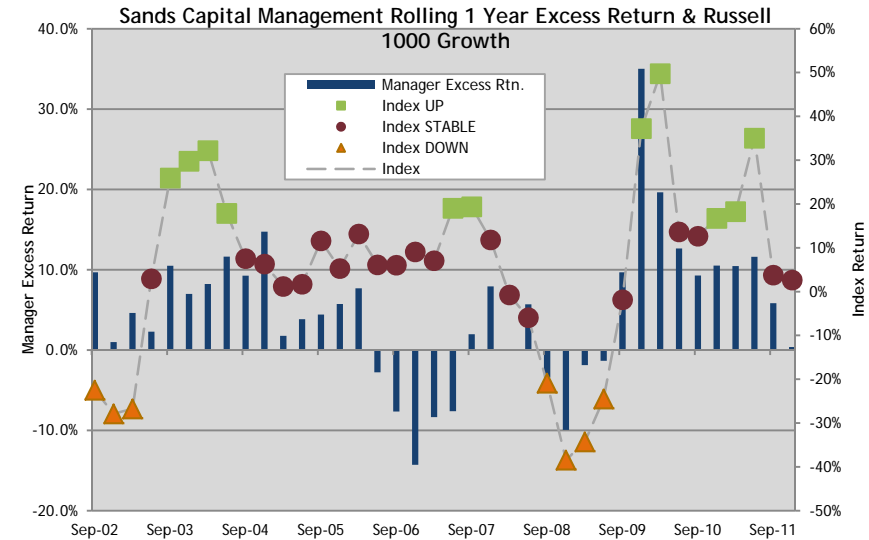
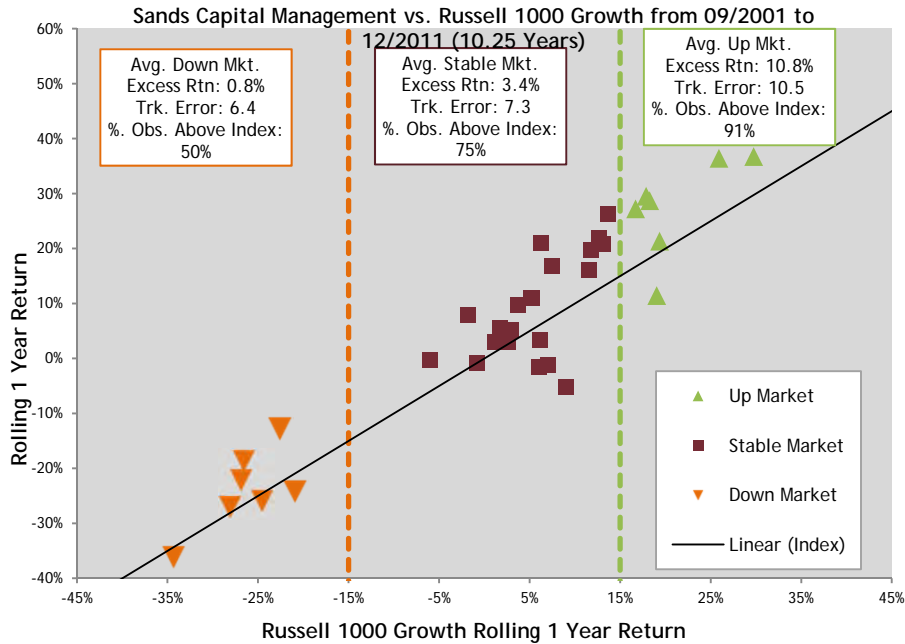


# MULTI-FACTOR CHARTS: RAINIER INVESTMENT MANAGEMENT



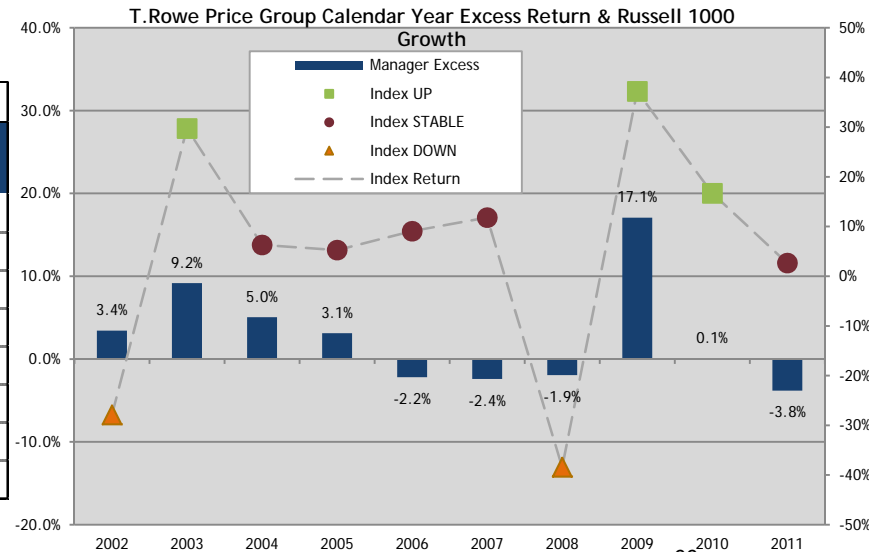
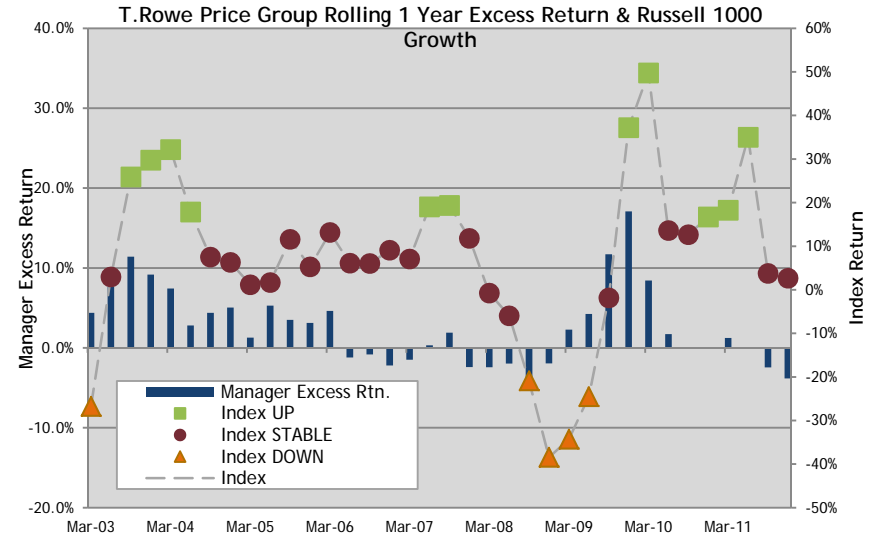
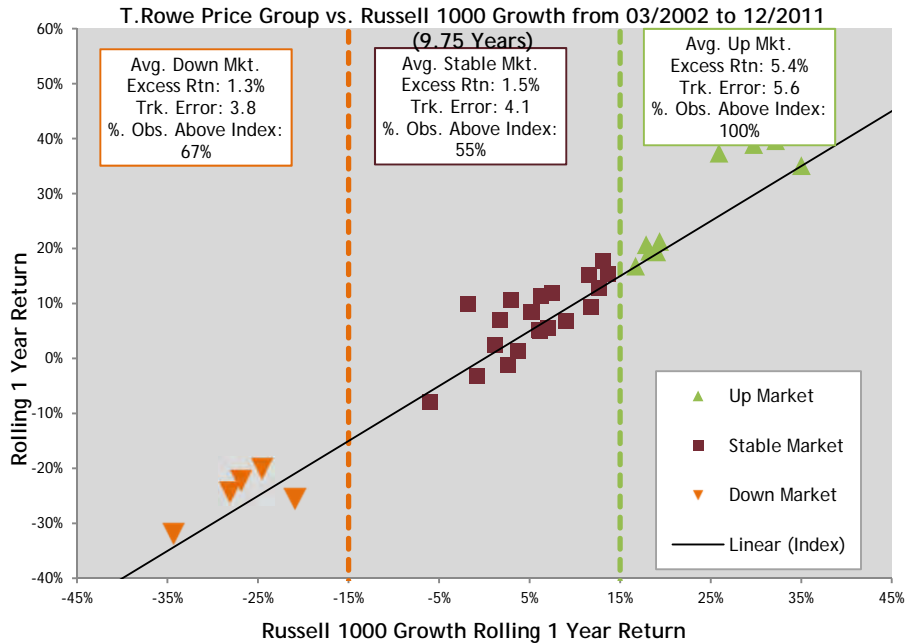
Macro Factors	Range	Average Excess Return			Range of Values	Highest Sensitivity
		Up	Down	Stable		
Russell 1000 Growth Rolling 1-year return	10.0%	3.6%	-1.4%	3.4%	5.0%	Up
Russell 1000 Growth P/E (Change)	0.30	-0.2%	1.1%	5.1%	5.2%	Stable
GDP Growth (Change)	0.40%	1.7%	0.5%	3.5%	3.0%	Stable
R1000 Sector Dispersion (1 Yr Ave - 10 Yr Ave.)	2.00%	-0.8%	3.4%	4.0%	4.8%	Stable
High Yield OAS (Change)	0.50	2.0%	1.1%	3.7%	2.6%	Stable
Interest Rate (Change)	0.15	1.9%	0.8%	3.9%	3.1%	Stable
Commodity	15.0%	3.9%	-4.7%	2.1%	8.6%	Up
Inflation (Change)	0.25%	3.5%	-0.3%	3.5%	3.8%	Stable

# MULTI-FACTOR CHARTS: SANDS CAPITAL MANAGEMENT



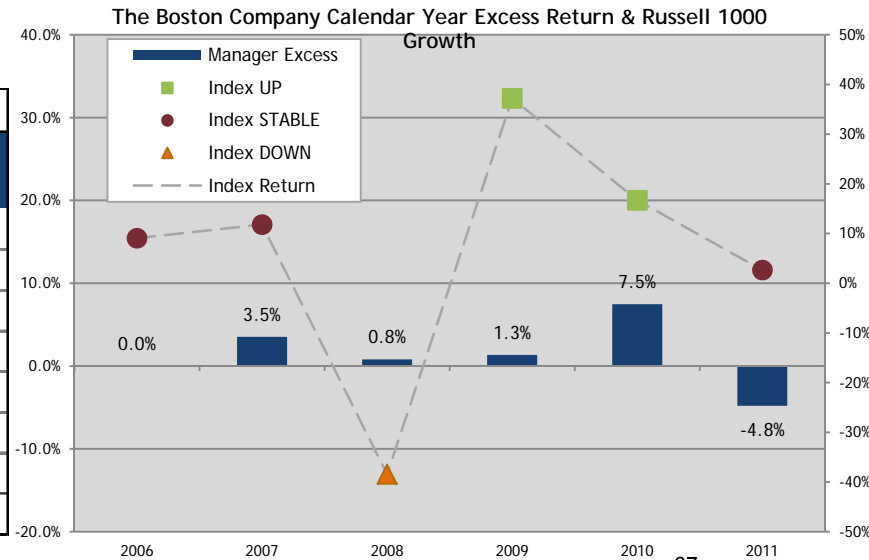
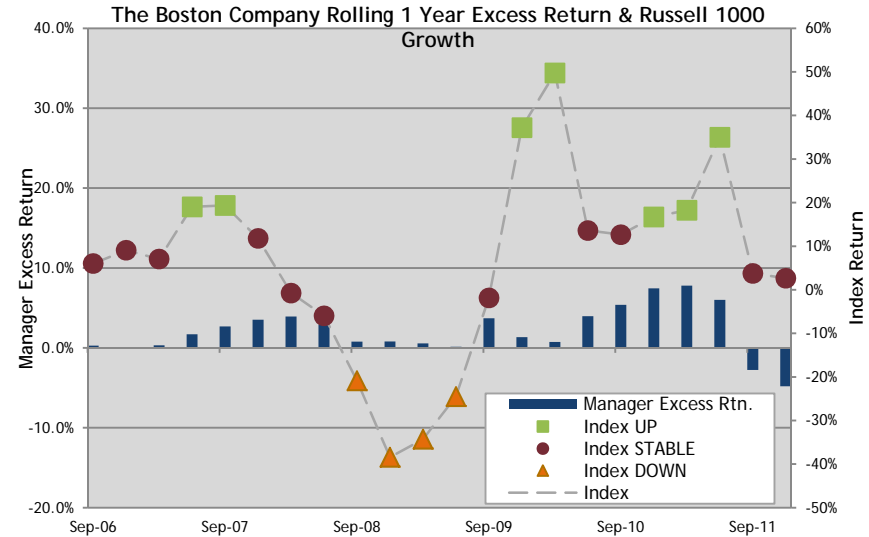
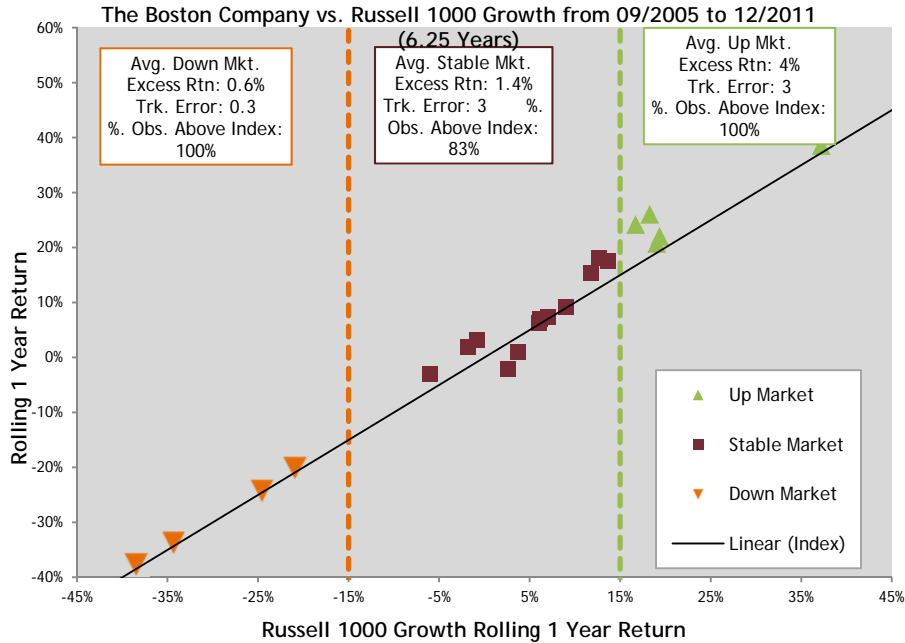
Macro Factors	Range	Average Excess Return			Range of Values	Highest Sensitivity
		Up	Down	Stable		
Russell 1000 Growth Rolling 1-year return	10.0%	9.9%	1.1%	1.9%	8.9%	Up
Russell 1000 Growth P/E (Change)	0.30	14.8%	3.3%	1.4%	13.4%	Up
GDP Growth (Change)	0.40%	10.5%	0.8%	4.1%	9.7%	Up
R1000 Sector Dispersion (1 Yr Ave - 10 Yr Ave.)	2.00%	1.5%	4.5%	9.5%	8.0%	Stable
High Yield OAS (Change)	0.50	3.0%	6.8%	2.9%	3.9%	Down
Interest Rate (Change)	0.15	7.0%	2.1%	5.5%	4.9%	Up
Commodity	15.0%	8.0%	0.3%	2.0%	7.7%	Up
Inflation (Change)	0.25%	7.0%	3.8%	3.0%	4.0%	Up

# MULTI-FACTOR CHARTS: T. ROWE PRICE



Macro Factors	Range	Average Excess Return			Range of Values	Highest Sensitivity
		Up	Down	Stable		
Russell 1000 Growth Rolling 1-year return	10.0%	4.5%	1.3%	2.2%	3.2%	Up
Russell 1000 Growth P/E (Change)	0.30	8.3%	1.7%	1.6%	6.7%	Up
GDP Growth (Change)	0.40%	7.7%	-0.1%	2.8%	7.8%	Up
R1000 Sector Dispersion (1 Yr Ave - 10 Yr Ave.)	2.00%	2.2%	1.4%	6.9%	5.5%	Stable
High Yield OAS (Change)	0.50	-1.3%	4.9%	2.8%	6.2%	Down
Interest Rate (Change)	0.15	3.7%	1.4%	4.1%	2.7%	Stable
Commodity	15.0%	4.1%	4.1%	0.8%	3.3%	Up
Inflation (Change)	0.25%	2.5%	4.0%	2.7%	1.5%	Down

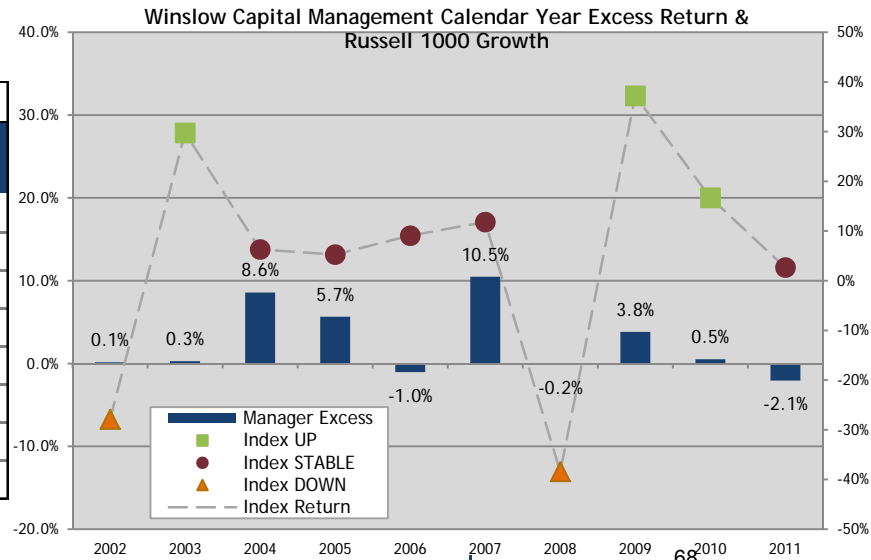
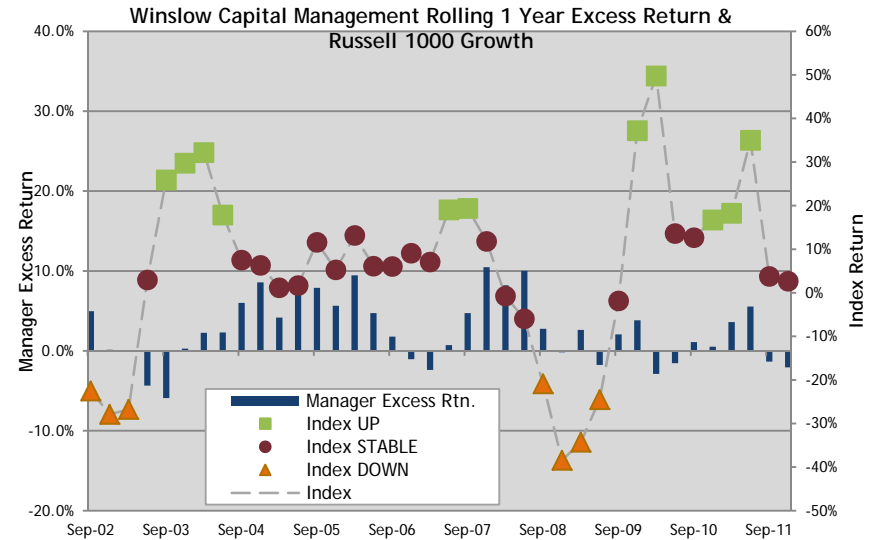
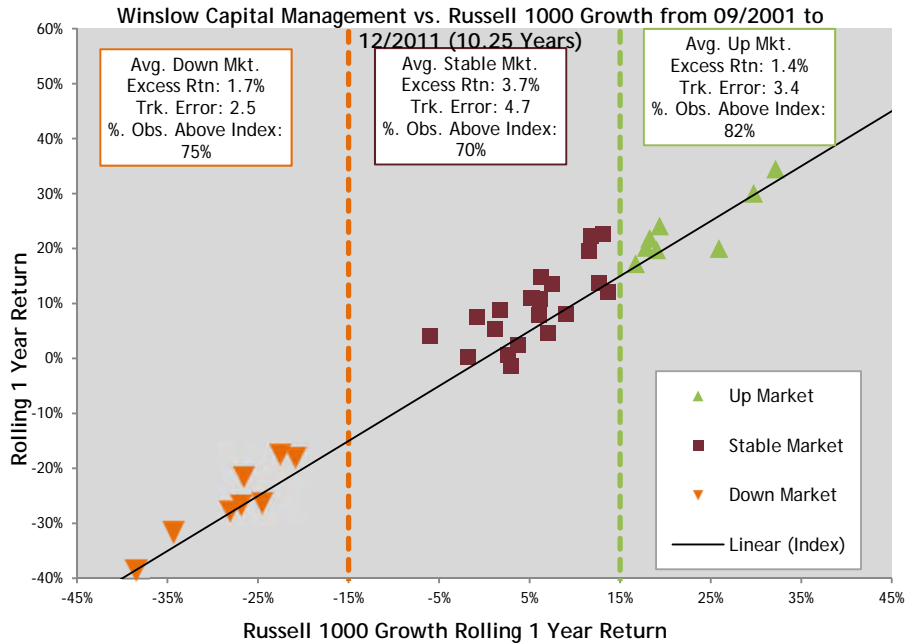
# MULTI-FACTOR CHARTS: THE BOSTON COMPANY



Macro Factors	Range	Average Excess Return			Range of Values	Highest Sensitivity
		Up	Down	Stable		
Russell 1000 Growth Rolling 1-year return	10.0%	3.8%	0.6%	1.7%	3.3%	Up
Russell 1000 Growth P/E (Change)	0.30	2.4%	2.7%	2.2%	0.6%	Down
GDP Growth (Change)	0.40%	2.4%	2.8%	2.0%	0.8%	Down
R1000 Sector Dispersion (1 Yr Ave - 10 Yr Ave.)	2.00%	0.6%	3.0%	2.7%	2.4%	Down
High Yield OAS (Change)	0.50	2.6%	3.3%	0.8%	2.5%	Down
Interest Rate (Change)	0.15	3.2%	2.3%	1.6%	1.5%	Up
Commodity	15.0%	3.5%	1.3%	1.8%	2.2%	Up
Inflation (Change)	0.25%	3.4%	1.1%	2.6%	2.3%	Up

\* The Boston Company Large Cap Growth Fund inception date 7/1/2005

# MULTI-FACTOR CHARTS: WINSLOW CAPITAL MANAGEMENT



Macro Factors	Range	Average Excess Return			Range of Values	Highest Sensitivity
		Up	Down	Stable		
Russell 1000 Growth Rolling 1-year return	10.0%	2.5%	4.6%	3.9%	2.1%	Down
Russell 1000 Growth P/E (Change)	0.30	0.9%	4.2%	3.4%	3.3%	Down
GDP Growth (Change)	0.40%	1.0%	4.1%	4.1%	3.1%	Stable
R1000 Sector Dispersion (1 Yr Ave - 10 Yr Ave.)	2.00%	3.9%	2.9%	4.3%	1.4%	Stable
High Yield OAS (Change)	0.50	4.6%	2.2%	4.1%	2.4%	Up
Interest Rate (Change)	0.15	3.7%	2.9%	3.6%	0.8%	Up
Commodity	15.0%	3.0%	1.7%	4.7%	3.0%	Stable
Inflation (Change)	0.25%	5.2%	2.2%	2.6%	3.0%	Up

# MANAGER PERFORMANCE

# Performance Review: Annualized Periods

Period Ending: December 31, 2011

Investment Manager	Annualized Returns									
	10 Yrs	9 Yrs	8 Yrs	7 Yrs	6 Yrs	5 Yrs	4 Yrs	3 Yrs	2 Yrs	1 Yr
<b>Benchmarks</b>										
RUSSELL 1000 GROWTH INDEX	2.6	6.7	4.1	3.8	3.6	2.5	0.3	18.0	9.5	2.6
<b>Universe</b>										
Equity Style - Large Growth Median	3.6	7.1	4.9	3.8	3.1	2.1	-0.2	16.5	8.4	0.2
<b>Investment Manager Candidates</b>										
<i>(figures bold if below benchmark Index: RUSSELL 1000 GROWTH INDEX)</i>										
Rainier Investment Management	4.1	8.0	5.1	4.0	<b>2.5</b>	<b>1.3</b>	<b>-3.5</b>	<b>15.0</b>	<b>6.9</b>	<b>-3.2</b>
Sands Capital Management, LLC	5.9	10.4	7.4	5.6	4.8	6.9	3.9	31.2	14.5	3.0
T. Rowe Price Group, Inc.	4.6	8.5	5.2	4.3	3.7	3.0	1.5	21.2	<b>7.4</b>	<b>-1.2</b>
The Boston Company Asset Mgmt.					4.7	3.9	1.2	19.0	10.2	<b>-2.2</b>
Winslow Capital Management, Inc.	4.9	9.3	7.0	5.9	5.1	4.5	0.5	18.5	<b>8.6</b>	<b>0.6</b>

All Returns are before investment fees

# Performance Review: Calendar Years

Period Ending: December 31, 2011

Investment Manager	12-Month Periods Ending December 31 ...										Batting Average
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
<b>Benchmarks</b>											
RUSSELL 1000 GROWTH INDEX	-27.9	29.7	6.3	5.3	9.1	11.8	-38.4	37.2	16.7	2.6	
<b>Universe</b>											
Equity Style - Large Growth Median	-23.6	32.2	12.7	8.0	7.9	14.2	-38.7	35.7	17.5	0.2	
<b>Investment Manager Candidates</b>											
<i>(figures bold if below benchmark Index: RUSSELL 1000 GROWTH INDEX)</i>											
Rainier Investment Management	-25.3	35.0	13.2	12.9	9.1	22.7	<b>-43.0</b>	<b>33.2</b>	18.0	<b>-3.2</b>	70%
Sands Capital Management, LLC	-26.9	36.7	21.0	11.0	<b>-5.2</b>	19.7	<b>-48.4</b>	72.2	27.2	3.0	80%
T. Rowe Price Group, Inc.	-24.5	38.9	11.3	8.4	<b>6.9</b>	<b>9.4</b>	<b>-40.4</b>	54.3	16.8	<b>-1.2</b>	60%
The Boston Company Asset Mgmt.					<b>9.1</b>	15.3	-37.6	38.6	24.2	<b>-2.2</b>	67%
Winslow Capital Management, Inc.	-27.7	30.0	14.9	10.9	<b>8.0</b>	22.3	<b>-38.6</b>	41.0	17.2	<b>0.6</b>	70%

All Returns are before investment fees

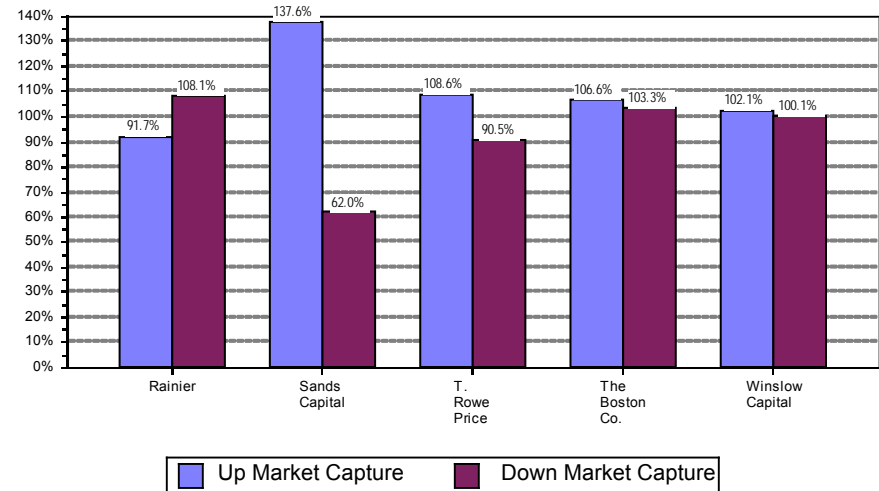


# Up & Down Market Performance

Period Ending: December 31, 2011

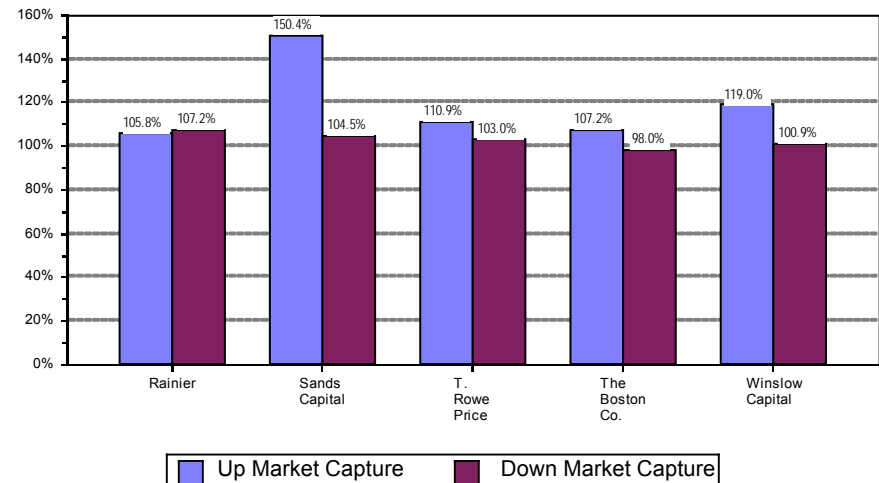
Three Year Period Ending December 31, 2011

Investment Manager	Up Market		Down Market	
	Return	Capture	Return	Capture
<b>RUSSELL 1000 GROWTH INDEX</b>	<b>123.6</b>	-	<b>-26.5</b>	-
Rainier Investment Management	113.3	92%	-28.6	108%
Sands Capital Management, LLC	170.1	138%	-16.4	62%
T. Rowe Price Group, Inc.	134.2	109%	-24.0	91%
The Boston Company Asset Mgmt.	131.8	107%	-27.4	103%
Winslow Capital Management, Inc.	126.2	102%	-26.5	100%
<b>Number of Quarters:</b>	<b>9</b>		<b>3</b>	



Five Year Period Ending December 31, 2011

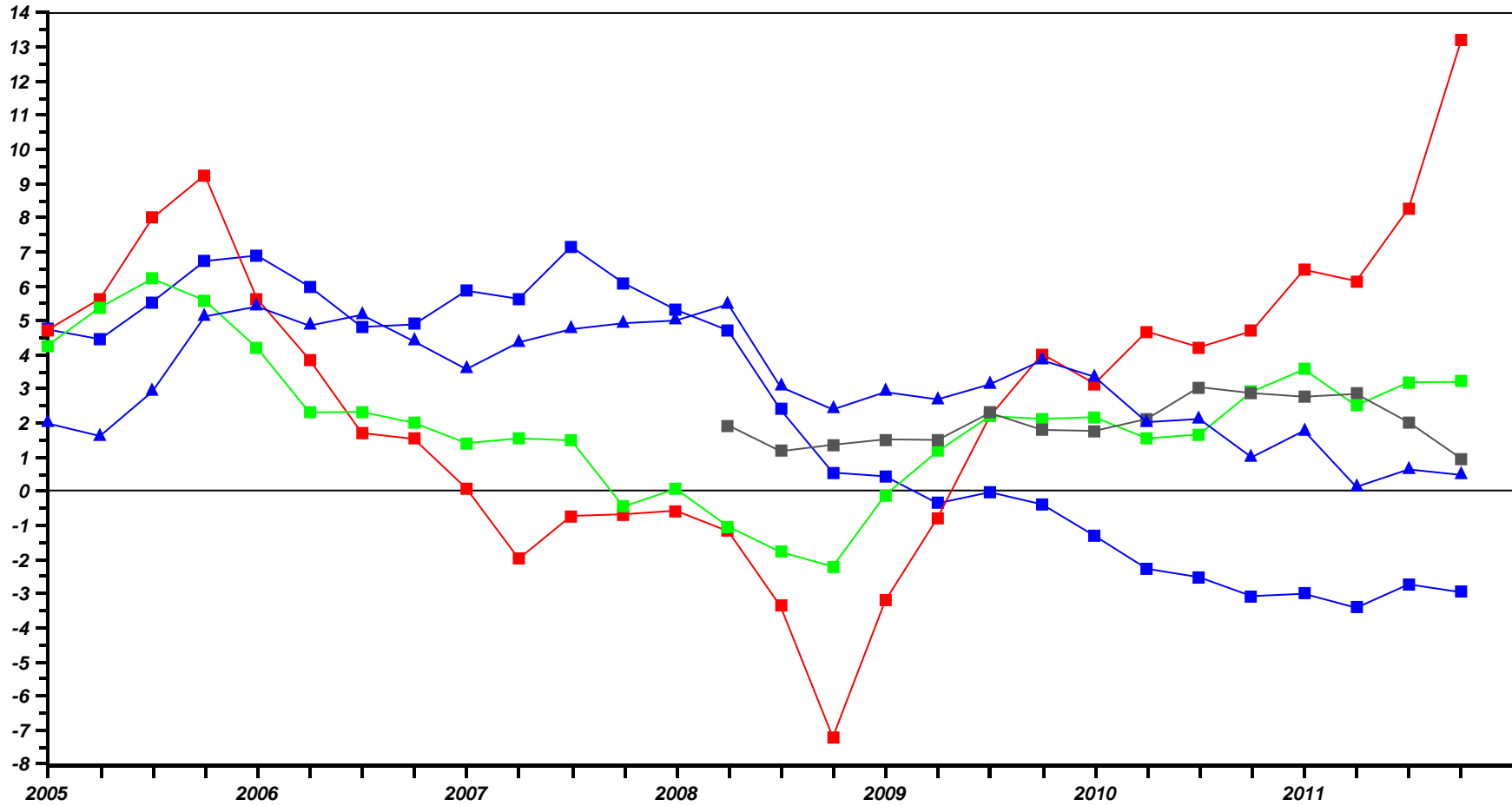
Investment Manager	Up Market		Down Market	
	Return	Capture	Return	Capture
<b>RUSSELL 1000 GROWTH INDEX</b>	<b>155.1</b>	-	<b>-55.6</b>	-
Rainier Investment Management	164.1	106%	-59.7	107%
Sands Capital Management, LLC	233.4	150%	-58.1	104%
T. Rowe Price Group, Inc.	172.1	111%	-57.3	103%
The Boston Company Asset Mgmt.	166.3	107%	-54.5	98%
Winslow Capital Management, Inc.	184.7	119%	-56.1	101%
<b>Number of Quarters:</b>	<b>13</b>		<b>7</b>	



# Rolling Three Year Excess Returns vs RUSSELL 1000 GROWTH

Period Ending: December 31, 2011

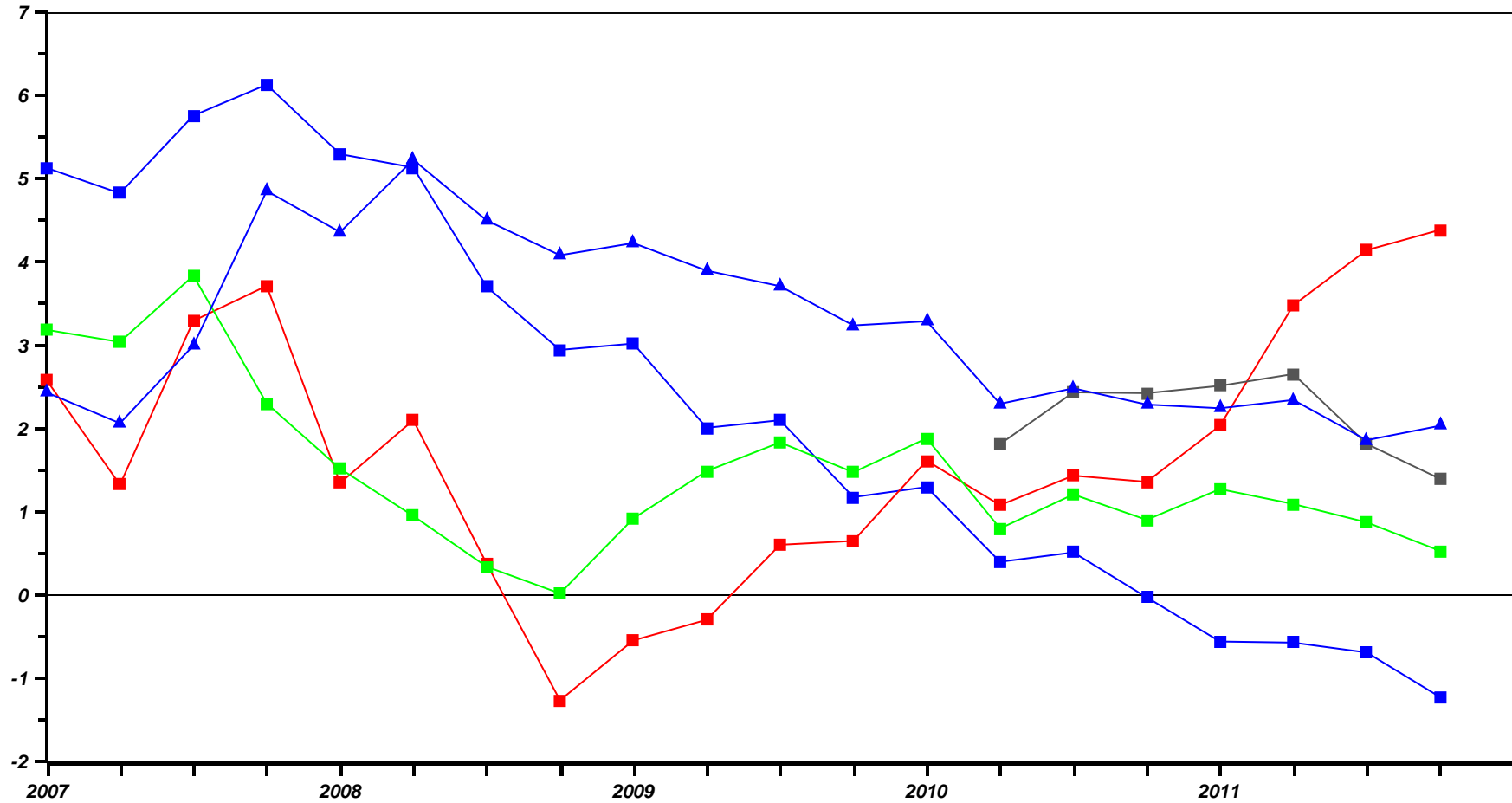
Index: RUSSELL 1000 GROWTH INDEX



■ Rainier:Large Cap Growth   
 ■ Sands Capital:Large Cap Growth   
 ■ T. Rowe Price:Large Cap Growth   
 ■ The Boston Co.:Growth Opp   
 ▲ Winslow Capital:Large Cap

# Rolling Five Year Excess Returns vs RUSSELL 1000 GROWTH INDEX Period Ending: December 31, 2011

Index: RUSSELL 1000 GROWTH INDEX

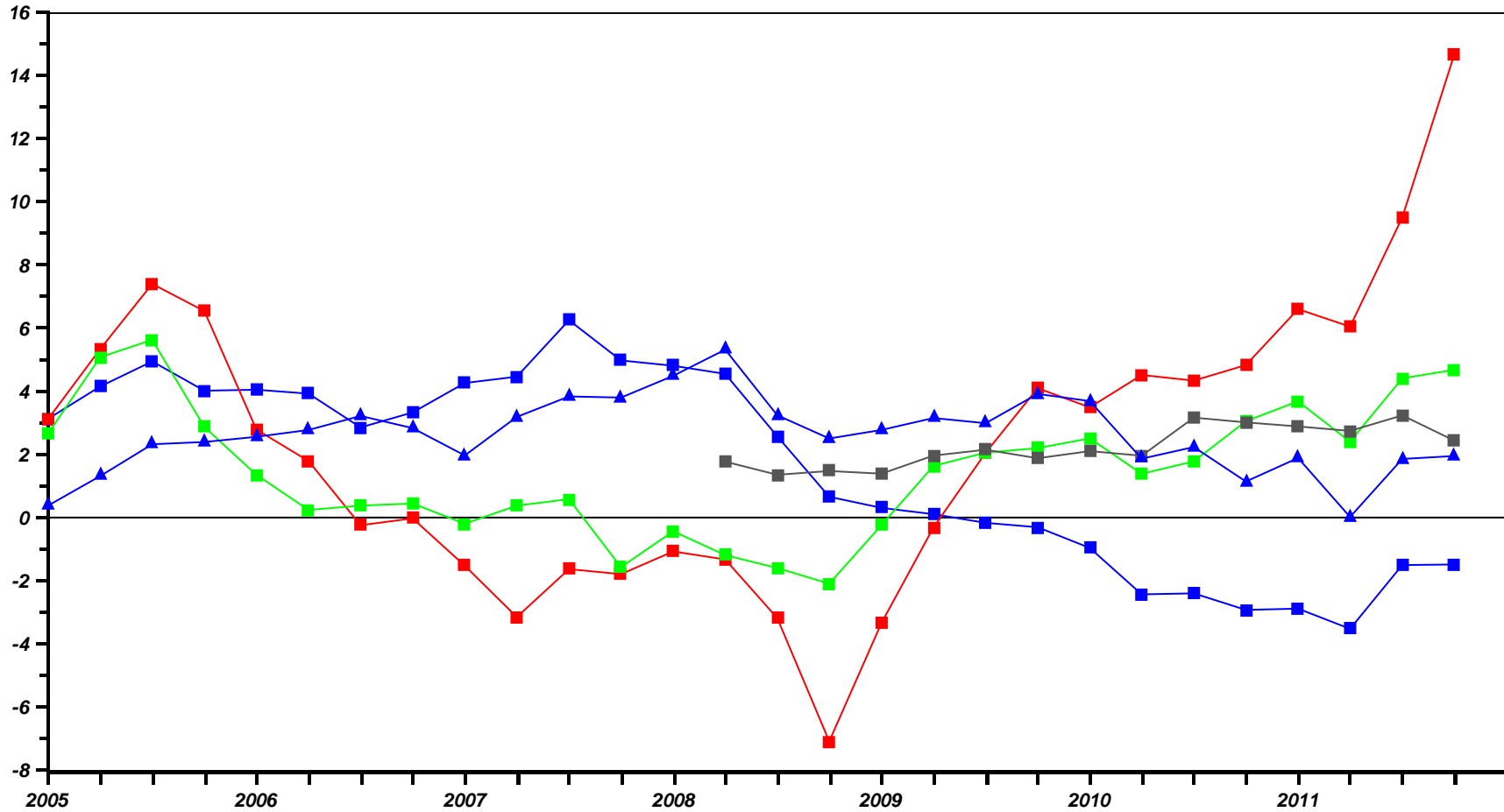


■ Rainier:Large Cap Growth   
 ■ Sands Capital:Large Cap Growth   
 ■ T. Rowe Price:Large Cap Growth   
 ■ The Boston Co.:Growth Opp   
 ▲ Winslow Capital:Large Cap

# Rolling 3-Year Excess Returns vs. Universe Median

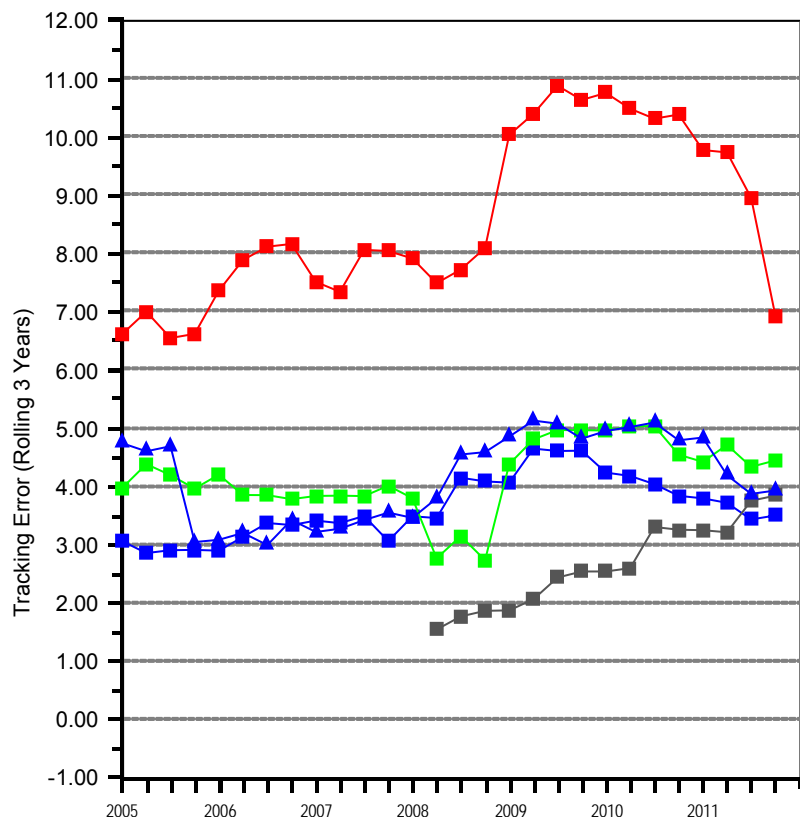
Period Ending: December 31, 2011

Universe: Equity Style - Large Growth

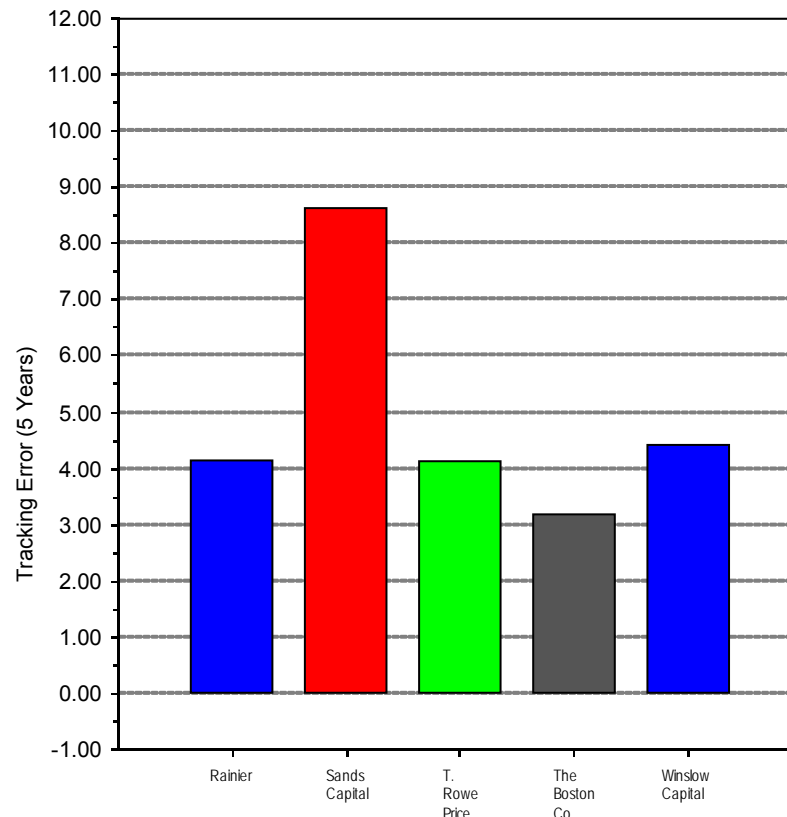


■ Rainier:Large Cap Growth 
 ■ Sands Capital:Large Cap Growth 
 ■ T. Rowe Price:Large Cap Growth 
 ■ The Boston Co.:Growth Opp 
 ▲ Winslow Capital:Large Cap

Quarterly



Five Years



■ Rainier:Large Cap Growth      ■ Sands Capital:Large Cap Growth  
■ T. Rowe Price:Large Cap Growth      ■ The Boston Co.:Growth Opp  
▲ WinslowCapital:Large Cap

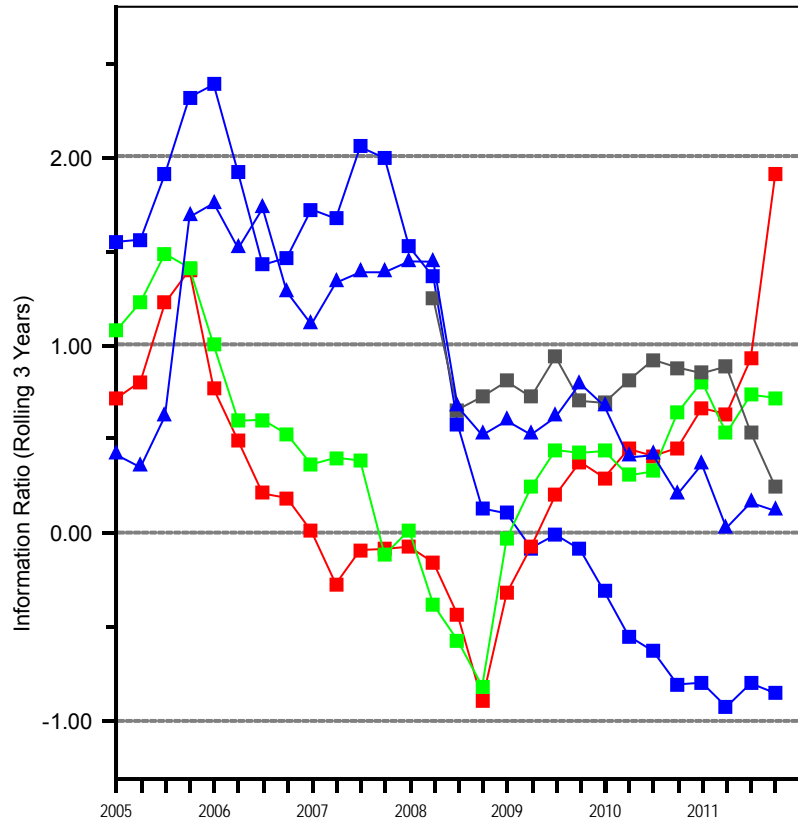
■ Rainier:Large Cap Growth      ■ Sands Capital:Large Cap Growth  
■ T. Rowe Price:Large Cap Growth      ■ The Boston Co.:Growth Opp  
■ WinslowCapital:Large Cap

**Tracking Error** is the standard deviation of the difference between the rate of return of a portfolio and its benchmark (i.e., excess return). Contributors to a manager's tracking error may include the aggressive or conservative nature of their approach, portfolio concentration and/or sector weightings relative to the benchmark. You would expect a passively-managed index fund to have a tracking error of zero.

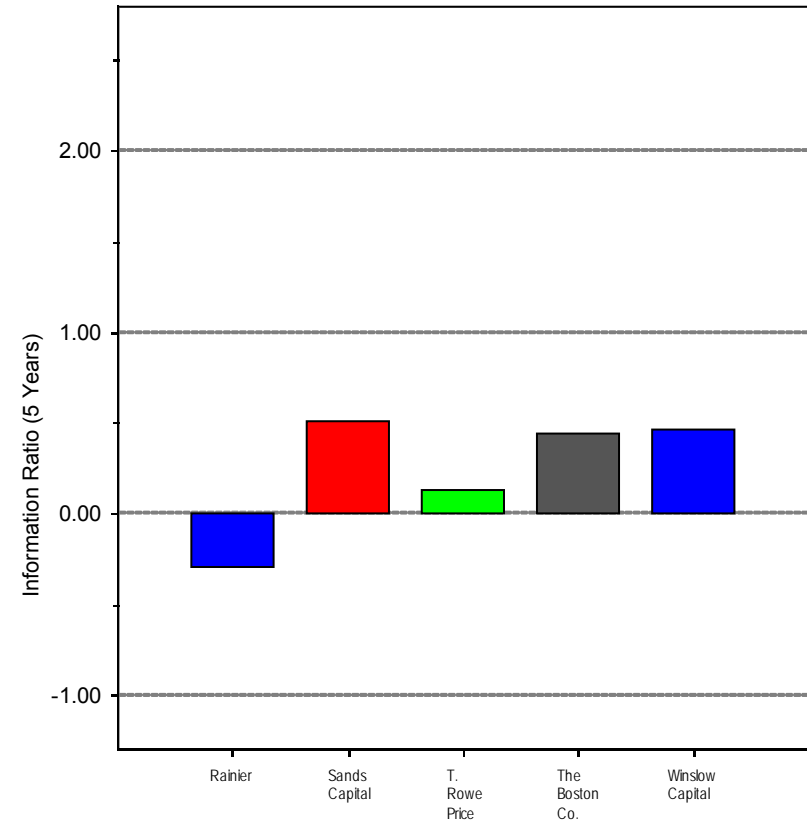
# Rolling Three Year Information Ratio vs RUSSELL 1000 GROWTH

Period Ending: December 31, 2011

Quarterly



Five Years



■ Rainier:Large Cap Growth     ■ Sands Capital:Large Cap Growth  
■ T. Rowe Price:Large Cap Growth     ■ The Boston Co.:Growth Opp  
▲ WinslowCapital:Large Cap

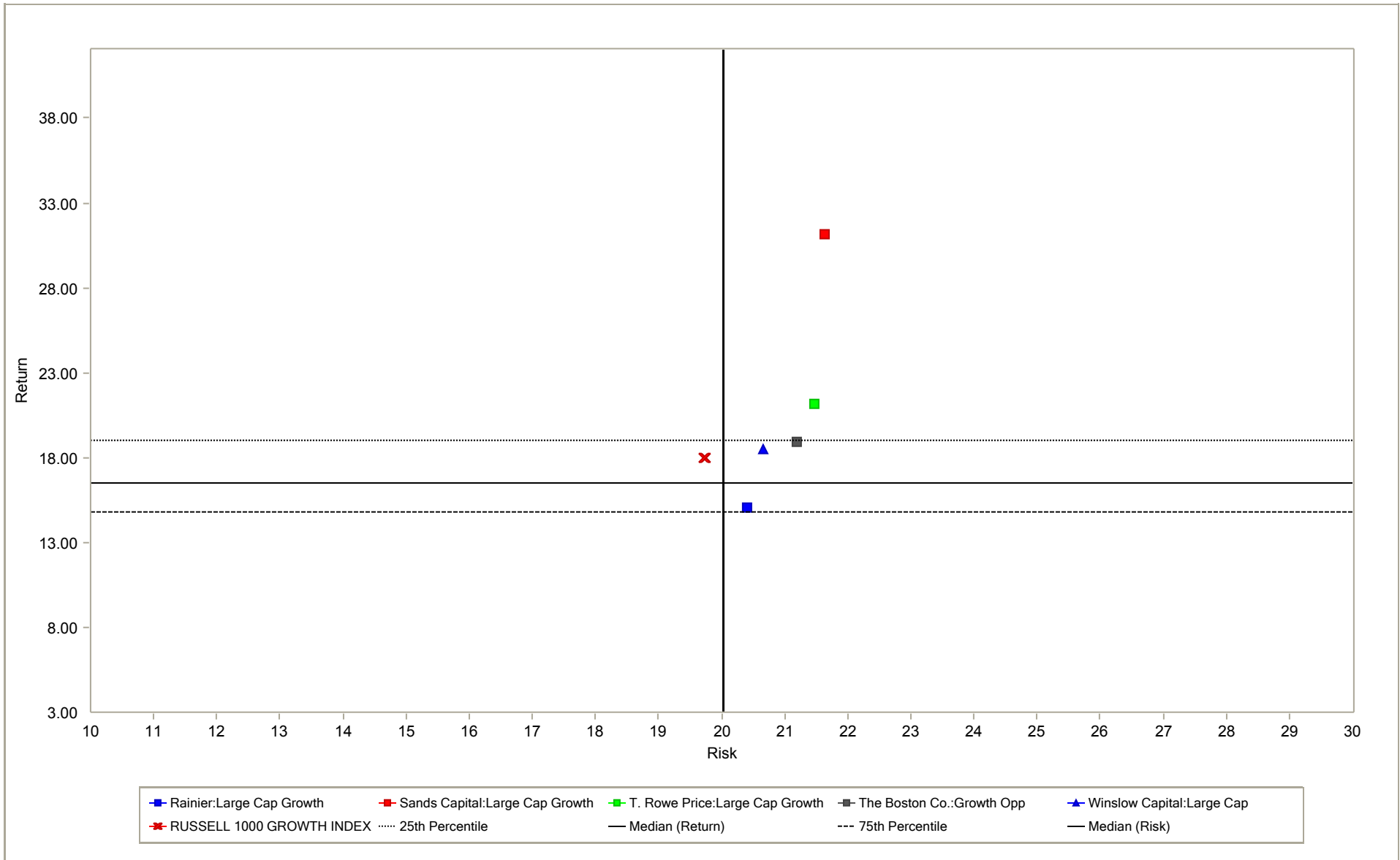
■ Rainier:Large Cap Growth     ■ Sands Capital:Large Cap Growth  
■ T. Rowe Price:Large Cap Growth     ■ The Boston Co.:Growth Opp  
■ WinslowCapital:Large Cap

**Information Ratio** is a measure of a manager's ability to earn excess return without incurring additional risk relative to the benchmark. It is calculated as excess return divided by tracking error. You would expect a passively-managed index fund to have an information ratio of zero; good information ratios are above zero.

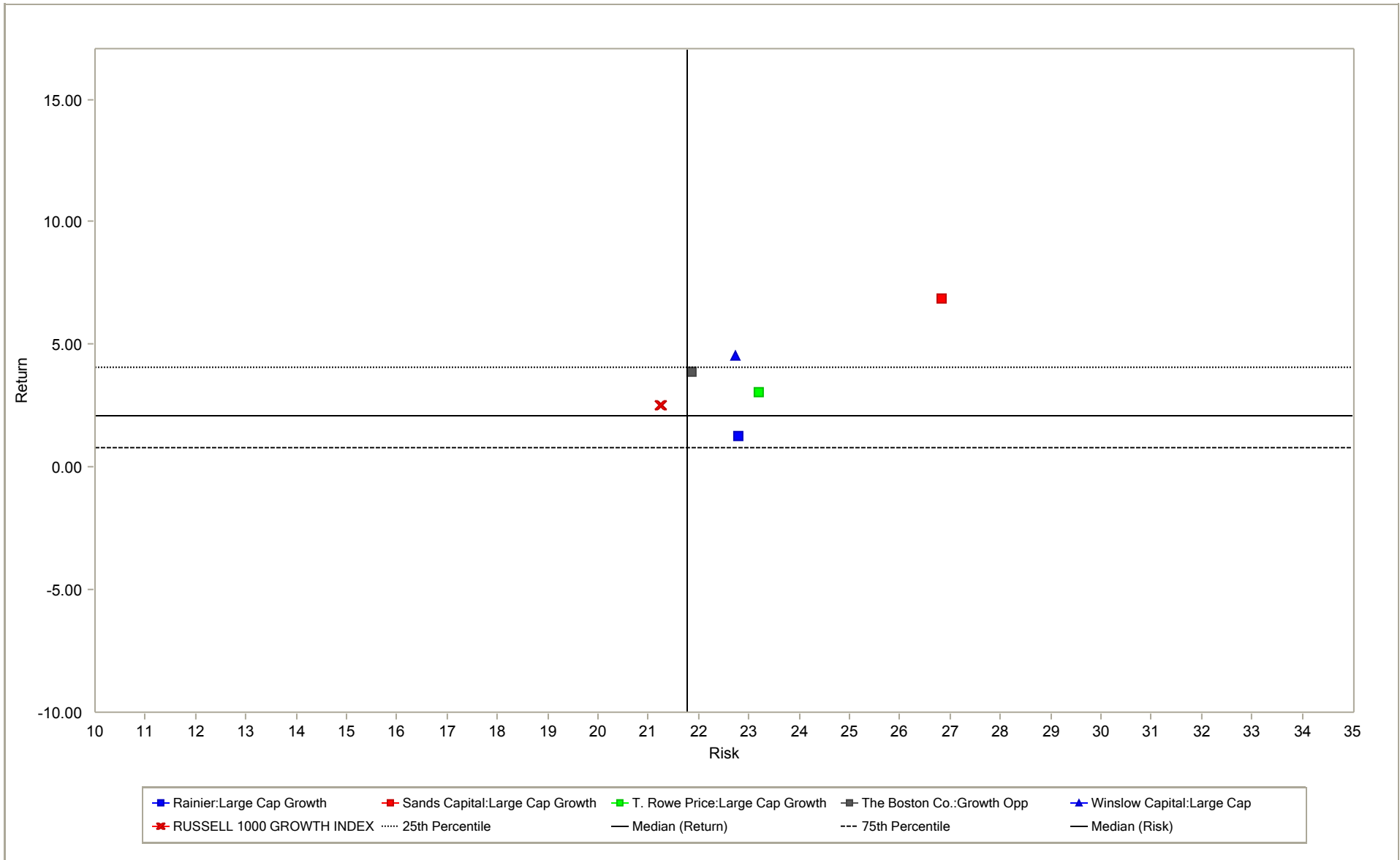
# Three Year Risk vs Return

Period Ending: December 31, 2011

Universe: Equity Style - Large Growth



Universe: Equity Style - Large Growth

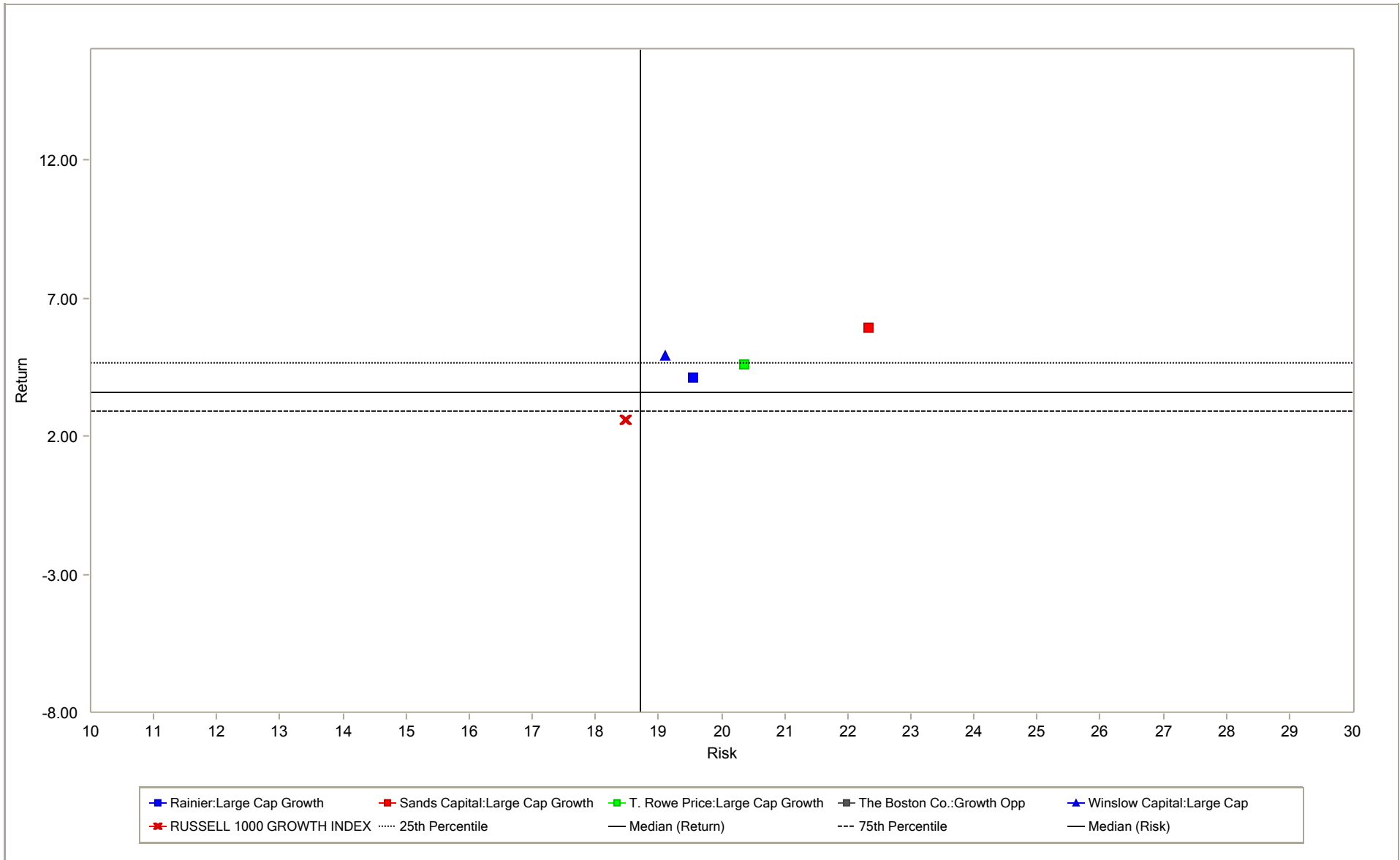




# Ten Year Risk vs Return

Period Ending: December 31, 2011

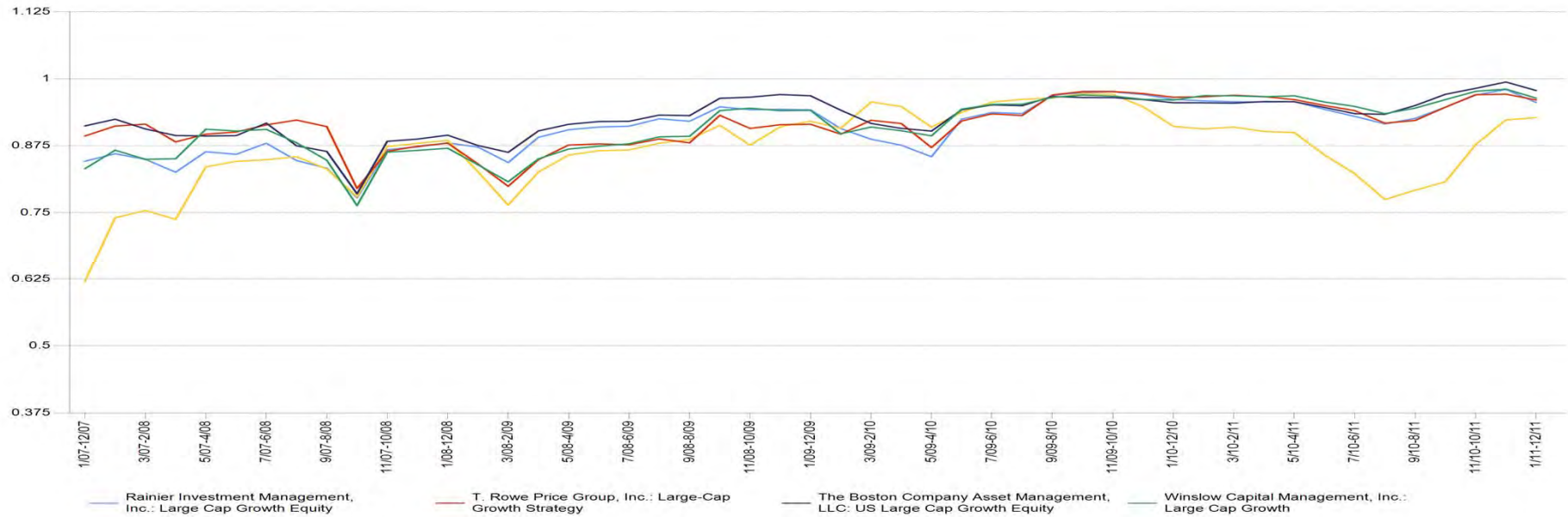
Universe: Equity Style - Large Growth



# Correlation

Period Ending: December, 2011

Correlation to Robeco Large Cap Value (John Hancock)



Results displayed in US Dollar (USD)

Robeco Boston Partners Large Cap Value Equity

Firm Name	3 Year Correlation	5 Year Correlation
Rainier Investment Management, Inc.	0.92	0.89
Sands Capital Management, LLC	0.87	0.85
T. Rowe Price Group, Inc.	0.92	0.90
The Boston Company Asset Management, LLC	0.94	0.92
Winslow Capital Management, Inc.	0.91	0.88

# MANAGER FEES

# MANAGER FEES

Investment Manager	Vehicle	Minimum Investment	Expense Ratio	Fee Schedule	Sample Client Total Estimated Fee (Subject to: \$5mm)	Sample Client Total Estimated Fee / Expense Ratio (Subject to: \$5mm)
Sands Capital Management Select Growth Equity	Mutual Fund (CISGX)	\$500,000	0.80%	All Assets	\$40,000	\$40,000 / 0.80%
T. Rowe Price Large Cap Growth	Mutual Fund (TRLGX)	\$1,000,000	0.57%	All Assets	\$28,500	\$28,500 / 0.57%
The Boston Company Large Cap Growth	Commingled Fund	\$3,000,000	0.65%	First \$25,000,000	\$32,500	\$32,500 / 0.65%
	Mutual Fund (DWOIX*)	\$1,000	0.88%	All Assets	\$44,000	\$44,000 / 0.88%
Winslow Capital Management Large Cap Growth	Commingled Fund	\$1,000,000	0.65%	First \$15,000,000	\$32,500	\$32,500 / 0.65%

\* The Boston Company is the sub-adviser to the Dreyfus Research Growth I fund (DWOIX)

# MANAGER DETAILS

**Manager Evaluation: Sands Capital Management, LLC**

**Select Growth Equity**

**Strategy Basics**

Asset Class:	Large Cap Growth
Firm Inception:	1992
Firm Assets:	\$19 Billion
Strategy Inception:	July 1992
Strategy Assets:	\$15 Billion
Min. Acct. Size, Mutual Fund:	\$500,000
Min. Acct. Size, Sep. Acct:	\$25 Million
Fee, Mutual Fund:	0.80%
Fee, Separate Account:	0.75% first \$50M 0.50% next \$50M

**Firm Background and History**

Sands Capital Management was founded in 1992 by Frank M. Sands, Sr. in Arlington, VA. In 2005, the firm altered its legal structure to a Limited Liability Company (LLC) to establish a more efficient way to distribute equity in the firm, based on annual net income. The company remains independent and employee-owned with about 50% of employees as company shareholders.

Mr. Sands' son, Frank M. Sands, Jr., assumed the roles of Chief Investment Officer and Chief Executive Officer in September 2008, when Mr. Sands, Sr. turned 70 years old. Mr. Sands, Sr. remains Chairman with a less intensive role in investment process. Mr. Sands, Jr., has been involved with every investment and business decision since joining the firm in July 2000. Other experienced senior professionals also have a long tenure with the firm and contribute to the continuity of its investment tradition.

The firm manages only growth strategies, and has a total of 79 people, including eight portfolio managers and eleven research analysts.

**Strategy Background**

The team's philosophy is grounded in the firm-wide belief that the most effective means to build and preserve capital is to identify durable businesses which have sustainable, above average earnings growth. They then employ a buy and hold strategy which results in a concentrated portfolio and low name turnover, reflecting the underlying philosophy.

While the team is well aware of the relative valuation of their holdings, the decision to buy or sell a security is primarily based on the team's opinion regarding the company and its long-term prospects.

The portfolio is constructed utilizing a fundamental, bottom-up approach and represents highest, long-term, investment opportunities. Oftentimes, companies remain in the research process for several months before the team is comfortable enough to invest capital.

The team builds a concentrated benchmark-agnostic portfolio of 25-30 companies that may collectively participate in approximately 50 distinct business spaces. The strategy has a self-imposed capacity constraint of \$25 billion.

**Key Investment Professionals**

The strategy's proprietary research is conducted by a 25-member Research Team comprised of six sector teams: healthcare, industrials and communications, energy, consumer, financial services, and technology.

**Frank M. Sands, Jr., CFA, CIO / CFO**

Frank M. Sands, Jr., joined the firm in 2000 after six years as a research analyst and portfolio manager at Fayez Sarofim & Co., an investment management firm based in Houston, Texas. Mr. Sands earned a BA from Washington & Lee University, a MS from Johns Hopkins University, and an MBA from the Darden School at the University of Virginia.

**Thomas M. Ricketts, CFA, Managing Director, Senior Portfolio Manager, Senior Research Analyst, Life Science Sector Head**

Thomas M. Ricketts joined the firm in 1994 as a Research Associate. He was promoted to Research Analyst in 1997 and then to Portfolio Manager in 2000. Mr. Ricketts earned a BS from the McIntire School of Commerce at the University of Virginia.

**Perry Williams, CFA, Senior Portfolio Manager, Senior Research Analyst, Consumer Sector Head**

Mr. Williams joined the firm in 2004 after working for nine years as a Principal Consultant for Mercer Investment Consulting, Inc. in Atlanta, Georgia. Mr. Williams earned a BS from the McIntire School of

Commerce at the University of Virginia and an MM from the Kellogg Graduate School of Management at Northwestern University.

### Process

Sands' research team employs a multi-step and iterative approach to their fundamental analysis. The focus of the team's process is to uncover durable businesses positioned to generate above average earnings growth, trading at reasonable valuations. The team believes their multifaceted research enables them to have a deep understanding of their companies and results in an average holding period of over 5 years, corresponding to an annual turnover of 15-20%.

### Screens

The investment process begins with a quantitative screening of all public companies. It is designed to identify growing businesses with above average historical and projected sales and earnings growth, and a minimum market capitalization of \$4 billion. Investment ideas are also drawn from direct company contact, industry conventions, annual reports, company financials, trade journals, on-line databases, and expert interviews. This process results in an initial universe of approximately 250-300 target businesses.

### Fundamental Research

The team conducts fundamental research in an interactive manner with two distinct teams evaluating each potential and current investment opportunity. The fundamental analysis begins with a sector team evaluating stocks from the quantitative screening output. The team is comprised of the sector head and two to four research team members with varying research responsibilities. Every business is analyzed in the context of its industry environment. Analysts look for several fundamental qualitative factors that, in their experience, foster long-term sustainable earning growth and identify leading businesses in each sector. Examples include new products and services, expansion into new markets, new competitive barriers, increasing market share, availability of financial resources to support new opportunities, tenured and talented management, and application of advanced technology.

Applying a variety of sources to make their qualitative assessments, the sector teams review company financial reports, SEC filings, published reports from industry experts, street research, non-published Sands-commissioned expert reports, and direct contact with company managements, suppliers, customers, competitors, and industry observers.

The sector teams' research determines the leader list; approximately 80 to 100 of the best companies across 20 industries.

Each company on the list is evaluated against six key investment criteria:

- ability to sustainably deliver above-average earnings growth over the next 3-5 years based on internal projections;
- significant competitive advantages;
- an industry leader or has a proprietary niche;
- management demonstrates a clear sense of purpose in an understandable business;
- financial strength; and
- stronger growth prospects and valuation attributes than comparable companies and the broader market.

Each of the potential investments will have an investment case which includes company-specific key metrics, as well as any business-specific risks or unresolved issues relating to the company. An internal long-term earnings growth model is built for every company on the list. Members of the Research Team meet regularly with the management of current portfolio companies and new opportunities companies under consideration. Aimed to obtain a broad understanding of businesses, these meetings are held with senior management, lower level management, and line staff. The securities already in the portfolio are subjected to the same intensive research as new investment opportunities. Research of a new investment idea often requires several months of collaborative work to build investment conviction.

The eight-member Investment Team discusses the six key investment criteria of potential investment opportunities and makes final recommendations. The team consists of Mr. Sands Jr., Mr. Sands, Sr., and the six senior investment professionals including the global sector heads.

The three most senior members of the Investment Team, Messrs. Sands, Jr., Ricketts and Williams, are members of the portfolio management decision making team which determines initial weighting, timing, and funding source for each purchase. The weightings of businesses in the portfolio reflect the team's conviction with regards to each company's fundamentals, prospects, and ability to grow earnings at above average rates. However, Mr. Sands, Jr.

retains ultimate decision-making authority for the Select Growth strategy.

**Monitoring and Selling**

Sector teams provide continuous monitoring of specific business metrics for each of the portfolio companies. Each team has patience with companies that may underperform in the short-term, but otherwise exhibit strong fundamentals. A holding is sold if company fundamentals are deteriorating, if growth is slowing, or if a better investment opportunity exists at a more attractive price. Holdings may also be sold if the stock price reflects its forecasted value due to market appreciation. Decisions are made on a case-by-case basis.

**Risk Management**

Mr. Sands constructs and holds a concentrated portfolio of 25 to 30 companies. The team views each holding as a separate business, not as a stock. Thus, they define and manage risk from the perspective of a business owner as opposed to comparing well against benchmark tracking error. The team focuses on balancing the prospects for sustained growth in earnings and the risk of undesirable business outcomes. They seek to identify, reduce, and control risk by assessing each business in the portfolio based on the six key investment criteria, outlined previously.

To avoid imprudent concentration, an individual holding generally represents less than 10% of the portfolio market value; the maximum is 12%. Sands doesn't have any formal guideline limitations on industry or sector weights, however, sectors usually aren't overweight by more than twice the benchmark.

As a result of the highly concentrated portfolio, the strategy's performance has had, and is expected to continue to have, large short-term variances in performance versus their benchmark. The wide performance fluctuations have historically averaged out over a longer time horizon and have resulted in positive excess returns.

**Potential Red Flags**

Mr. Sands, Jr. is a key leader of this strategy and of the firm. As such, if there are unforeseen events affecting his professional engagement, we will closely monitor developments. The firm also addresses potential issues with a strong team of other portfolio managers

and senior research staff who work closely with Mr. Sands, Jr. to execute the strategy.

Mr. Sands has applied the same investment philosophy for almost twenty years and the team has demonstrated expertise in building concentrated, high-conviction portfolios. Any significant change in the investment process could affect the strategy's risk-return profile. However, given the firm's long-standing track record of successfully managing this style, it is not likely to veer substantially from its history.

**Performance**

Sands Capital's Select Growth Equity portfolio return has exceeded the Russell 1000 Growth Index for each 1, 3, 5, and 10-year period. It is ahead of the benchmark by 444 basis points annualized since inception. While the portfolio has outperformed the benchmark in 8 of the last 10 years, it significantly underperformed the benchmark by 1,430 basis points and 994 basis points in 2006 and 2008, respectively.

The portfolio produced the largest excess returns of 1,473 basis points in 2004, and 3,502 basis points in 2009. Over the two year period of 2008-2009, the portfolio's annualized return lagged the benchmark.

**Recommendation**

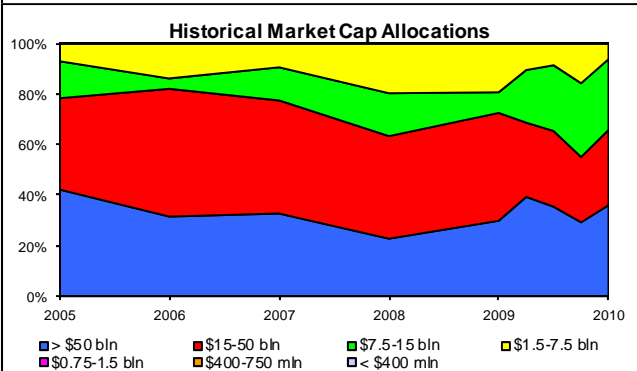
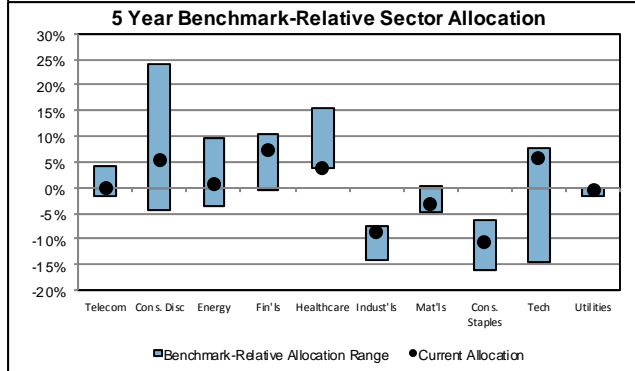
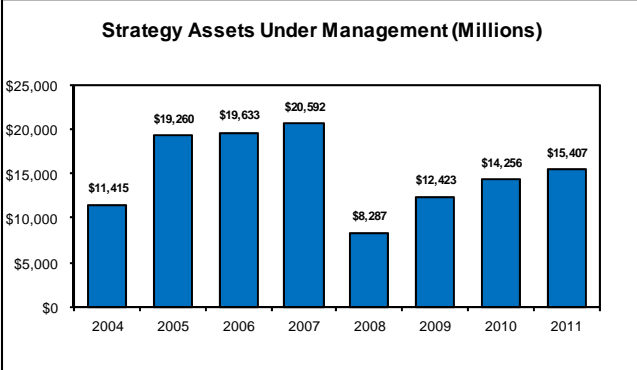
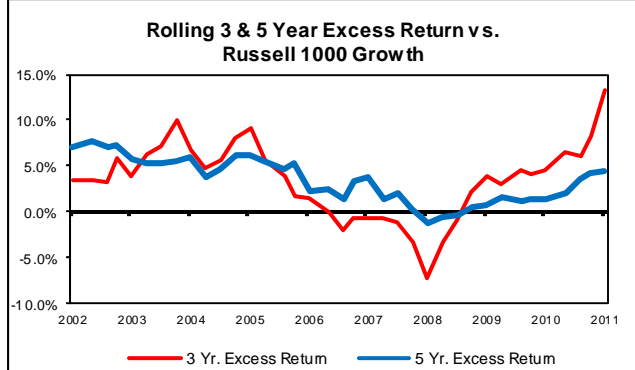
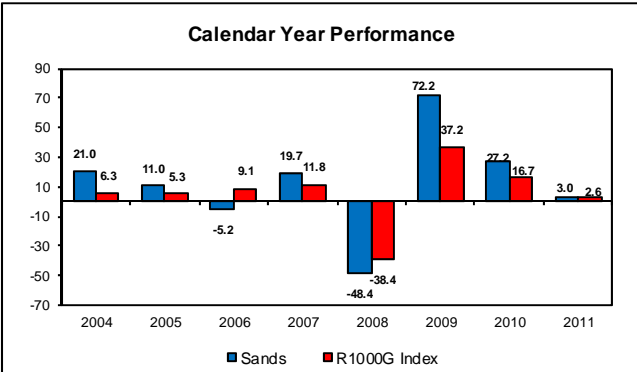
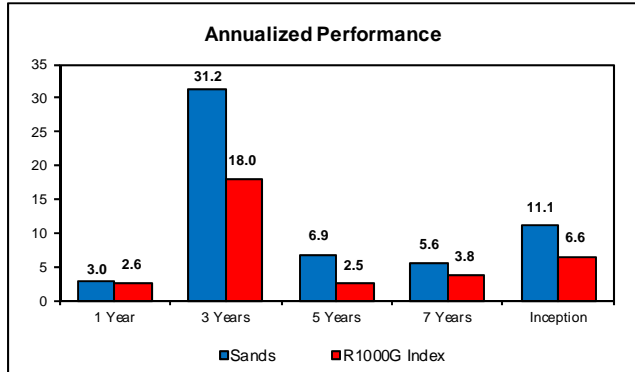
Wurts & Associates recommends the Sands Capital Select Growth Equity Strategy for clients seeking to allocate capital to large growth equity. This strategy requires investors who can tolerate high levels of tracking error, given its allowance for high levels of sector, industry, and security concentration relative to the benchmark. These deviations may lead to periods of significant tracking error, but may also expose the fund to greater alpha opportunities as well.

The ownership perspective applied to investment decisions helps ensure that the strategy and process will continue to focus on long-term investment ideas and will not be swayed by short-term, volatile movements in the market. Though short-term performance may occasionally suffer as a result of this investment style, the team has an extensive history of outperforming the benchmark over longer investment horizons.

*April 2012*



Data Overview As Of 12/2011



Batting Average				
	3 Yrs	5 Yrs	7 Yrs	Incep.
Quarterly	75%	65%	57%	64%
Annually	100%	71%	60%	81%

Excess Performance vs. Russell 1000 Growth								
Qtr.	Best				Worst			
	1 Yr	3 Yrs	5 Yrs	7 Yrs	1 Yr	3 Yrs	5 Yrs	7 Yrs
13.3	35.0	13.2	11.2		-7.8	-14.3	-7.2	-1.3

Performance Characteristics				
	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Standard Deviation	21.6	23.1	23.6	22.3
Tracking Error	6.9	7.5	8.7	7.8
R-Squared	0.9	0.91	0.89	0.89
Information Ratio	1.9	0.58	0.21	0.43
Treynor Ratio	29.9	4.6	2.9	3.6
Sharpe Ratio	1.4	0.2	0.2	0.2
Downside Deviation	9.0	18.6	16.5	15.9

Portfolio Characteristics		
	Sands	R1000G Index
P/E (12 Month Trailing)	25.1	15.9
Price/Book	4.5	3.7
Price/Cash Flow	18	11.1
EPS Growth (Past 5 Years)	23.1%	13.8%
5 Year ROE	23.1%	26.4%
Dividend Yield	0.6%	1.6%
Avg. Mkt. Cap (\$Mil.)	\$73,000	\$97,490
Turnover	15.0%	NA
Holdings	29	588
Cash Range (%)	2.5%	NA

Regression Based Active Management Attribution				
	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Active Expense Ratio	2.8	2.9	2.7	2.7
Actively Managed Share	25.0	23.9	26.0	26.0
Total Alpha	11.1	4.7	1.7	3.5

Performance figures are for the institutional separate account composite, gross of investment management fees.

Glossary of Terms

**Active Expense Ratio:** A measure of the true cost of active management which is derived by taking actual fees paid in relation to portfolio returns that are not explained by systematic risk exposures (i.e., the benchmark). A statistical derivation of manager R-Squared to the benchmark drives this analysis.

**Actively Managed Share:** The portion of portfolio behavior that is not explained by the underlying systematic risk exposures (i.e., the benchmark). A statistical derivation of manager R-Squared to the benchmark drives this analysis.

**Annual Turnover:** A measure of how quickly a portfolio replaces its securities during a given year. A highly active portfolio will have a high annual turnover.

**Average Maturity:** The weighted average time to maturity, in years, of fixed-income investments in a portfolio.

**Batting Average:** A measure of how often a manager has beaten the benchmark. Seen as a gauge of consistency, a batting average of 60% indicates that the manager has outperformed the portfolio benchmark six out of ten times.

**Downside Deviation:** A measure of the standard deviation of returns below a Minimum Acceptable Return (in our calculations, 3-Month T-Bills), or essentially the variations in negative portfolio returns. The higher the number, the more downside risk involved.

**Effective Duration:** A measure of a fixed income portfolio's sensitivity to interest rate changes. Effective duration includes the effects of embedded options by taking into account option-triggered cash flows caused will fluctuate as interest rates change.

**Excess Return:** The difference between a portfolio return and stated benchmark return.

**Information Ratio:** A measure of efficiency of a portfolio's excess returns. It is defined as excess return versus the benchmark divided by tracking error. The ratio measures the value added per unit of active management risk. A positive information ratio implies "efficient" use of risk by a manager.

**R-Squared:** Also known as the "coefficient of determination," R-Squared measures the degree to which a manager's return varies with changes in the market. An R-squared of 1.0 suggests that a manager's returns are completely due to returns of the market, whereas an R-squared of 0.00 suggests

that the performance of the manager is completely independent of the market.

**Rolling Performance:** The annualized average return over a specified period ending with the listed date. By looking at various quarter-ending points as opposed to a single point in time, rolling performance attempts quantify long-term performance consistency along with shifting the focus from current period-ending performance.

**Sharpe Ratio:** A measure of how efficiently a manager utilizes risk. It measures the returns earned in excess of the risk-free investment (3-Month T-Bills) per unit of risk assumed (as measured by the standard deviation of the portfolio).

**Standard Deviation:** A measure of the dispersion of a portfolio's returns around its expected return (mean). A higher standard deviation indicates greater dispersion, and therefore lower predictability of future returns. A lower standard deviation suggests less volatile portfolio returns.

**Total Alpha:** A measure of a manager's skill as defined by excess return above a benchmark due to non-market factors. Calculated by subtracting the index performance, adjusted by the manager's beta coefficient, from the manager's return. A positive alpha indicates a manager has performed better than expected given their risk level.

**Tracking Error:** A measure of how closely a portfolio follows the index to which it is benchmarked. Calculated by taking the standard deviation of the excess returns of a portfolio versus its benchmark, it is used to measure a manager's variability versus stated objectives. A lower tracking error indicates a manager performs in line with the benchmark without large swings.

**Treynor Ratio:** Sometimes called "reward-to-risk" ratio, it measures the returns earned in excess of the risk-free investment (3-Month T-Bills) per unit of systematic risk assumed (as measured by the manager's beta coefficient).

**Weighted Average Coupon:** The average coupon (interest payment) for a fixed income portfolio. The outstanding market value of each fixed income security is used as the weighting factor.

**Yield to Maturity:** The return anticipated on a fixed income portfolio if it is held until maturity. It assumes that all coupon and principal payments will be made, and that coupon payments are reinvested at the bond's promised yield.

**Manager Evaluation: T. Rowe Price Group**

**Large-Cap Growth Strategy**

**Strategy Basics**

Asset Class:	Large Growth
Firm Inception:	1937
Firm Assets:	\$489 Billion
Strategy Inception:	January 2002
Strategy Assets:	\$21.8 Billion
Min. Acct. Size, Mutual Fund:	\$1 Million
Min. Acct. Size, Sep. Account:	\$50 Million
Fee, Mutual Fund (TRLGX):	0.57%
Fee, Separate Account:	0.50% first \$50M 0.45% next \$50M

**Firm Background and History**

T. Rowe Price was established in 1937 by Thomas Rowe Price as an independent investment advisory firm. At the beginning, the company provided service only to individual investors, but in 1951 it opened its first institutional separate account.

Today, the firm offers a broad range of institutional separate account investment strategies, specialty products, and more than 80 mutual funds. It is regarded as one of the leading providers of investment management services in the United States. Institutional accounts represent nearly half of the firm's assets under management. The firm is a publicly traded corporation with employees holding approximately 15% of the outstanding equity.

T. Rowe Price has been investing in large cap growth stocks since 1950 and now manages more than \$65 billion in this segment of which the U.S. Large-Cap Growth Strategy represents approximately 30%.

**Strategy Background**

The T. Rowe Price Large-Cap Growth Strategy was developed and launched by Robert Sharps at the beginning of 2002. The strategy emphasizes fundamental research and bottom-up stock selection to identify companies with above-average growth in earnings and cash flows.

The strategy capitalizes on two inefficiencies in the U.S. large-cap growth universe: 1) overestimation of the ability of large U.S. companies to grow at double-digit rates, and 2) short-term momentum and sentiment are often overemphasized by investors. It

seeks to outperform the market by understanding and exploiting these two inefficiencies on a company-by-company basis. The strategy invests into two types of growth companies: cyclical firms invested in at the right time, and secular firms to be held a very long time.

**Key Investment Professionals**

The investment team is supported by the company-wide 152-person global equity research group organized as specialists by industry and region. Analysts continue covering a company as it migrates along the capitalization spectrum.

In addition to two portfolio managers, the investment team includes Larry Puglia, lead portfolio manager for the U.S. Large-Cap Core Growth Strategy, and Robert Bartolo, lead portfolio manager for the U.S. Growth Stock Strategy. Thirty three analysts from a global equity research group support the large-cap growth strategy on a continuous basis.

**Robert W. Sharps, CFA, Vice President, Portfolio Manager**

Mr. Sharps is a Vice President of T. Rowe Price and the lead Portfolio Manager on the Large-Cap Growth Strategy. Mr. Sharps also serves as an Investment Advisory Committee member of both the Growth Stock Fund and Blue Chip Growth Fund. Prior to joining the firm in 1997, Mr. Sharps was a Senior Consultant at KPMG Peat Marwick. He holds a B.S. in Accounting from Towson University and an M.B.A. in Finance from the Wharton School, University of Pennsylvania. Mr. Sharps earned the Chartered Financial Analyst and Certified Public Accountant accreditations.

**Joseph Fath, Vice President, Associate Portfolio Manager**

Mr. Fath is a Vice President of T. Rowe Price and an Associate Portfolio Manager on the Large-Cap Growth Strategy. Mr. Fath also has portfolio management responsibilities in the firm's U.S. Structured Research Strategy. Prior to joining the portfolio management team in 2008, Mr. Fath covered gaming, cruise lines, air freight, and logistics as a research analyst. Mr. Fath joined T. Rowe Price in 2002. Mr. Fath earned a B.S. in Accounting from

the University of Illinois at Urbana-Champaign and an M.B.A. in Finance from the Wharton School, University of Pennsylvania.

### Process

T. Rowe Price applies a fundamental approach to select companies for the final portfolio. The primary focus of research is identifying stocks with favorable valuation, growth, and risk and return characteristics that have not yet been fully recognized by the market.

### Screens

The investment process starts with a preliminary screen of public companies with market capitalization above \$5 billion. The investable universe is narrowed to about 150-200 companies using earnings growth and return on invested capital metrics among others. Investment ideas also come from portfolio managers or equity analysts.

### Fundamental Research

T. Rowe Price analysts then conduct proprietary fundamental research of the remaining companies. Their goal is to find those with the greatest probability of generating real, double-digit earnings-per-share growth over a three-year timeframe.

To achieve this goal, analysts evaluate the company in the context of its business environment and pay equal attention to the fundamental characteristics of the target company itself and the industry where it operates. Analysis seeks to answer two main questions: 1) Does this company compete in an industry that supports profitable growth; and 2) Are the industry conditions improving or deteriorating? To answer these questions, the team evaluates many factors, including volume growth, price stability, pricing power, margin structure, return on invested capital, the intensity of the competitive environment, and cyclical trends in capacity and demand.

The analysis answers whether the company is well-enough positioned and managed to capitalize on the growth prospects of its industry. The analysts examine qualitative and quantitative factors to identify key characteristics of successful and rapidly growing companies. In the framework of the qualitative research, the analysts examine the company market position and management quality. The quantitative analysis focuses on the financial strength and includes a review of the company financial statements, discounted cash flow analysis

and ratio analysis. Valuation analysis incorporates numerous metrics, including price-to-earnings (P/E), P/E to expected growth rate (PEG), price to free cash flow, and enterprise value to EBITDA. Each metric is measured relative to the company's history, its industry, peers, and the market as a whole.

The core of the qualitative assessment is the on-site company visit and face-to-face meetings with management. The analysts also interview customers, suppliers, competitors, and industry experts and attend trade shows and industry conferences, spending approximately 50% of their time working outside of the office. These contacts help analysts to make better judgments about businesses and management teams and obtain first-hand intelligence about new trends and developments at individual companies and across entire industries.

The results of qualitative and quantitative research are summarized in the final report. This report includes a detailed evaluation of the company's business model, growth strategy, management team, financial strength, the potential downside risks, and key valuation and financial metrics. A rating from 1 (strong buy) to 5 (strong sell) is assigned to each company indicating the analyst's relative performance expectations for the company under coverage over a 12-month time horizon.

The fundamental research process results in a list of approximately 80-120 investment candidates. From this list, the portfolio management team identifies the high conviction ideas over a three-year time horizon, integrating the fundamental views of the analyst team with their own assessments. The final portfolio consists of 45-70 securities.

### Monitoring and Selling

The investment team keeps all portfolio holdings under constant review. They "let winners run" as long as fundamentals remain strong and valuations are justifiable. There is no automatic appreciation level or price target that would trigger trimming of a position. Each decision is made on a stock-by-stock basis, taking into account factors such as company fundamentals, valuation, confidence level, and the stock's weight in the portfolio. When selling, the team tends to gradually reduce the position size unless there is a sudden dramatic change in company fundamentals which would warrant a quick liquidation.

A portfolio holding will be considered a sale candidate if the team perceives that there is a deterioration of fundamentals. Negative fundamental indicators include: a decline in market share, loss of confidence in management, deterioration in earnings quality, and deceleration in free cash flow growth. A security's position size will be reduced if the stock's valuation becomes excessive relative to the company's growth potential and the position will be fully liquidated if the team determines there is a more attractive opportunity.

### Risk Management

The team views risk management from an absolute, rather than benchmark-relative perspective. Specifically, they consider their fundamental due diligence as part of the risk management process. The team's focus is on selecting high-quality, well-established companies, conducting rigorous fundamental analysis, continuously monitoring portfolio companies, and diversifying across various industry sectors and industries following predetermined portfolio construction rules.

Position sizes are limited to 5% of the portfolio or less, though typical position sizes range between 1% and 4%. Sector and industry weightings are a residual of the team's bottom-up stock selection process and typically vary from 0.5x to 3.0x of the index weight for purposes of diversification and risk control.

### Potential Red Flags

Although the Large-Cap Growth strategy has a portfolio management team structure, Mr. Sharps has been the strategy's key decision maker since inception. To address the key man risk associated with utilizing a star portfolio manager structure, T. Rowe Price promoted Mr. Fath from the analyst group to a dedicated Associate Portfolio Manager position in 2008. In this position, Mr. Fath assists Mr. Sharps with all portfolio management decisions.

### Performance

The strategy achieved top quartile performance on both five and ten year basis. Its gross composite is ahead of the benchmark by 229 basis points since inception, and by 318 and 53 basis points over three-year and five-year annualized investment periods, respectively.

The strategy significantly outperformed its benchmark in 2009, producing excess returns of 1,704 basis points, but slightly underperformed in 2006, 2007, 2008 and 2011. The strategy has an average beta above 1.1, and in contrast to many of its peers, it tends to considerably outperform during periods of market rallies. Conversely, during market downturns it has historically lagged.

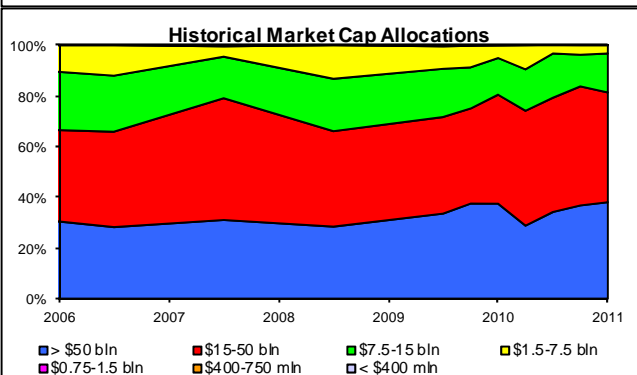
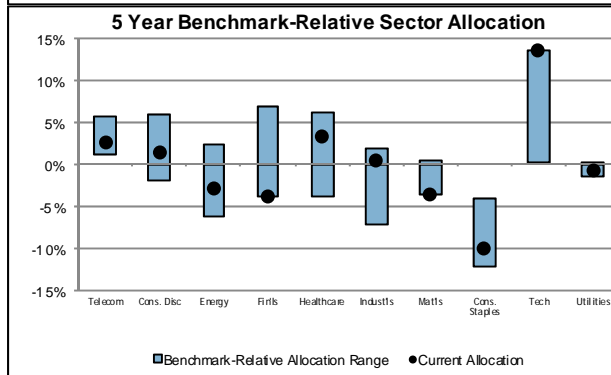
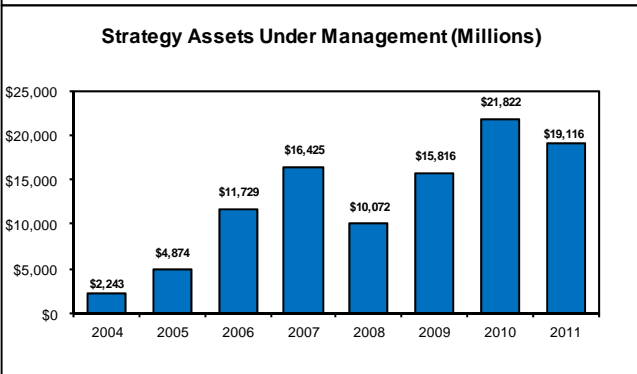
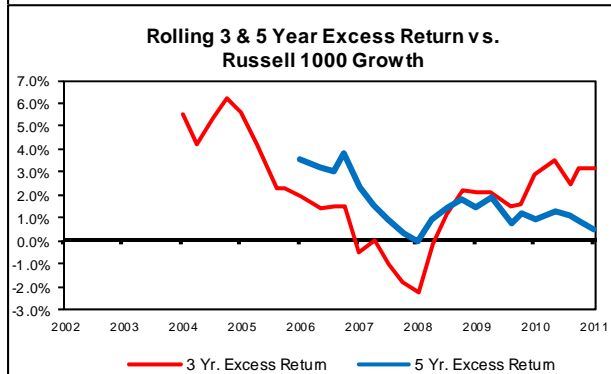
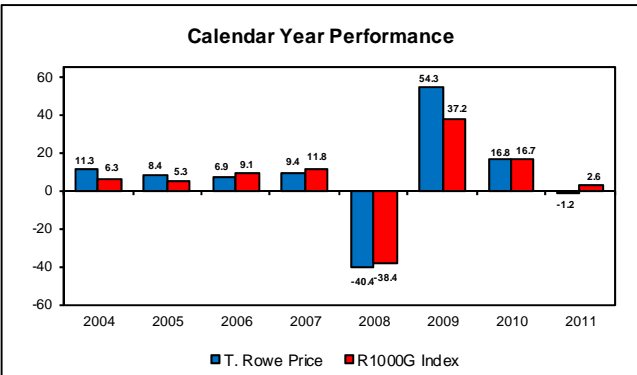
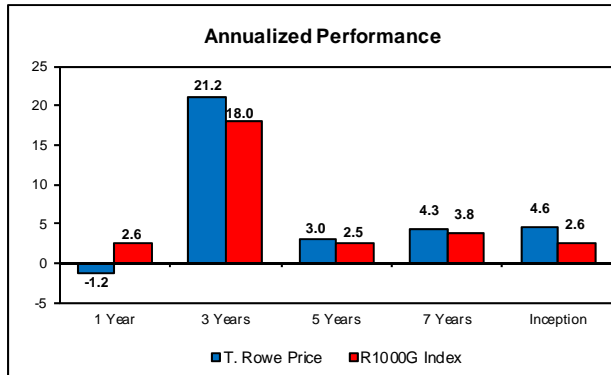
### Recommendation

The stable investment team, led by Mr. Sharps since inception, has a proven track record of strong performance, albeit with higher risk, guided by their reasoned philosophy and rigorous, analytic process devoted to fundamental research.

Wurts & Associates recommends the T. Rowe Price Large Growth Strategy for clients seeking a higher beta large cap growth equity manager.

*March 2012*

Data Overview As Of 12/2011



	3 Yrs	5 Yrs	7 Yrs	Incep.
Quarterly	58%	55%	50%	60%
Annually	78%	59%	56%	70%

Excess Performance vs. Russell 1000 Growth							
Best				Worst			
Qtr.	1 Yr	3 Yrs	5 Yrs	Qtr.	1 Yr	3 Yrs	5 Yrs
5.5	17.1	6.2	3.8	-2.9	-4.8	-2.2	0.0

Performance Characteristics				
	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Standard Deviation	21.5	21.5	20.1	20.4
Tracking Error	4.4	4.6	4.1	4.0
R-Squared	0.96	0.96	0.96	0.97
Information Ratio	0.72	0.11	0.13	0.51
Treynor Ratio	19.7	1.6	2.1	2.6
Sharpe Ratio	1.0	0.1	0.1	0.1
Downside Deviation	11.0	16.1	14.1	14.2

Portfolio Characteristics		
	T. Rowe Price	R1000G Index
P/E (12 Month Trailing)	20.8	15.9
Price/Book	4.0	3.7
Price/Cash Flow	---	11.1
EPS Growth (Past 5 Years)	14.9%	13.8%
5 Year ROE	19.9%	26.4%
Dividend Yield	0.6%	1.6%
Avg. Mkt. Cap (\$Mil.)	\$69,937	\$97,490
Turnover	57.6%	NA
Holdings	70	588
Cash Range (%)	5.0%	NA

Regression Based Active Management Attribution				
	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Active Expense Ratio	2.6	2.6	2.6	2.9
Actively Managed Share	17.0	17.0	17.0	15.0
Total Alpha	1.9	0.6	0.4	2.0

Performance figures are for the institutional separate account composite, gross of investment management fees.

## Glossary of Terms

**Active Expense Ratio:** A measure of the true cost of active management which is derived by taking actual fees paid in relation to portfolio returns that are not explained by systematic risk exposures (i.e., the benchmark). A statistical derivation of manager R-Squared to the benchmark drives this analysis.

**Actively Managed Share:** The portion of portfolio behavior that is not explained by the underlying systematic risk exposures (i.e., the benchmark). A statistical derivation of manager R-Squared to the benchmark drives this analysis.

**Annual Turnover:** A measure of how quickly a portfolio replaces its securities during a given year. A highly active portfolio will have a high annual turnover.

**Batting Average:** A measure of how often a manager has beaten the benchmark. Seen as a gauge of consistency, a batting average of 60% indicates that the manager has outperformed the portfolio benchmark six out of ten times.

**Dividend Yield:** A ratio that measures the level of dividend payments received by an equity portfolio. It is equal to the weighted average dividend payment divided by the weighted average share price.

**Downside Deviation:** A measure of the standard deviation of returns below a Minimum Acceptable Return (in our calculations, 3-Month T-Bills), or essentially the variations in negative portfolio returns. The higher the number, the more downside risk involved.

**Effective Duration:** A measure of a fixed income portfolio's sensitivity to interest rate changes. Effective duration includes the effects of embedded options by taking into account option-triggered cash flows caused will fluctuate as interest rates change.

**Excess Return:** The difference between a portfolio return and stated benchmark return.

**Information Ratio:** A measure of efficiency of a portfolio's excess returns. It is defined as excess return versus the benchmark divided by tracking error. The ratio measures the value added per unit of active management risk. A positive information ratio implies "efficient" use of risk by a manager.

**Market Capitalization:** A measure of the average size of a company held in an equity portfolio. It is measured at the security level by multiplying the share price by the number of shares outstanding.

**Price Ratios:** Valuation ratios comparing the average price of the securities held in an equity portfolio versus various financial characteristics. Presented ratios include price-to-earnings (P/E), price-to-book value, and price-to-cash flow.

**R-Squared:** Also known as the "coefficient of determination," R-Squared measures the degree to which a

manager's return varies with changes in the market. An R-squared of 1.0 suggests that a manager's returns are completely due to returns of the market, whereas an R-squared of 0.00 suggests that the performance of the manager is completely independent of the market.

**Rolling Performance:** The annualized average return over a specified period ending with the listed date. By looking at various quarter-ending points as opposed to a single point in time, rolling performance attempts quantify long-term performance consistency along with shifting the focus from current period-ending performance.

**Sharpe Ratio:** A measure of how efficiently a manager utilizes risk. It measures the returns earned in excess of the risk-free investment (3-Month T-Bills) per unit of risk assumed (as measured by the standard deviation of the portfolio).

**Standard Deviation:** A measure of the dispersion of a portfolio's returns around its expected return (mean). A higher standard deviation indicates greater dispersion, and therefore lower predictability of future returns. A lower standard deviation suggests less volatile portfolio returns.

**Total Alpha:** A measure of a manager's skill as defined by excess return above a benchmark due to non-market factors. Calculated by subtracting the index performance, adjusted by the manager's beta coefficient, from the manager's return. A positive alpha indicates a manager has performed better than expected given their risk level.

**Tracking Error:** A measure of how closely a portfolio follows the index to which it is benchmarked. Calculated by taking the standard deviation of the excess returns of a portfolio versus its benchmark, it is used to measure a manager's variability versus stated objectives. A lower tracking error indicates a manager performs in line with the benchmark without large swings.

**Treynor Ratio:** Sometimes called "reward-to-risk" ratio, it measures the returns earned in excess of the risk-free investment (3-Month T-Bills) per unit of systematic risk assumed (as measured by the manager's beta coefficient).

**Manager Evaluation: The Boston Company Asset Management**

**U.S. Large Cap Growth Equity**

**Strategy Basics**

Asset Class:	Large Cap Growth
Firm Inception:	1970
Firm Assets:	\$37.5 Billion
Strategy Inception:	2005
Strategy Assets:	\$3 Billion
Min. Acct. Size, Sep. Acct.:	\$15 Million
Fee, SA Fund:	0.65% first \$25M 0.45% next \$25M 0.35% next \$50M
Min. Acct. Size, Coll. Acct.:	\$3 Million
Fee, Collective Acct.:	0.65% first \$25M 0.45% next \$25M 0.35% next \$50M
Dreyfus Research Growth I:	
Min. Acct. Size, MF (DWOIX):	\$1,000
Fee, Mutual Fund:	0.88%

**Firm Background and History**

The Boston Company is an asset management firm offering growth and value strategies across the capitalization spectrum. The firm consists of seven separate investment teams operating autonomously of one another.

The firm was founded in 1970 by Boston Safe Deposit & Trust Company. In 1981, it became a wholly-owned subsidiary of Shearson Lehman Brothers, which was itself a subsidiary of American Express Company. In 1993, Mellon Financial Corporation acquired the firm. It had maintained its independence after the merger between The Bank of New York Company, Inc. and Mellon Financial Corporation in 2007.

**Strategy Background**

The Boston Company believes successful growth investing is achieved through a process that optimizes information, ensures decision-making freedom, and requires accountability within a framework of oversight and risk control.

The Large Growth strategy is built on the belief that an analyst driven investment process, managed by the lead portfolio manager within an investment framework, can generate strong, consistent returns relative to its benchmark and peers over a long-term

horizon. With a view that there is no single definition of growth and as a result, the portfolio is made up of companies with different levels and sources of earnings growth. The firm believes that the combination of multiple "alpha engines" and highly experienced analysts improves the prospects for consistent outperformance as decision-making is focused at the level closest to the information. In addition, a rules-based portfolio construction process seeks to mitigate exposure to unintended risks and enable stock selection to drive returns.

The investment philosophy employed in the US Large Cap Growth Equity strategy has not changed since the strategy's inception in 2005.

**Key Investment Professionals**

**Elizabeth Slover, Sr. Managing Director**

Ms. Slover is Director of Research and the Portfolio Manager on the Research Growth Fund. Prior to joining The Boston Company, Ms. Slover was with Chancellor LGT Asset Management and Invesco where she worked for the Director of Equities, responsible for managing the Equity Research Group. Before joining Chancellor, Ms. Slover was in the Equity Research Department of Smith Barney, where she worked for the Chief Investment Strategist. Ms. Slover received a BA in Political Science from Union College.

**Raymond Bowers, CFA, Director**

Mr. Bowers is a Senior Equity Research Analyst covering the media, entertainment, and internet sectors. Before joining The Boston Company, Mr. Bowers served as an Equity Research Analyst at Essex Investment Management covering media/broadcasting, lodging and gaming, as well as industrials. Prior to that, he was an Equity Research Analyst at MFS Investment Management, where he focused on small and mid-cap securities. Prior to MFS, he served as an Investment Banking Analyst at Robertson, Stephens, & Company. Mr. Bowers earned a BA in Government from Dartmouth College and holds the CFA designation.

**Connie DeBorver, CFA, Director**

Ms. DeBorver is a Senior Equity Research Analyst covering the financial sector. Prior to joining The



Boston Company, she was an Equity Research Associate at Bear, Stearns & Company, responsible for conducting fundamental research on the telecommunications software and equipment industries. Prior to that, she was employed at Jefferies & Company as an Equity Research Associate covering the telecommunications industry. Before her work at Jefferies, Ms. DeBorver was a Staff Auditor at Price Waterhouse, where she was responsible for auditing technology and financial companies. Ms. DeBorver earned a BS in Economics with a dual concentration in Accounting and Management from the Wharton School of Business. She holds the CFA designation and is a CPA.

**Matthew Griffen, CFA, Director**

Mr. Griffen is a Senior Research Analyst covering the technology sector. He joined the firm in 2006 and has twenty years of experience in the industry. His previous positions include serving as a Research Analyst at Integrity Capital specializing in technology; a Portfolio Manager at Putnam Investments covering technology, hardware and semiconductor sectors; a Portfolio Manager and Analyst at Harbor Capital Management; and a Technology Analyst at Colonial Management and Arkwright Mutual. Mr. Griffen earned a BA in Economics from Duke University and he holds the CFA designation.

**Rick Rosania, CFA, Director**

Mr. Rosania is a Senior Equity Research Analyst covering the health care sector. Prior to joining The Boston Company, he worked at Mellon Institutional Asset Management (MIAM) as Vice President of Strategic Planning and Business Development. Previous to his position with Mellon, Mr. Rosania was Vice President of Acquisitions for Harborside Healthcare Corporation, where he was involved in the acquisitions of long-term healthcare facilities and ancillary service providers. Before that, he was a manager of Business Development and Financial Analysis in the Risk Services Division of Liberty Mutual, responsible for the corporate development function for property and casualty insurance opportunities. He received an AB in Economics from Dartmouth College and earned an MSF from Boston College. Mr. Rosania holds the CFA designation.

**Investment Process**

The research team acts as "industry experts" within their sector, covering mid- and large-cap companies. The analysts work within their industries to identify

investment ideas through, among other things, a review of industry fundamentals, identification of compelling metrics, distinguishing group leadership, and recognizing emerging trends or themes.

The evaluation process is designed to identify companies that meet specific growth criteria and ensure consistency among each of the portfolio companies. Once a company has been identified, the team begins the process of intensive research and analysis. They create detailed financial modeling, establish the company outlook and industry positioning, evaluate sustainable growth prospects, assess management, and identify potential catalysts.

After this stage, the analysts will have listed approximately 300 buy-rated securities. Once the analyst has identified a strong growth opportunity, they present the case for the company to the sector team within the research group, as well as the firm's overall investment constituencies that interact at a daily investment meeting.

The firm does not employ any universe-wide quantitative screens that might limit investment opportunities. Analysts are responsible for active coverage of all companies in their respective sectors with market capitalization greater than \$10B; this includes a rating by the analyst of buy, hold, or sell. For companies with a market capitalization between \$2B and \$10B, analysts are required to maintain coverage on most companies, as well as a meaningful working knowledge of companies in their space.

As part of their individual research processes, analysts have a variety of valuation and other metrics that they use to evaluate their coverage universes. Individual analysts have developed quantitative screens, specific to their industry groups.

Analysts are given the freedom to focus on the drivers of growth appropriate to the companies they review, however they also apply a consistent evaluation discipline to understand the behavior of earnings growth; whether it is consistent or accelerating, and whether strong near-term positive catalysts exist.

**Portfolio construction**

Capital is distributed according to benchmark weights across the 14 industry specialists who are organized into the sector groups. Each industry specialist applies their specific investment process to their

allocation of capital to evaluate the attractiveness of the sector, industry, and company. The portfolio manager evaluates risk through quantitative and qualitative measures and ensures adherence to The Boston Company's purchase and sell disciplines.

### Sell Disciplines

Clear sell disciplines are in place that include whether (1) the stock has achieved its price target; (2) a stock has been downgraded to hold or sell; (3) earnings growth is slowing; (4) the original investment thesis has changed; (5) the market's estimates are excessive; (6) fundamentals have eroded; (7) the company has lagged industry peers by 20% or more over a period of 90 days; and (8) if the analyst has identified a more attractive investment opportunity.

### Risk Management

The strategy's portfolio manager plays the role of risk manager at both the security selection and portfolio construction level. The portfolio manager discusses security recommendations with the analyst and verifies the specific growth criteria driving the investment case. Once identified as a purchase opportunity, the team implements positioning through the portfolio construction process.

In addition to creating the portfolio, this stage includes the daily management of the portfolio and investment oversight, as well as application of a number of risk controls. (1) All stocks recommended for inclusion must be rated "Buy" and have a minimum capitalization of \$2B at the time of purchase. (2) Stocks normally enter the portfolio at a 50 bps position and must normally be an active overweight versus benchmark. (3) The maximum position size is the greater of 5% or 300 bps above the index weight. (4) The portfolio will hold between 60 and 100 stocks. (5) Sector allocations are generally within 300 bps relative to the benchmark weight.

### Potential Red Flags

Portfolios are constructed by the analysts from the bottom up. They do not incorporate any top down views regarding sector allocation or macro risks that the portfolio manager may have. The portfolio capital allocation is mechanical and does not consider relative valuation or trends across industry sectors. Yet, we believe the benefits of a best ideas research portfolio outweigh the potential drawbacks of this approach.

Lastly, the systematic risk factor models utilized by the portfolio manager may not fully recognize the actual risks in the portfolio or incorporate unintended macroeconomics headwinds. This is the challenge with a research driven portfolio: the lack of a central leader that can steer the portfolio. That said, we are comfortable with their risk modeling utilizing multi-layer risk management tools.

We also note the dramatic increase in asset under management in the third quarter of 2011, increasing from \$1.1B to almost \$3B. While the increase is considerable, it is within reason for a large cap equity strategy. The firm itself has almost \$40B in assets.

### Performance

The strategy has generated positive excess returns over multiple time frames, ranking at the top quartile among its peer group for the last three- and five-year time periods. On an annual basis (2006, 2007, 2008, 2009), the strategy also ranked within the second quartile, demonstrating the consistency of the investment process, and the team's ability to outperform during various market conditions. Notably, the strategy was able to outperform its benchmark in 2008, which is rare for its peer group.

Keeping its average risk similar to the benchmark along with a bottom decile tracking error, the strategy tends to outperform during up-markets, while keeping up with the market during downturns.

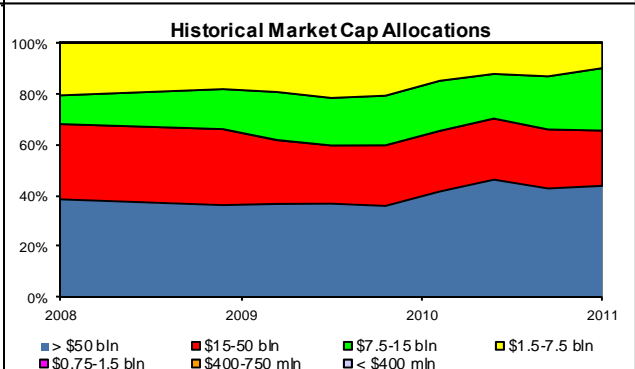
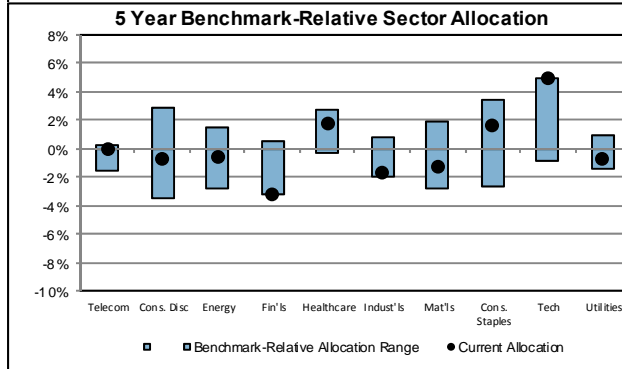
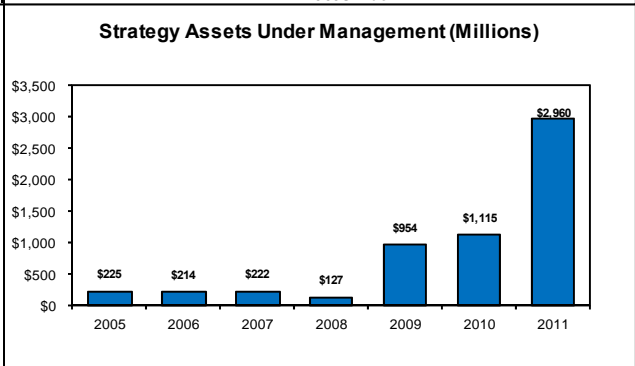
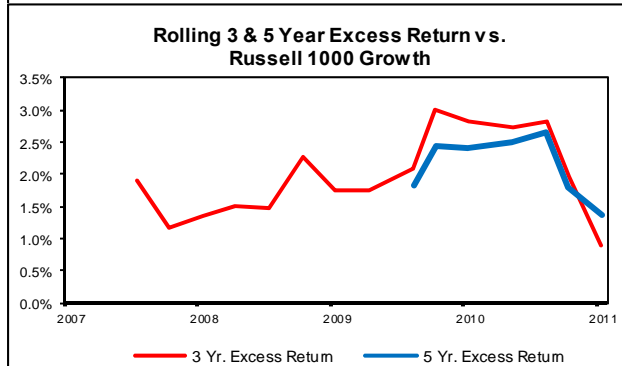
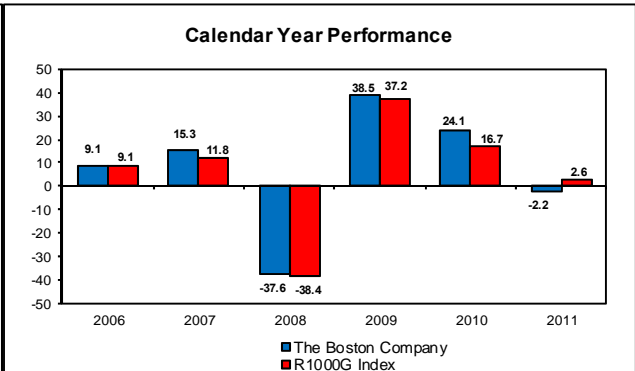
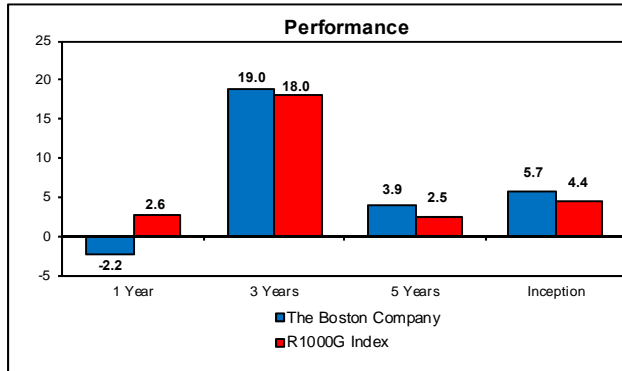
### Recommendation

Wurts & Associates recommends The Boston Company Large Cap Growth Research strategy for clients seeking to allocate capital to large growth equity. We favor the strategy for the following reasons:

- Deep and stable investment team with narrowly focused industry research responsibilities
- A proven track record of consistent strong results guided by an analytic process devoted to fundamental research and team-based orientation
- Emphasis on holding only high conviction names with "active" weights that demonstrate sustainable earnings growth has led to long-term outperformance in both strong and weak market environments
- Multifaceted risk management discipline

*April 2012*

Data Overview As Of 12/2011



Batting Average				
	3 Yrs	5 Yrs	7 Yrs	Incep.
Quarterly	58%	65%	NA	69%
Annually	78%	88%	NA	91%

Excess Performance vs. Russell 1000 Growth							
Best				Worst			
Qtr.	1 Yr	3 Yrs	5 Yrs	Qtr.	1 Yr	3 Yrs	5 Yrs
4.0	7.7	3.0	2.6	-3.0	-4.8	0.9	1.4

Performance Characteristics				
	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Standard Deviation	21.2	19.2	---	---
Tracking Error	3.8	2.8	---	---
R-Squared	0.97	0.98	---	---
Information Ratio	0.24	0.50	---	---
Treynor Ratio	17.8	2.5	---	---
Sharpe Ratio	0.9	0.1	---	---
Downside Deviation	11.3	15.0	---	---

Portfolio Characteristics		
	Boston Comp	R1000G Index
P/E (12 Month Trailing)	15.1	15.9
Price/Book	3.0	3.7
Price/Cash Flow	10.34	11.1
EPS Growth (Past 5 Years)	---	13.8%
5 Year ROE	22.7%	26.4%
Dividend Yield	1.4%	1.6%
Avg. Mkt. Cap (\$Mil.)	\$72,210	\$97,490
Turnover	96.0%	NA
Holdings	86	588
Cash Range (%)	5.7%	NA

Regression Based Active Management Attribution				
	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Active Expense Ratio	3.9	4.6	---	---
Actively Managed Share	14.9	12.7	---	---
Total Alpha	0.0	1.4	---	---

Performance figures are for the institutional separate account composite, gross of investment management fees.

## Glossary of Terms

**Active Expense Ratio:** A measure of the true cost of active management which is derived by taking actual fees paid in relation to portfolio returns that are not explained by systematic risk exposures (i.e., the benchmark). A statistical derivation of manager R-Squared to the benchmark drives this analysis.

**Actively Managed Share:** The portion of portfolio behavior that is not explained by the underlying systematic risk exposures (i.e., the benchmark). A statistical derivation of manager R-Squared to the benchmark drives this analysis.

**Annual Turnover:** A measure of how quickly a portfolio replaces its securities during a given year. A highly active portfolio will have a high annual turnover.

**Average Maturity:** The weighted average time to maturity, in years, of fixed-income investments in a portfolio.

**Batting Average:** A measure of how often a manager has beaten the benchmark. Seen as a gauge of consistency, a batting average of 60% indicates that the manager has outperformed the portfolio benchmark six out of ten times.

**Downside Deviation:** A measure of the standard deviation of returns below a Minimum Acceptable Return (in our calculations, 3-Month T-Bills), or essentially the variations in negative portfolio returns. The higher the number, the more downside risk involved.

**Effective Duration:** A measure of a fixed income portfolio's sensitivity to interest rate changes. Effective duration includes the effects of embedded options by taking into account option-triggered cash flows caused will fluctuate as interest rates change.

**Excess Return:** The difference between a portfolio return and stated benchmark return.

**Information Ratio:** A measure of efficiency of a portfolio's excess returns. It is defined as excess return versus the benchmark divided by tracking error. The ratio measures the value added per unit of active management risk. A positive information ratio implies "efficient" use of risk by a manager.

**R-Squared:** Also known as the "coefficient of determination," R-Squared measures the degree to which a manager's return varies with changes in the market. An R-squared of 1.0 suggests that a manager's returns are completely due to returns of the market, whereas an R-squared of 0.00 suggests

that the performance of the manager is completely independent of the market.

**Rolling Performance:** The annualized average return over a specified period ending with the listed date. By looking at various quarter-ending points as opposed to a single point in time, rolling performance attempts quantify long-term performance consistency along with shifting the focus from current period-ending performance.

**Sharpe Ratio:** A measure of how efficiently a manager utilizes risk. It measures the returns earned in excess of the risk-free investment (3-Month T-Bills) per unit of risk assumed (as measured by the standard deviation of the portfolio).

**Standard Deviation:** A measure of the dispersion of a portfolio's returns around its expected return (mean). A higher standard deviation indicates greater dispersion, and therefore lower predictability of future returns. A lower standard deviation suggests less volatile portfolio returns.

**Total Alpha:** A measure of a manager's skill as defined by excess return above a benchmark due to non-market factors. Calculated by subtracting the index performance, adjusted by the manager's beta coefficient, from the manager's return. A positive alpha indicates a manager has performed better than expected given their risk level.

**Tracking Error:** A measure of how closely a portfolio follows the index to which it is benchmarked. Calculated by taking the standard deviation of the excess returns of a portfolio versus its benchmark, it is used to measure a manager's variability versus stated objectives. A lower tracking error indicates a manager performs in line with the benchmark without large swings.

**Treynor Ratio:** Sometimes called "reward-to-risk" ratio, it measures the returns earned in excess of the risk-free investment (3-Month T-Bills) per unit of systematic risk assumed (as measured by the manager's beta coefficient).

**Weighted Average Coupon:** The average coupon (interest payment) for a fixed income portfolio. The outstanding market value of each fixed income security is used as the weighting factor.

**Yield to Maturity:** The return anticipated on a fixed income portfolio if it is held until maturity. It assumes that all coupon and principal payments will be made, and that coupon payments are reinvested at the bond's promised yield.

**Manager Evaluation: Winslow Capital Management**

**Large Cap Growth**

**Strategy Basics**

Asset Class:	Large Cap Growth
Firm Inception:	1992
Firm & Strategy Assets:	\$29 Billion
Strategy Inception:	July 1992
Min. Acct. Size, Sep. Acct:	\$25 Million
Fee, Separate Account:	0.60% first \$50M 0.58% next \$50M
Min. Acct. Size, Com. Fund:	\$1M
Fee, Commingled Account:	0.65% \$1-\$15M 0.60% \$15-\$50M 0.55% above \$60M
Min. Acct. Size, Mutual Fund:	\$100,000
Fee, Mutual Fund (NVLIX)	0.80%

*Strategy is closed to new separate accounts*

**Firm Background and History**

Winslow Capital Management was founded in June, 1992 by Clark Winslow in Minneapolis, MN to provide equity management to institutional clients. The firm's sole focus is on the Large Cap Growth product which has experienced rapid growth in assets under management over the last several years.

In 2008, Winslow became a wholly owned subsidiary of Nuveen Investments, an investment management services company. The management team leverages Nuveen's infrastructure in Information Technology, Compliance, and Human Resources which enables the team to focus on the investment process.

Through the terms of an operating agreement with Nuveen, Winslow's principals serve as the Operating Committee of the firm and have authority over the management of the business, its staff, discretion over the investment process and its implementation. The investment team and other key professionals have employment contracts in place, as well as significant equity-based incentives to align their interests with clients. The purchase price has been 75% paid to date; the remaining 25% will be paid in 2013.

The company has a total of 24 employees, including eight investment professionals and four client service professionals.

**Strategy Background**

The Large Cap Growth team's philosophy is similar to other growth managers in that the team believes investing in high quality companies with above-average earnings growth at attractive valuations provides the best opportunity for achieving superior portfolio returns over the long term. The team focuses on identifying those companies which will exceed consensus earnings expectations and whose future stock price will reflect those higher earnings.

A distinguishing characteristic of this strategy is that in addition to sector, industry and stock diversification, the team also diversifies by the type of growth a company is experiencing. The three types of earnings growth are: long-term sustainable earnings growth, cyclical growth in the right part of the cycle and newer industries with rapid growth. As a general rule, about one-third of the portfolio is invested in each of the growth types. This approach has historically helped to provide consistency of returns in different growth environments.

While the Winslow team primarily focuses on bottom-up analysis, they are also aware of the global trends and attempt to identify new and significant global developments. The strategy is benchmark aware but will deviate from benchmark sector weights by +/- 10 percentage points. There are typically 55 to 65 stocks in the portfolio.

Portfolio companies are expected to deliver future annual earnings growth of at least 12% with an increasing return on invested capital (ROIC).

**Key Investment Professionals**

There are a total of six investment professionals dedicated to the strategy: two portfolio managers, three dedicated analysts, and one strategist. Each of the team members conducts research, including the portfolio managers. The analysts have all had sell-side experience with sector specific responsibilities.

**Bart Wear, CFA, Senior Managing Director**

Mr. Wear started his career with Winslow Capital Management in April 1997 as Managing Director with responsibility for research and portfolio management. His research covers Financials and

Consumer sectors. For 13 years Mr. Wear worked at Firststar Investment Research and Management Company serving as a Senior Vice President/Senior Portfolio Manager and Director of Research. He received a B.A. in Finance from Arizona State University.

**Justin Kelly, CFA, Senior Managing Director**

Mr. Kelly joined Winslow Capital Management in April 1999 as a Managing Director with responsibility for research and portfolio management. His research covers Technology and Energy. From 1997 to 1999, Mr. Kelly was a co-head of the Technology Research Team at Investment Advisers, Inc. in Minneapolis. For the prior four years, he was an investment banker in New York City for Prudential Securities and then Salomon Brothers. He received a B.S. Summa Cum Laude in Finance/Investments from Babson College.

**Steve Hamill, CFA, Managing Director, Analyst**

Mr. Hamill joined Winslow Capital Management in 2006 and focuses primarily on Healthcare. From 2003 to 2006, he was a Principal and Senior Research Analyst at Piper Jaffray & Co. covering healthcare stocks. Mr. Hamill worked as a sell-side research analyst at RBC Capital Markets from 2000 to 2003. From 1993 to 2000, he was a Manager in the Business Valuation Practice of Arthur Anderson, LLP, in Minneapolis and Milwaukee. He graduated Magna Cum Laude from Marquette University with a B.S. in Economics and Finance.

**Roger Mendel, CFA, Managing Director, Analyst**

Mr. Mendel joined Winslow Capital in 2008 and follows Industrials and Materials. He began his career at the Securities and Exchange Commission as a senior compliance examiner. Later he became an Analyst with primary coverage of steel companies at Salomon Smith Barner/Salomon Bros. At Northern Trust he began covering basic materials sector, building products, transportation and homebuilders. He then moved to industrials including multi-industry, machinery, aerospace and defense as Senior Analyst/V.P. of Equity Research. He graduated from Indiana University with a B.S. in Finance.

**Patrick Burton, CFA, Managing Director, Analyst**

Mr. Burton started his career at Winslow Capital Management in 2010 and covers Technology-Business Services and Consumer Staples. Most recently he was a Senior Equity Research Analyst for Thrivent Asset Management in Minneapolis. From 1999 to 2009, Mr. Burton worked in New York as a

Managing Director for Citigroup Investments. He was with Lehman Brothers from 1995 to 1999 as a Senior Vice President. In 1984, Mr. Burton began his financial career with Piper Jaffray, as a Managing Director. He graduated from University of Minnesota with a B.S. in Finance with distinction.

**Michael Hoover, Managing Director, Analyst**

Mr. Hoover joined Winslow Capital Management in October of 2011 and is bringing his vast experience in the Energy sector to Winslow's equity investment team. Prior to joining the firm Mr. Hoover was the sole Portfolio Manager for the Columbia Energy and Natural Resources fund at Columbia Management in New York. Mr. Hoover began his career at Manufacturers Hanover Trust Company in New York in 1975, continuing on to Joel A. Silverman Associates, a hedge fund affiliated with Gruntal & Co. in 1987. Michael then went to U.S. Trust Company in 1989 where he was Senior Equity Analyst. Mr. Hoover received his B.A. from Dartmouth College.

**Process**

The stock selection process is comprised of quantitative screening followed by in-depth fundamental proprietary research. One of the key goals is identification of any positive or negative variations of the earnings growth rate versus Wall Street 1-2 year expectations. The portfolio is diversified by three types of growth and by four additional criteria including earnings growth rates, market capitalizations, price/earnings ratios and economic sectors.

**Screens**

The investment process begins with preliminary screens which assist with idea generation. The factors within the quantitative screening model focus on three areas: growth metrics, earnings stability, and financial ratios, with specific emphasis on revenue and earnings growth, return on invested capital, earnings consistency, low financial leverage and high free cash flow rates relative to income and a minimum market capitalization of \$4 billion. The quantitative analysis generates a list of approximately 300 target companies.

**Fundamental Research**

Throughout the fundamental analysis process, each target company is evaluated in the context of its industry and sector. Primary attention is paid to the

company's competitive advantage and the sustainability of its earnings. The team seeks characteristics that, in their experience, distinguish high quality growth companies. Examples of the characteristics include: presence in markets with growth opportunities; leading or gaining market share; having identifiable and sustainable competitive advantages; a tenured talented management team; high, and preferably rising, return on invested capital (ROIC). Approximately one hundred companies are selected for further consideration.

Investment ideas are generated from quantitative screening, investment and industry conferences, industry contacts, Street analysts, professional journals, etc.

The team's due diligence process includes the analysis of annual reports, 10-Ks, 10-Qs, and proxy statements. The team builds proprietary models to make internal forecast of future earnings growth which they will compare to Wall Street estimates. An important part of the team's due diligence includes discussions with management teams. For monitoring purposes the team will hold monthly discussions with company management to be aware of recent trends and developments and to gain knowledge and insight that would make their earnings projections more accurate than Street estimates.

Valuation analysis plays an important role in the decision process. The team examines Price-to-Earnings ratio relative to the Russell 1000 Growth index, sector peers, the company's sustainable future growth rate, and the company's return on invested capital (ROIC).

The allocation among the three types of earnings growth is determined stock by stock during the bottom up selection process and is based on the qualitative assessment of the company. Each growth type could represent 25% to 40% of the final portfolio.

Each stock idea is sponsored by a team member who develops a Basis for Investment, which is reviewed by the entire team before the stock is recommended for purchase. Final investment decisions are made by Mr. Wear and Mr. Kelly. High quality growth companies traded at attractive valuation are included into the final portfolio consisting of 55 to 65 stocks.

**Sell Discipline**

The performance of portfolio companies is constantly monitored, using the same quantitative and qualitative methods that are applied to build the portfolio. Similar to the buy decisions, sell decisions are based on fundamental research.

The team will sell a portfolio holding immediately when the fundamentals are believed to be deteriorating, altering the Basis for Investment. A holding is reduced when the valuation of the stock reaches a level that the team determines to fully reflect the underlying fundamentals, or sold entirely to invest in a potentially better opportunity. Company fundamentals are thoroughly reviewed if stock price declines 20% from the purchase price or a recent high. To maintain appropriate diversification any holding is reduced when the position size exceeds 5% of the portfolio.

**Risk Management**

Controlling risk is an important part of the investment process addressed at different points of portfolio construction and monitoring. First, risk is reduced through several types of diversification and consistent sell discipline both of which were discussed in the process section. Second, the team constantly assesses stock risk at both absolute and versus the benchmark terms.

The team reviews portfolio holdings versus the index and examines variances in terms of key holdings, sector weightings and portfolio diversification in price-to-earnings ratio, market capitalization, earnings growth rate, and the three types of earnings used in the discipline of portfolio construction.

Winslow constructs a well-diversified portfolio of 55-65 stocks, with typical positions sizes of 1-3%. Maximum individual stock position is 5% of the portfolio at market price. The total portfolio is not allowed to deviate from the sector weight by more than +/- 10 percentage points.

**Potential Red Flags**

As part of our ongoing due diligence, we will regularly review this product for potential "red flags" that could warrant a material reexamination of our recommendation.

The strategy has experienced very rapid growth of assets over the last several years, from \$1.7 billion at

2006 year-end to more than \$29 billion at year-end 2011. New people were hired to support asset growth and provide in-depth knowledge in selected industry sectors perceived to gain increasing importance. We will closely monitor strategy performance and attribution to insure that a drift in style or execution does not occur and that their history of high quality research continues to result in superior returns.

Clark Winslow is over 70 years old. He has effectively transitioned from active portfolio management to client servicing and marketing roles. In 2010, as part of a succession plan, Winslow hired Michael Palmer as President to focus on marketing and operations.

### Performance

The strategy is ahead of the benchmark by 156 basis points since inception and by 212, 204 and 46 basis points over seven-year, five-year and three-year investment periods annualized. It has outperformed the benchmark seven of the last 10 years underperforming by 103 and 206 basis points in 2006 and 2011, respectively. In 2007 and 2009, the strategy had 1048 and 382 basis points excess returns.

Diversification among three different types of growth has produced very consistent performance over various market environments. The most favorable market environment is a “normal” market driven by real earnings growth and sensible valuation.

The Winslow investment process may be challenged in two scenarios: a highly speculative market with minimal valuation discipline; and also in a market with little regard to quality, driven by heavy acquisition activity of weaker companies due to its bias for quality.

### Recommendation

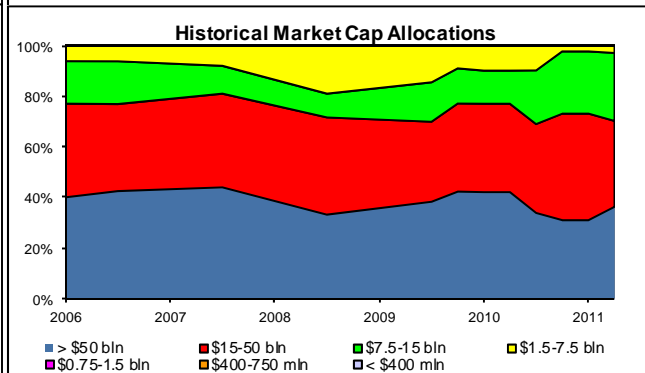
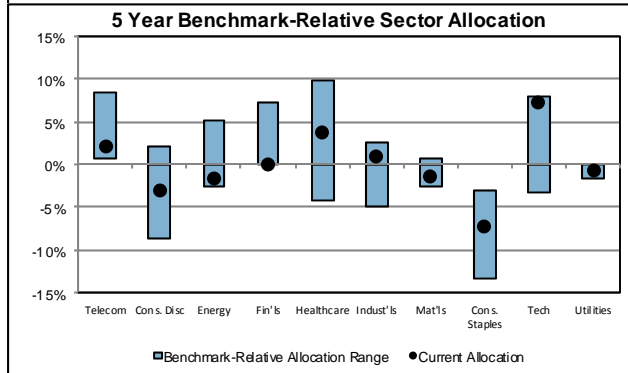
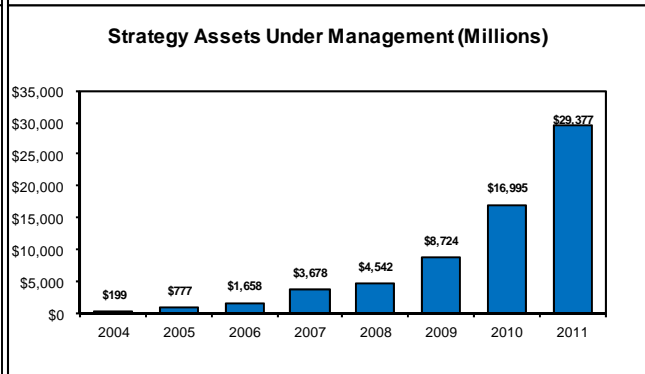
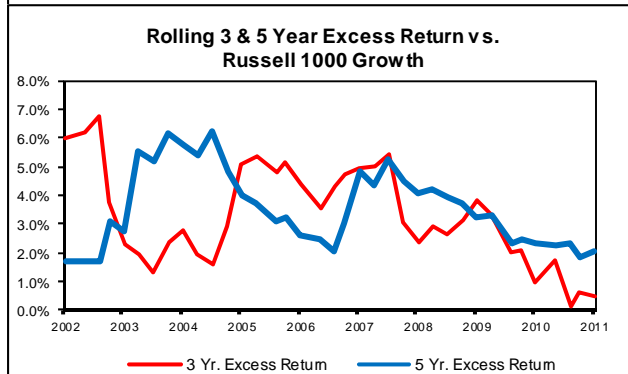
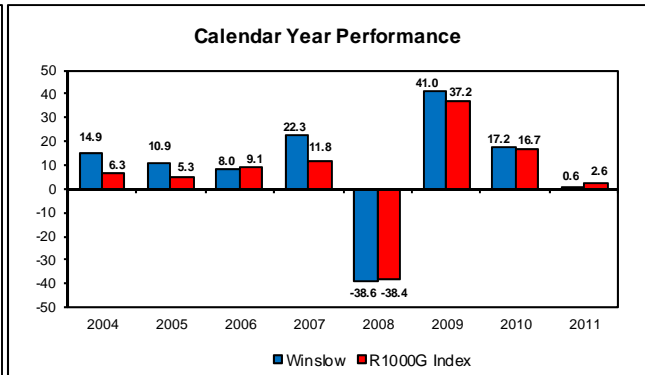
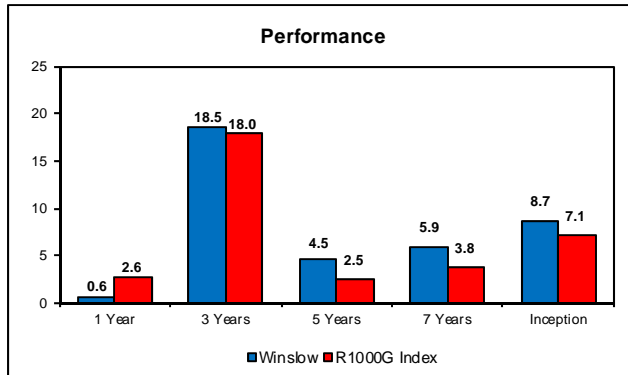
Wurts & Associates recommends the Winslow Capital Large Cap Growth Strategy for clients seeking to allocate capital to large growth equity.

Winslow has a long history of being a stable firm. The company has a committed and experienced management team. The firm’s philosophy, disciplined process, excellent track record along with its focus on a single strategy makes it a very strong candidate for investors.

*January 2012*



## Data Overview As Of 12/2011



Batting Average				
	3 Yrs	5 Yrs	7 Yrs	Incep.
Quarterly	42%	50%	50%	56%
Annually	56%	65%	68%	63%

Excess Performance vs. Russell 1000 Growth							
Best				Worst			
Qtr.	1 Yr	3 Yrs	5 Yrs	Qtr.	1 Yr	3 Yrs	5 Yrs
9.8	16.8	8.8	6.2	-11.5	-21.1	-9.5	-7.8

Performance Characteristics				
	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Standard Deviation	20.7	20.2	19.6	19.1
Tracking Error	3.9	3.9	4.1	4.2
R-Squared	0.96	0.96	0.96	0.95
Information Ratio	0.12	0.53	0.52	0.55
Treynor Ratio	17.9	3.0	3.7	3.0
Sharpe Ratio	0.9	0.1	0.2	0.2
Downside Deviation	11.6	16.3	14.1	13.8

Portfolio Characteristics		
	Winslow	R1000G Index
P/E (12 Month Trailing)	18.8	15.9
Price/Book	3.5	3.7
Price/Cash Flow	14.2	11.1
EPS Growth (Past 5 Years)	19.5%	13.8%
5 Year ROE	21.8%	26.4%
Dividend Yield	0.8%	1.6%
Avg. Mkt. Cap (\$Mil.)	\$61,080	\$97,490
Turnover	42.2%	NA
Holdings	61	588
Cash Range (%)	6.4%	NA

Regression Based Active Management Attribution				
	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Active Expense Ratio	3.1	3.1	3.1	2.9
Actively Managed Share	17.0	17.0	17.0	18.7
Total Alpha	0.1	2.1	2.1	2.4

Performance figures are for the institutional separate account composite, gross of investment management fees.



Glossary of Terms

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**Excess Return:** The difference between a portfolio return and stated benchmark return.

**Information Ratio:** A measure of efficiency of a portfolio's excess returns. It is defined as excess return versus the benchmark divided by tracking error. The ratio measures the value added per unit of active management risk. A positive information ratio implies "efficient" use of risk by a manager.

**R-Squared:** Also known as the "coefficient of determination," R-Squared measures the degree to which a manager's return varies with changes in the market. An R-squared of 1.0 suggests that a manager's returns are completely due to returns of the market, whereas an R-squared of 0.00 suggests

that the performance of the manager is completely independent of the market.

**Rolling Performance:** The annualized average return over a specified period ending with the listed date. By looking at various quarter-ending points as opposed to a single point in time, rolling performance attempts quantify long-term performance consistency along with shifting the focus from current period-ending performance.

**Sharpe Ratio:** A measure of how efficiently a manager utilizes risk. It measures the returns earned in excess of the risk-free investment (3-Month T-Bills) per unit of risk assumed (as measured by the standard deviation of the portfolio).

**Standard Deviation:** A measure of the dispersion of a portfolio's returns around its expected return (mean). A higher standard deviation indicates greater dispersion, and therefore lower predictability of future returns. A lower standard deviation suggests less volatile portfolio returns.

**Total Alpha:** A measure of a manager's skill as defined by excess return above a benchmark due to non-market factors. Calculated by subtracting the index performance, adjusted by the manager's beta coefficient, from the manager's return. A positive alpha indicates a manager has performed better than expected given their risk level.

**Tracking Error:** A measure of how closely a portfolio follows the index to which it is benchmarked. Calculated by taking the standard deviation of the excess returns of a portfolio versus its benchmark, it is used to measure a manager's variability versus stated objectives. A lower tracking error indicates a manager performs in line with the benchmark without large swings.

**Treynor Ratio:** Sometimes called "reward-to-risk" ratio, it measures the returns earned in excess of the risk-free investment (3-Month T-Bills) per unit of systematic risk assumed (as measured by the manager's beta coefficient).

**Weighted Average Coupon:** The average coupon (interest payment) for a fixed income portfolio. The outstanding market value of each fixed income security is used as the weighting factor.

**Yield to Maturity:** The return anticipated on a fixed income portfolio if it is held until maturity. It assumes that all coupon and principal payments will be made, and that coupon payments are reinvested at the bond's promised yield.

# Sample Client Report

Investment Performance Review  
Period Ending: December 31, 2013

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WURTS  ASSOCIATES

SEATTLE | 206.622.3700  
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[www.wurts.com](http://www.wurts.com)

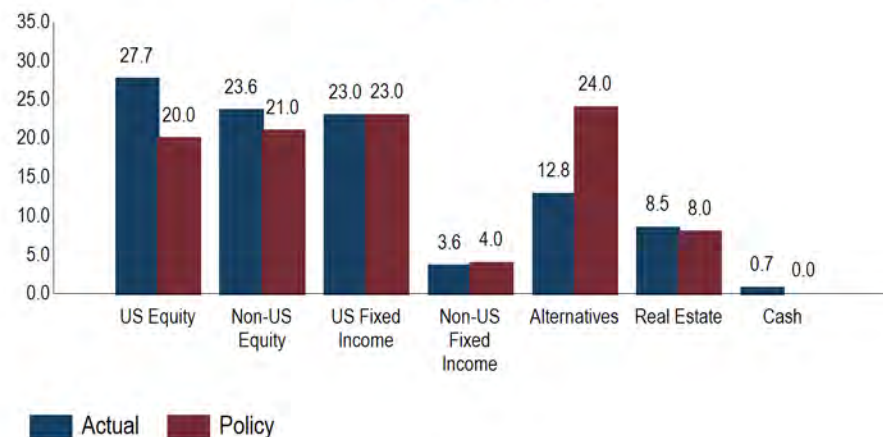
# Total Fund

## Executive Summary (Net of Fees)

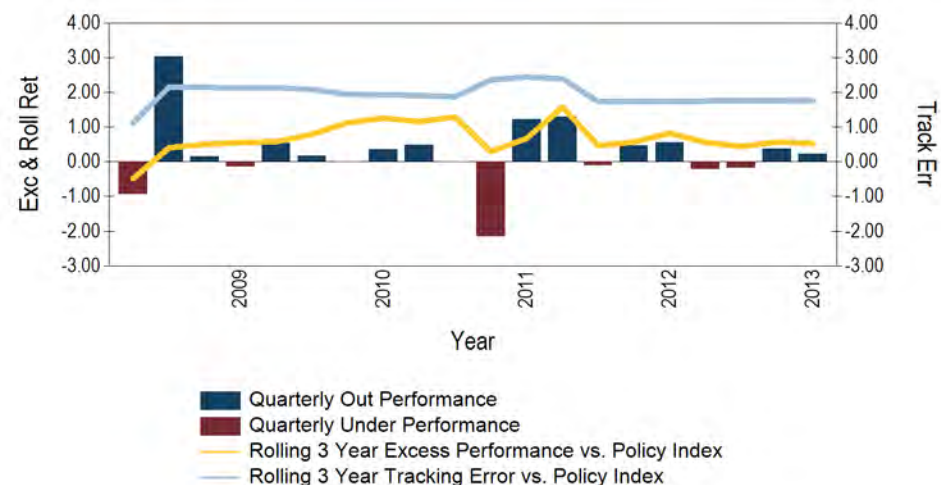
Period Ending: December 31, 2013

	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Total Fund</b>	<b>4.8</b>	<b>10.1</b>	<b>13.4</b>	<b>8.5</b>	<b>12.2</b>	<b>7.1</b>
<i>Policy Index</i>	4.6	9.5	13.2	8.0	11.3	6.7
<b>Total Domestic Equity</b>	<b>10.8</b>	<b>19.7</b>	<b>37.3</b>	<b>17.4</b>	<b>19.7</b>	<b>8.9</b>
<i>S&amp;P 500</i>	10.5	16.3	32.4	16.2	17.9	7.4
<b>Total International Equity</b>	<b>5.0</b>	<b>14.7</b>	<b>14.4</b>	<b>5.2</b>	<b>10.7</b>	<b>5.8</b>
<i>MSCI ACWI ex USA Gross</i>	4.8	15.5	15.8	5.6	13.3	8.0
<b>Total Domestic Fixed Income</b>	<b>1.9</b>	<b>3.1</b>	<b>1.0</b>	<b>5.9</b>	<b>10.4</b>	<b>6.1</b>
<i>Barclays Aggregate</i>	-0.1	0.4	-2.0	3.3	4.4	4.5
<b>Total International Fixed Income</b>	<b>-0.4</b>	<b>-0.1</b>	<b>-8.8</b>	--	--	--
<i>JP Morgan EMBI Global TR</i>	0.9	1.8	-6.6	--	--	--
<b>Total Real Estate</b>	<b>1.7</b>	<b>4.3</b>	<b>8.9</b>	<b>9.8</b>	<b>0.4</b>	--
<i>NCREIF-ODCE</i>	3.2	6.8	13.9	13.6	3.7	--
<b>Total Commodities</b>	<b>-3.1</b>	<b>-0.2</b>	<b>-11.2</b>	--	--	--
<i>DJ UBS Commodity TR USD</i>	-1.1	1.1	-9.5	--	--	--
<b>PE/Opportunistic</b>	<b>1.2</b>	--	--	--	--	--
<i>S&amp;P 500 + 3%</i>	11.3	--	--	--	--	--
<b>Total Hedge Funds</b>	<b>2.8</b>	--	--	--	--	--
<i>HFRI Fund of Funds Composite Index</i>	3.7	--	--	--	--	--

Actual vs Target Allocation (%)



Annualized Excess Performance and Tracking Error



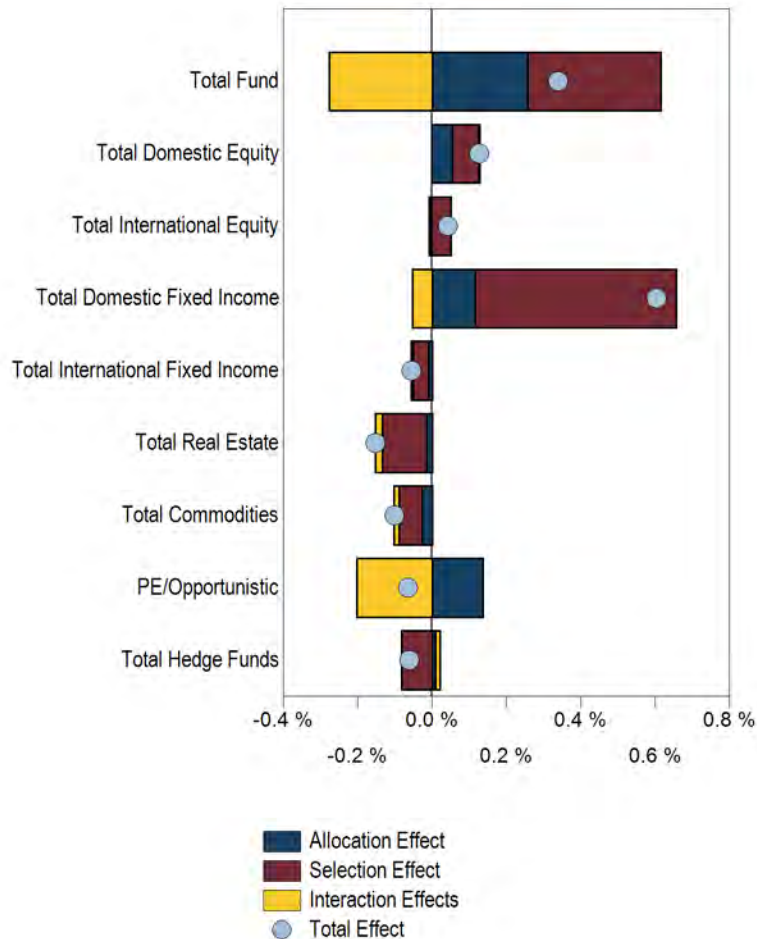
Footnote for Policy Index and other comments.

# Total Fund

## Attribution Analysis - Asset Class Level

Period Ending: December 31, 2013

Attribution Effects  
Last Three Months



Performance Attribution

	Quarter	1 Yr	3 Yrs	2013	2012	2011	2010
Wtd. Actual Return	4.82%	13.38%	8.75%	13.38%	13.20%	0.21%	12.98%
Wtd. Index Return *	4.48%	12.76%	7.96%	12.76%	11.56%	0.03%	5.53%
<b>Excess Return</b>	<b>0.34%</b>	<b>0.62%</b>	<b>0.79%</b>	<b>0.62%</b>	<b>1.64%</b>	<b>0.17%</b>	<b>7.45%</b>
Selection Effect	0.36%	0.65%	0.79%	0.65%	2.02%	-0.19%	1.10%
Allocation Effect	0.26%	0.64%	0.52%	0.64%	0.21%	0.68%	-0.12%
Interaction Effect	-0.28%	-0.24%	-0.22%	-0.24%	-0.21%	-0.21%	-0.11%

\*Calculated from benchmark returns and weightings of each component.

Attribution Summary  
Last Three Months

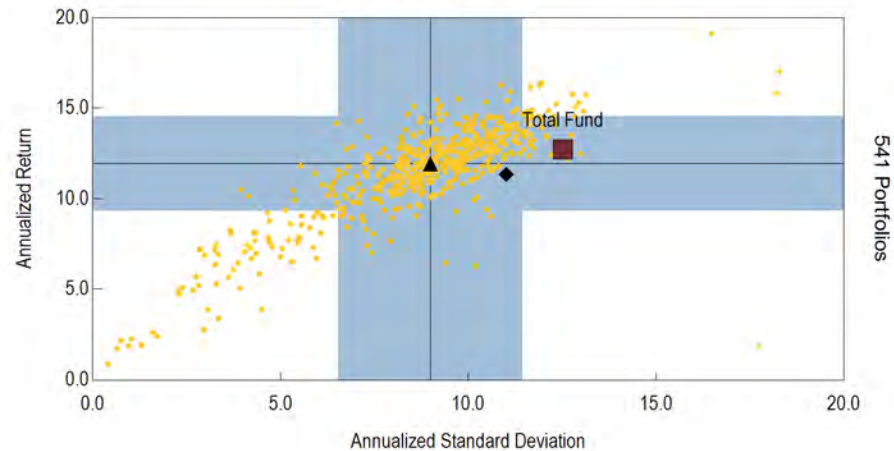
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Domestic Equity	10.78%	10.51%	0.27%	0.07%	0.05%	0.00%	0.13%
Total International Equity	5.01%	4.81%	0.20%	0.05%	0.00%	0.00%	0.04%
Total Domestic Fixed Income	1.94%	-0.14%	2.07%	0.54%	0.12%	-0.05%	0.60%
Total International Fixed Income	-0.44%	0.91%	-1.35%	-0.04%	-0.01%	0.00%	-0.06%
Total Real Estate	1.69%	3.17%	-1.48%	-0.12%	-0.02%	-0.02%	-0.15%
Total Commodities	-3.13%	-1.05%	-2.07%	-0.06%	-0.03%	-0.01%	-0.10%
PE/Oppportunistic	1.24%	11.31%	-10.06%	0.00%	0.14%	-0.20%	-0.06%
Total Hedge Funds	2.77%	3.67%	-0.90%	-0.08%	0.01%	0.01%	-0.06%
<b>Total</b>	<b>4.82%</b>	<b>4.48%</b>	<b>0.34%</b>	<b>0.36%</b>	<b>0.26%</b>	<b>-0.28%</b>	<b>0.34%</b>

# Total Fund Risk Analysis - 5 Years

Period Ending: December 31, 2013

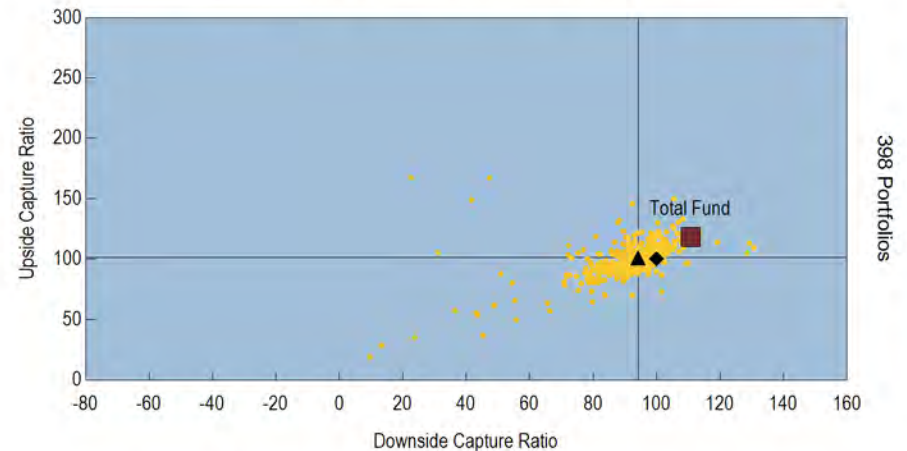
	Anlzd Standard Deviation	Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio	Sortino Ratio
Total Fund	12.52%	-0.01%	1.13	0.99	117.76%	110.67%	0.71	1.97%	1.01	1.54
Total Domestic Equity	19.21%	0.12%	1.08	0.99	116.37%	105.10%	0.76	2.61%	1.03	1.51
Total International Equity	19.92%	-0.15%	0.88	0.95	84.71%	98.62%	-0.44	5.22%	0.55	0.79
Total Domestic Fixed Income	9.32%	1.33%	1.18	0.17	226.96%	18.84%	0.72	8.52%	1.12	4.57
Total Real Estate	13.35%	-0.82%	1.24	0.93	100.90%	129.89%	-0.64	4.20%	0.07	0.09
PE/Oportunistic	--	--	--	--	--	--	--	--	--	--
Total Hedge Funds	--	--	--	--	--	--	--	--	--	--

Annualized Return vs. Annualized Standard Deviation



- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Trust Funds > \$250mm Gross +

Upside Capture Ratio vs. Downside Capture Ratio

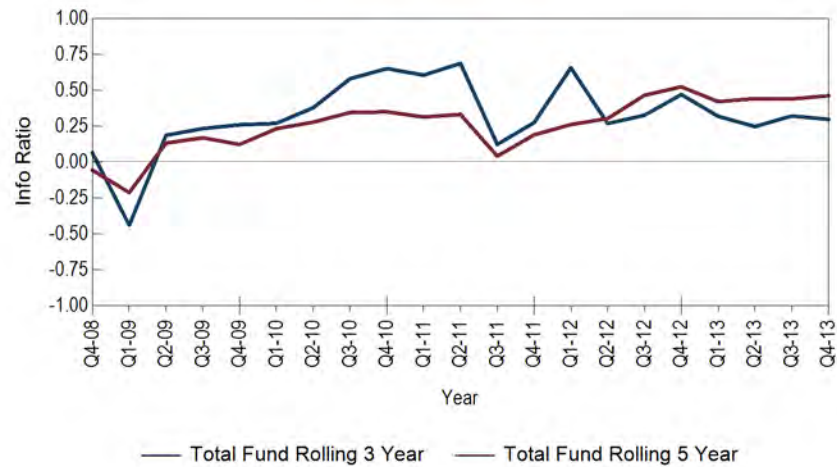


- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Trust Funds > \$250mm Gross +

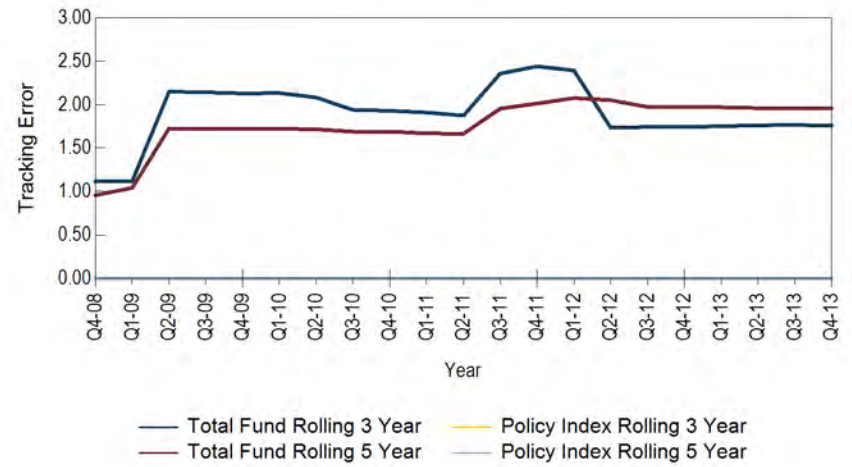
# Total Fund Rolling Risk Statistics

Period Ending: December 31, 2013

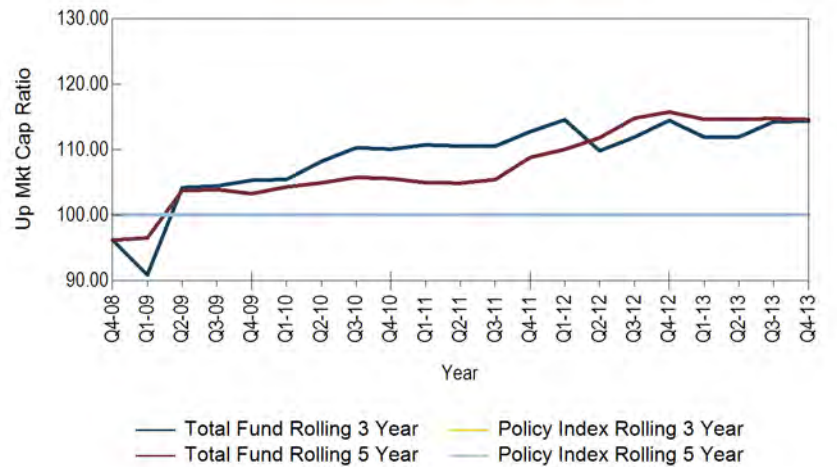
Rolling Information Ratio



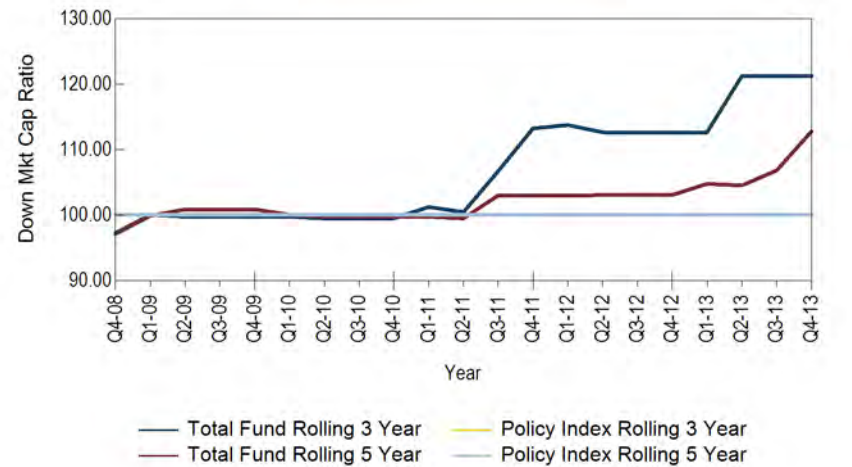
Rolling Tracking Error



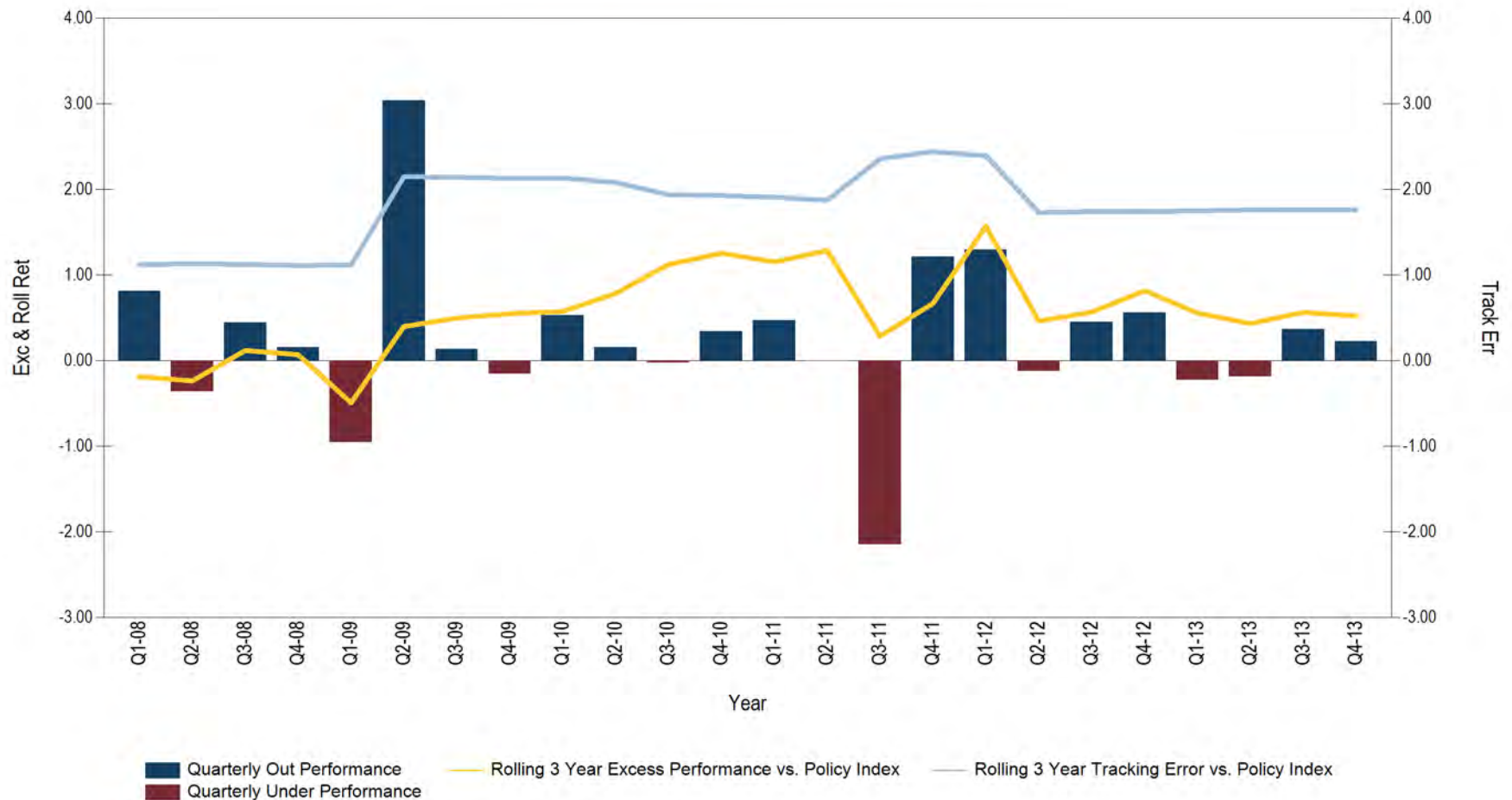
Rolling Up Market Capture Ratio (%)



Rolling Down Market Capture Ratio (%)



Annualized Excess Performance and Tracking Error



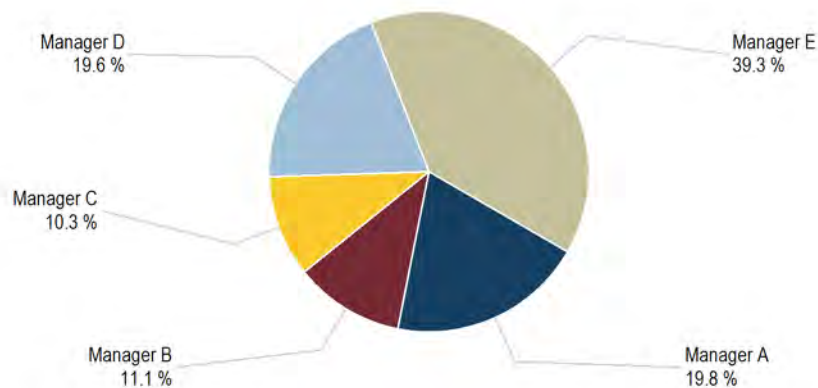


# Total Domestic Equity Performance Summary (Net of Fees)

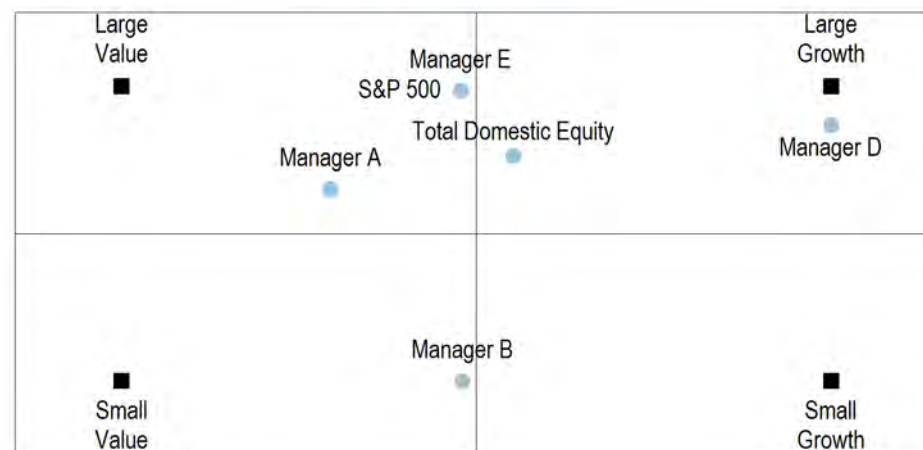
Period Ending: December 31, 2013

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2013	2012	2011	2010	2009	Return	Since
<b>Total Domestic Equity</b>																
Manager A	22,963,942	19.8	11.8	40.5	19.6	40.5	18.0	19.6	8.0	40.5	22.0	-4.1	13.5	31.3	10.0	Jan-03
<i>Russell 1000 Value</i>			10.0	32.5	14.3	32.5	16.1	16.7	7.6	32.5	17.5	0.4	15.5	19.7	9.5	Jan-03
Manager B	12,878,620	11.1	9.0	37.6	19.3	37.6	18.1	19.4	11.2	37.6	15.1	3.9	27.1	15.9	13.9	Apr-03
<i>Russell 2000</i>			8.7	38.8	19.8	38.8	15.7	20.1	9.1	38.8	16.3	-4.2	26.9	27.2	12.9	Apr-03
Manager C	11,896,202	10.3	8.7	38.7	19.8	38.7	--	--	--	38.7	--	--	--	--	23.4	Apr-12
<i>Russell 2000</i>			8.7	38.8	19.8	38.8	--	--	--	38.8	--	--	--	--	23.0	Apr-12
Manager D	22,730,552	19.6	12.6	44.4	27.6	44.4	18.7	24.5	9.3	44.4	17.6	-1.4	16.3	53.4	32.8	Jun-12
<i>Russell 1000 Growth</i>			10.4	33.5	19.4	33.5	16.5	20.4	7.8	33.5	15.3	2.6	16.7	37.2	25.7	Jun-12
Manager E	45,532,539	39.3	10.5	32.3	16.3	32.3	16.2	17.9	7.4	32.3	16.0	2.1	15.0	26.6	5.8	Apr-01
<i>S&amp;P 500</i>			10.5	32.4	16.3	32.4	16.2	17.9	7.4	32.4	16.0	2.1	15.1	26.5	5.8	Apr-01

Allocation by Account



U.S. Effective Style Map



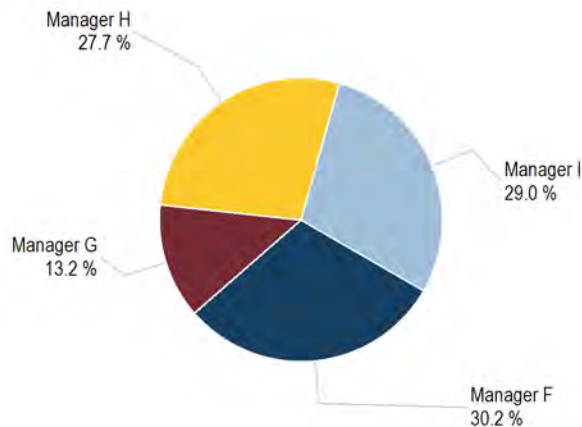
Since Inception calculation begins from the beginning of the first complete month.

# Total International Equity Performance Summary (Net of Fees)

Period Ending: December 31, 2013

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2013	2012	2011	2010	2009	Return	Since
<b>Total International Equity</b>																
Manager F	29,932,446	30.2	7.7	20.5	18.0	20.5	7.7	13.8	9.2	20.5	19.6	-13.3	9.7	39.5	12.5	Jul-09
<i>MSCI ACWI ex USA Gross</i>			4.8	15.8	15.5	15.8	5.6	13.3	8.0	15.8	17.4	-13.3	11.6	42.1	11.5	Jul-09
Manager G	13,028,511	13.2	1.4	-1.1	7.2	-1.1	-2.4	--	--	-1.1	18.2	-20.4	--	--	-0.8	Mar-11
<i>MSCI Emerging Markets Gross</i>			1.9	-2.3	7.9	-2.3	-1.7	--	--	-2.3	18.6	-18.2	--	--	-0.6	Mar-11
Manager H	27,403,386	27.7	4.7	15.4	15.3	15.4	--	--	--	15.4	--	--	--	--	--	Mar-12
<i>MSCI ACWI ex USA Gross</i>			4.8	15.8	15.5	15.8	--	--	--	15.8	--	--	--	--	--	Mar-12
Manager I	28,678,601	29.0	4.2	15.4	14.3	15.4	4.8	11.8	--	15.4	15.8	-13.8	14.1	32.9	10.7	Jul-09
<i>MSCI ACWI ex USA Gross</i>			4.8	15.8	15.5	15.8	5.6	13.3	--	15.8	17.4	-13.3	11.6	42.1	11.5	Jul-09

Allocation by Account



Non U.S. Effective Style Map vs. EAFE



Emerging Markets

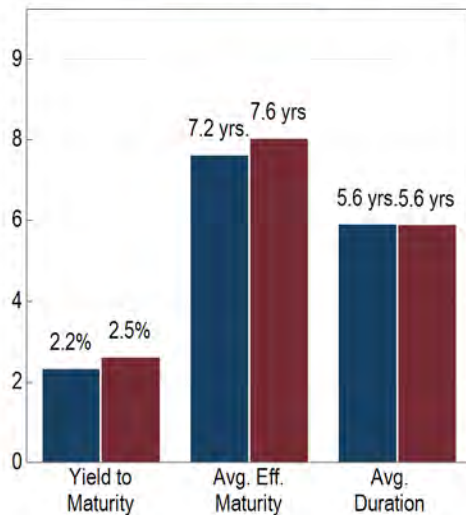


# Total Domestic Fixed Income Performance Summary (Net of Fees)

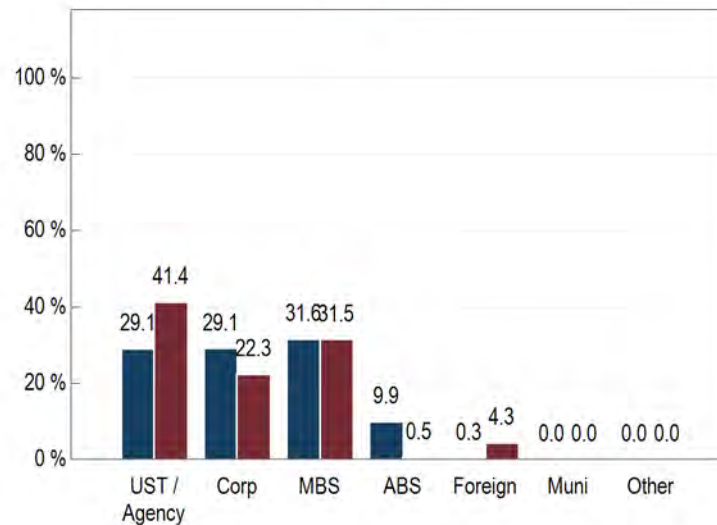
Period Ending: December 31, 2013

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2013	2012	2011	2010	2009	Return	Since
<b>Total Domestic Fixed Income</b>																
Manager J	19,639,268	20.4	0.0	-1.9	1.1	-1.9	4.1	6.9	6.0	-1.9	10.4	4.2	8.8	13.8	4.9	Feb-10
<i>Barclays Aggregate</i>			-0.1	-2.0	0.4	-2.0	3.3	4.4	4.5	-2.0	4.2	7.8	6.5	5.9	3.8	Feb-10
Manager K	45,775,928	47.6	3.4	2.6	4.3	2.6	5.9	10.4	--	2.6	6.8	8.2	8.4	27.5	--	Apr-99
<i>Barclays Aggregate</i>			-0.1	-2.0	0.4	-2.0	3.3	4.4	--	-2.0	4.2	7.8	6.5	5.9	--	Apr-99
Manager L	18,281,032	19.0	3.8	8.5	6.3	8.5	8.8	16.4	8.1	8.5	14.8	3.5	14.7	44.3	14.6	May-09
<i>Barclays High Yield</i>			3.6	7.4	5.9	7.4	9.3	18.9	8.6	7.4	15.8	5.0	15.1	58.2	16.0	May-09
Manager M	12,538,005	13.0	-2.0	-8.7	-1.3	-8.7	--	--	--	-8.7	6.9	--	--	--	--	May-09
<i>Barclays US TIPS</i>			-2.0	-8.6	-1.3	-8.6	--	--	--	-8.6	7.0	--	--	--	--	May-09

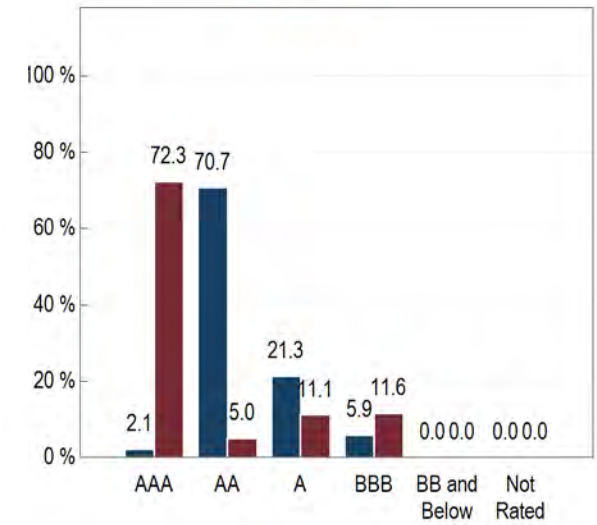
Characteristics



Sectors



Quality Ratings



■ Total Domestic Fixed Income ■ Barclays Aggregate

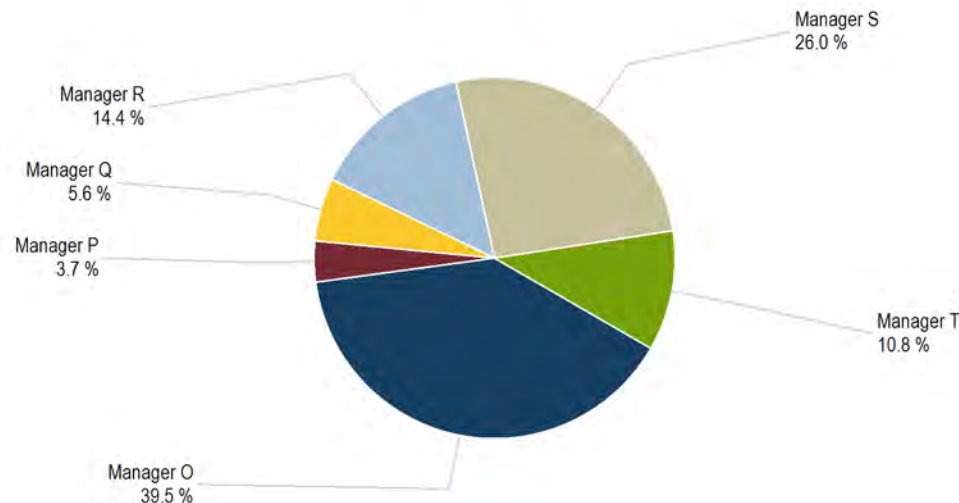
# Total Real Estate Non Marketable Securities Overview

Period Ending: December 31, 2013

## Non-Marketable Securities Overview

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment	DPI (dist / takedowns)	RVPI (RV / takedowns)	TVPI (TV / takedown)	Takedown (takedowns / commit)	IRR
Real Estate	Manager O	2005	--	\$14,763,904	\$3,359,591	\$14,105,514	\$17,465,105	--	22.76%	95.54%	118.30%	--	2.70
	Manager P	2009	\$2,000,000	\$1,155,129	\$1,850,033	\$1,305,538	\$3,155,571	\$844,871	160.16%	113.02%	273.18%	57.76%	50.98
	Manager Q	2010	\$3,000,000	\$2,069,370	\$977,065	\$2,010,924	\$2,987,989	\$930,630	47.22%	97.18%	144.39%	68.98%	24.91
	Manager R	2010	\$6,000,000	\$3,240,000	\$60,427	\$4,865,757	\$4,926,184	\$2,760,000	1.87%	150.18%	152.04%	54.00%	18.06
	Manager S	2012	--	\$0	\$103,162	\$9,279,640	\$9,382,802	--	--	--	--	--	--
	Manager T	2013	\$10,000,000	\$0	\$3,126,268	\$3,841,701	\$6,967,969	\$10,000,000	--	--	--	0.00%	--
	<b>Total Account</b>		<b>\$21,000,000</b>	<b>\$21,228,403</b>	<b>\$9,476,546</b>	<b>\$35,409,074</b>	<b>\$44,885,620</b>	<b>-\$228,403</b>	<b>44.64%</b>	<b>166.80%</b>	<b>211.44%</b>	<b>101.09%</b>	<b>14.41</b>

Current Allocation



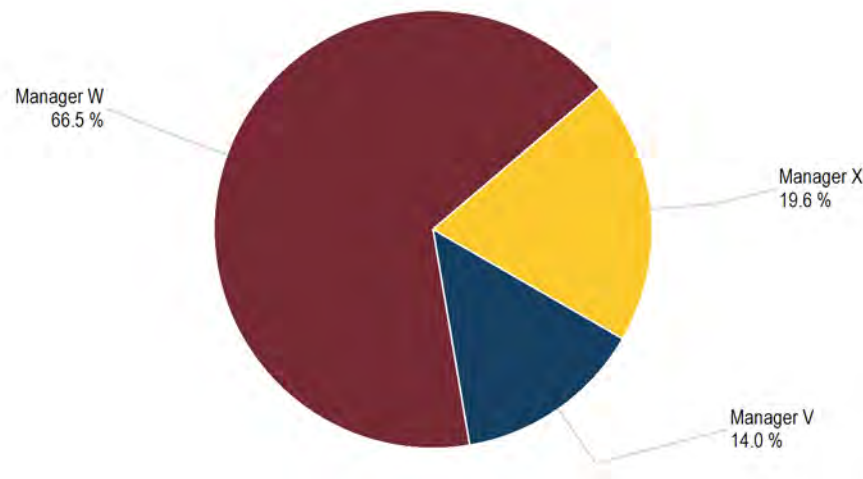
PE/Oppportunistic  
Non Marketable Securities Overview

Period Ending: December 31, 2013

Non-Marketable Securities Overview

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment	DPI (dist / takedowns)	RVPI (RV / takedowns)	TVPI (TV / takedown)	Takedown (takedowns / commit)	IRR
Private Equity	Manager V	2013	\$5,000,000	\$327,708	\$218,441	\$1,049,755	\$1,268,196	\$4,672,292	66.66%	320.33%	386.99%	6.55%	--
	Manager W	2010	\$5,000,000	\$7,756,648	\$4,492,616	\$4,986,725	\$9,479,341	-\$2,756,648	57.92%	64.29%	122.21%	155.13%	9.17
	Manager X	2013	\$5,000,000	\$516,547	\$172,288	\$1,467,866	\$1,640,154	\$4,483,453	33.35%	284.17%	317.52%	10.33%	37.52
<b>Total Account</b>			<b>\$15,000,000</b>	<b>\$8,600,903</b>	<b>\$4,883,345</b>	<b>\$7,504,346</b>	<b>\$12,387,691</b>	<b>\$6,399,097</b>	<b>56.78%</b>	<b>87.25%</b>	<b>144.03%</b>	<b>57.34%</b>	<b>17.95</b>

Current Allocation

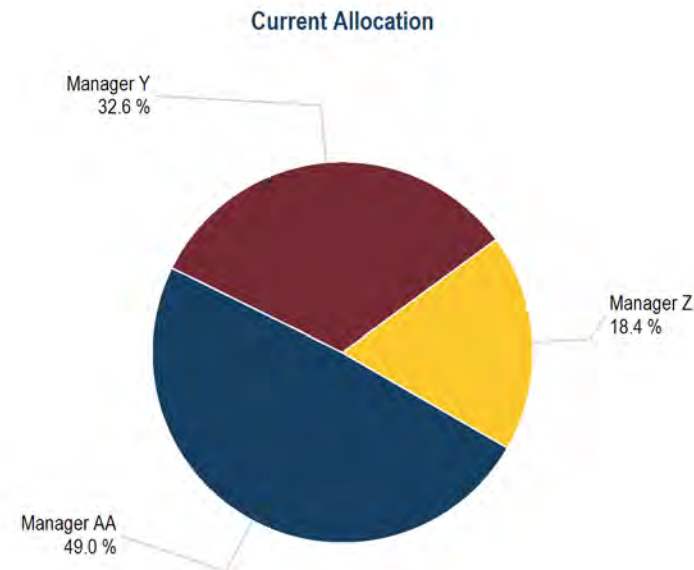


# Total Hedge Funds

## Performance Summary (Net of Fees)

Period Ending: December 31, 2013

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2013	2012	2011	2010	2009	Return	Since
<b>Total Hedge Funds</b>																
Manager Y	10,752,898	32.6	5.0	--	--	--	--	--	--	--	--	--	--	--	2.0	Aug-13
<i>HFRI Fund of Funds Composite Index</i>			3.7	--	--	--	--	--	--	--	--	--	--	--	4.3	Aug-13
Manager Z	6,065,458	18.4	2.8	9.8	4.8	9.8	5.9	8.0	--	9.8	8.8	-0.7	7.3	15.2	6.0	Jul-05
<i>HFRI Fund of Funds Composite Index</i>			3.7	9.0	5.4	9.0	2.5	4.9	--	9.0	4.8	-5.7	5.7	11.5	3.1	Jul-05
Manager AA	16,134,303	49.0	1.3	0.8	4.3	0.8	6.0	10.8	6.7	0.8	15.4	2.4	13.7	23.0	6.1	Jul-05
<i>HFRI Fund of Funds Composite Index</i>			3.7	9.0	5.4	9.0	2.5	4.9	3.4	9.0	4.8	-5.7	5.7	11.5	3.1	Jul-05



# Total Fund

## Risk Analysis by Manager - 5 Years

Period Ending: December 31, 2013

	Anlzd Standard Deviation	Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio	Sortino Ratio
Manager A	21.74%	0.50%	1.09	0.97	127.97%	104.81%	0.87	4.14%	0.93	1.50
Manager B	20.35%	0.48%	0.88	0.93	90.34%	91.14%	-0.05	6.00%	0.97	1.43
Manager E	17.60%	0.01%	1.00	1.00	100.27%	99.87%	1.43	0.04%	1.02	1.52
Manager K	9.55%	0.91%	1.38	0.22	212.67%	57.10%	0.61	8.53%	1.00	4.16
Manager O	13.42%	-0.70%	1.27	0.97	108.14%	129.87%	-0.59	3.53%	0.11	0.14
Manager Z	4.29%	1.30%	0.80	0.93	141.66%	21.94%	3.02	1.49%	2.16	3.05
Manager AA	8.86%	1.26%	1.19	0.48	155.27%	-9.36%	0.93	6.48%	1.22	2.25
Short Term Funds	0.05%	0.00%	1.09	0.32	131.09%	--	0.65	0.04%	0.53	37.03
Cash	--	--	--	--	--	--	--	--	--	--

# Total Fund Investment Fund Fee Analysis

Period Ending: December 31, 2013

Account	Fee Schedule	Market Value As of 12/31/2013	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
Manager A	0.52% of Assets	\$22,963,942	\$119,412	0.52%
Manager B	0.84% of Assets	\$12,878,620	\$108,180	0.84%
Manager C	0.08% of Assets	\$11,896,202	\$9,517	0.08%
Manager D	0.57% of Assets	\$22,730,552	\$129,564	0.57%
Manager E	0.02% of Assets	\$45,532,539	\$9,107	0.02%
Manager F	0.55% of Assets	\$29,932,446	\$164,628	0.55%
Manager G	1.35% of Assets	\$13,028,511	\$175,885	1.35%
Manager H	0.15% of Assets	\$27,403,386	\$41,105	0.15%
Manager I	0.78% of Assets	\$28,678,601	\$223,693	0.78%
Manager J	0.46% of Assets	\$19,639,268	\$90,341	0.46%
Manager K	0.20% of Assets	\$45,775,928	\$91,552	0.20%
Manager L	0.05% of Assets	\$18,281,032	\$9,141	0.05%
Manager M	0.50% of Assets	\$12,538,005	\$62,690	0.50%
Manager N	0.72% of Assets	\$15,138,165	\$108,995	0.72%
Manager O	1.25% of Assets	\$14,105,514	\$176,319	1.25%
Manager P	0.38% of Assets	\$1,305,538	\$4,961	0.38%
Manager Q	1.25% of Assets	\$2,010,924	\$25,137	1.25%
Manager R	1.00% of Assets	\$5,136,369	\$51,364	1.00%
Manager S	0.96% of First \$10.0 Mil, 0.83% of Next \$15.0 Mil, 0.81% Thereafter	\$9,279,640	\$89,085	0.96%
Manager T	1.60% of Assets	\$3,841,701	\$61,467	1.60%
Manager U	0.75% of Assets	\$13,251,570	\$99,387	0.75%
Manager V	1.00% of Assets	\$1,049,755	\$10,498	1.00%
Manager W	1.50% of Assets	\$4,986,725	\$74,801	1.50%



# Total Fund Investment Fund Fee Analysis

Period Ending: December 31, 2013

Account	Fee Schedule	Market Value As of 12/31/2013	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
Manager X	1.25% of Assets	\$1,467,866	\$18,348	1.25%
Manager Y	0.90% of Assets	\$10,752,898	\$96,776	0.90%
Manager Z	1.35% of Assets	\$6,065,458	\$81,884	1.35%
Manager AA	0.90% of Assets	\$16,134,303	\$145,209	0.90%
Short Term Funds	No Fee	\$920,814	--	--
Cash	No Fee	\$2,134,581	--	--
<b>Investment Management Fee</b>		<b>\$418,860,853</b>	<b>\$2,279,044</b>	<b>0.54%</b>

# Total Fund Watch List

Period Ending: December 31, 2013

## Legend

No Issues	Watch	Terminate	✓ Above Standard	B Below Standard	✓/B Changed	- No Data
-----------	-------	-----------	------------------------	------------------------	----------------	--------------

<u>Investment Manager</u>	<u>Asset Class</u>	<u>Watch Date</u>	<u>Funding Date</u>	<u>Standard #1</u>	<u>Standard #2</u>	<u>Standard #3</u>	<u>Standard #4</u>	<u>Standard #5</u>	<u>Index Standard</u>
Manager A	Domestic Equity Large Cap Value		05/02/2012	✓	✓	✓	✓	✓	N/A
Manager B	Domestic Equity Small Cap		03/31/2013	✓	✓	B	✓	B	N/A
Manager C	Domestic Equity Small Cap		03/12/2003	N/A	N/A	N/A	N/A	N/A	N/A
Manager D	Domestic Equity Large Cap Growth		05/02/2012	✓	✓	✓	✓	✓	N/A
Manager E	Domestic Equity Large Cap		03/31/2001	N/A	N/A	N/A	N/A	N/A	-
Manager F	International Equity		06/15/2009	✓	✓	✓	✓	✓	N/A
Manager G	Emerging Markets Equity		02/28/2011	✓	✓	-	-	✓	N/A
Manager H	International Equity		02/29/2012	N/A	N/A	N/A	N/A	N/A	-
Manager I	International Equity	03/31/2014	06/30/2009	B	B	B	✓	B	N/A
Manager J	Domestic Fixed Income	12/31/2013	01/31/2010	B	✓	✓	B	B	N/A
Manager K	Domestic Fixed Income		03/31/1999	✓	✓	✓	B	✓	N/A
Manager L	Domestic Fixed Income High Yield		04/15/2009	✓	✓	✓	✓	✓	N/A
Manager M	Domestic Fixed Income Real Return		04/30/2009	N/A	N/A	N/A	N/A	N/A	✓
Manager N	Emerging Markets Fixed Income		10/07/2011	✓	✓	✓	B	✓	N/A
Manager O	Real Estate		09/30/2005	✓	✓	✓	B	✓	N/A

## Performance Standards

**Standard #1:** Manager has underperformed the 75th percentile in the appropriate style universe and the benchmark index for the one year period.

**Standard #2:** Manager has underperformed the 50th percentile in the appropriate style universe and the benchmark index for the three year period.

**Standard #3:** Manager has underperformed the 50th percentile in the appropriate style universe and the benchmark index for the five year period.

**Standard #4:** Manager's risk level, measured by the 5-year annualized standard deviation, is more than 25% above the benchmark index's standard deviation.

**Standard #5:** Fund experiences non-performance related issue including personnel turnover, changes in the investment philosophy or drift, excessive asset growth, change in ownership, and any other reason that raises concern.

**Index Standards:** Index Fund tracking error exceeds 0.25 over the rolling 12-month period (quarterly returns).

# Total Fund Watch List

Period Ending: December 31, 2013

## Legend

No Issues	Watch	Terminate	✓ Above Standard	B Below Standard	✓/B Changed	- No Data
-----------	-------	-----------	------------------------	------------------------	----------------	--------------

<u>Investment Manager</u>	<u>Asset Class</u>	<u>Watch Date</u>	<u>Funding Date</u>	<u>Standard #1</u>	<u>Standard #2</u>	<u>Standard #3</u>	<u>Standard #4</u>	<u>Standard #5</u>	<u>Index Standard</u>
Manager P	Private Real Estate		01/15/2010	-	-	-	-	✓	N/A
Manager Q	Private Real Estate		05/18/2010	-	-	-	-	✓	N/A
Manager R	Private Real Estate		06/25/2010	-	-	-	-	✓	N/A
Manager S	Real Estate		04/10/2012	✓	-	-	-	✓	N/A
Manager T	Private Real Estate		06/15/2013	-	-	-	-	✓	N/A
Manager U	Commodities		08/27/2013	-	-	-	-	✓	N/A
Manager V	Private Equity		05/15/2013	-	-	-	-	✓	N/A
Manager W	Private Equity	12/31/2013	07/14/2010	-	-	-	-	B	N/A
Manager X	Private Equity		06/30/1995	-	-	-	-	✓	N/A
Manager Y	Hedge Funds		07/31/2013	-	-	-	-	✓	N/A
Manager Z	Hedge Funds		06/30/2005	✓	✓	✓	✓	✓	N/A
Manager AA	Absolute Return	12/31/2013	06/30/2005	B	✓	✓	B	B	N/A
Short Term Funds	Cash and Equivalents		06/30/1995	B	B	✓	B	✓	N/A
Cash	Cash and Equivalents			✓	✓	-	-	✓	N/A

## Performance Standards

**Standard #1:** Manager has underperformed the 75th percentile in the appropriate style universe and the benchmark index for the one year period.

**Standard #2:** Manager has underperformed the 50th percentile in the appropriate style universe and the benchmark index for the three year period.

**Standard #3:** Manager has underperformed the 50th percentile in the appropriate style universe and the benchmark index for the five year period.

**Standard #4:** Manager's risk level, measured by the 5-year annualized standard deviation, is more than 25% above the benchmark index's standard deviation.

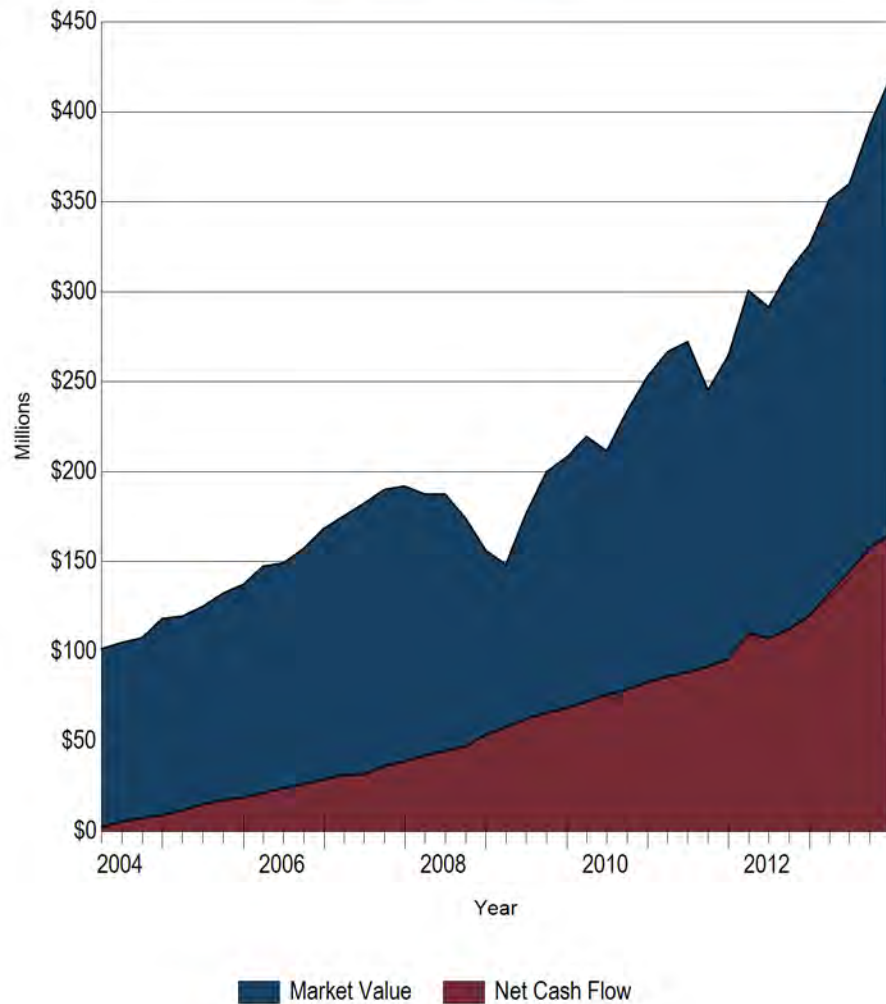
**Standard #5:** Fund experiences non-performance related issue including personnel turnover, changes in the investment philosophy or drift, excessive asset growth, change in ownership, and any other reason that raises concern.

**Index Standards:** Index Fund tracking error exceeds 0.25 over the rolling 12-month period (quarterly returns).

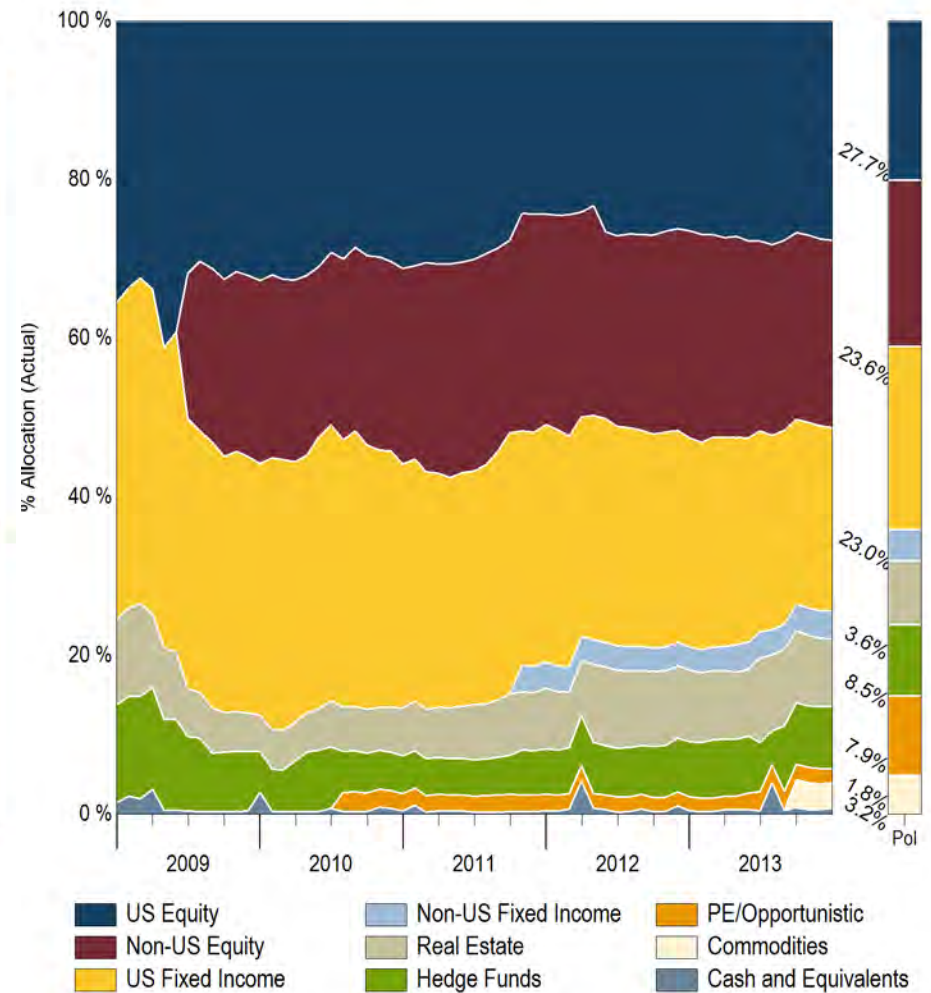
# Total Fund Asset Allocation History

Period Ending: December 31, 2013

Market Value History

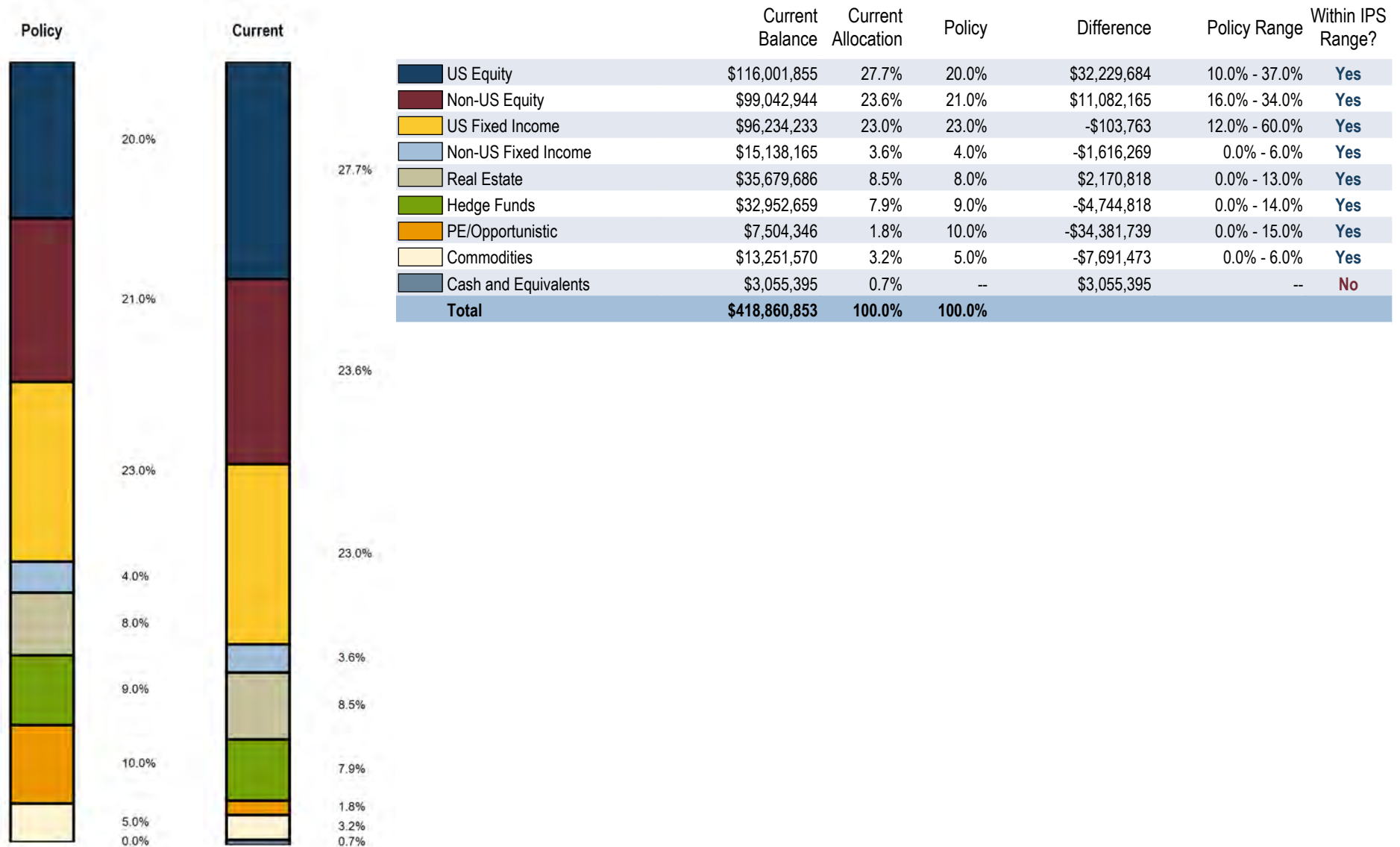


Asset Allocation History



# Total Fund Asset Allocation vs. Policy

Period Ending: December 31, 2013



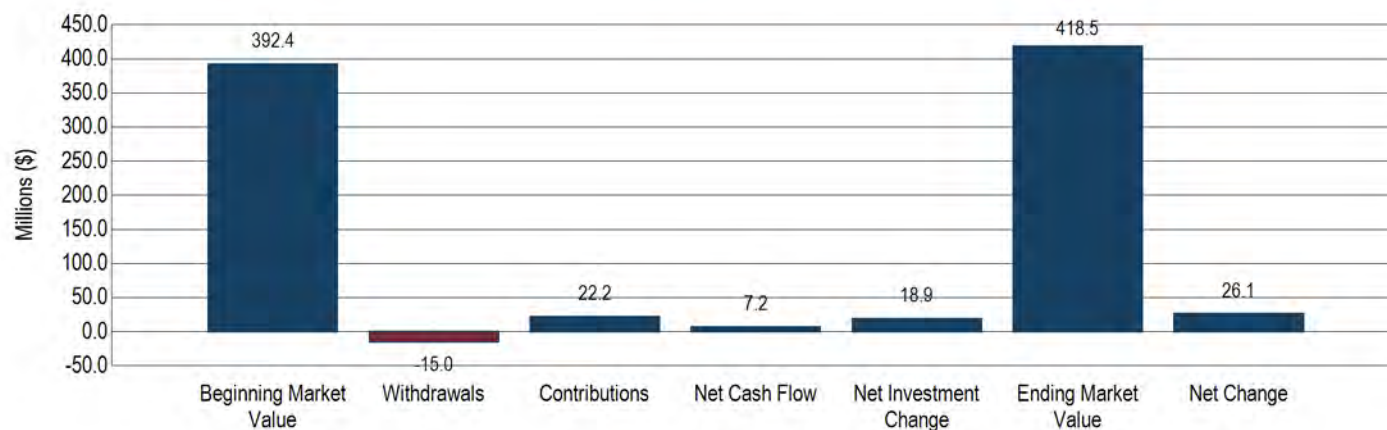
# Total Fund Portfolio Reconciliation

Period Ending: December 31, 2013

## Portfolio Reconciliation

	Last Three Months	Year-To-Date	One Year
Beginning Market Value	\$392,405,119	\$325,948,645	\$325,948,645
- Withdrawals	-\$15,015,063	-\$88,379,593	-\$88,379,593
+ Contributions	\$22,230,760	\$133,232,352	\$133,232,352
= Net Cash Flow	\$7,215,696	\$44,852,759	\$44,852,759
+ Net Investment Change	\$18,923,199	\$47,742,610	\$47,742,610
= Ending Market Value	\$418,544,014	\$418,544,014	\$418,544,014
Net Change	\$26,138,895	\$92,595,370	\$92,595,370

## Change in Market Value Last Three Months

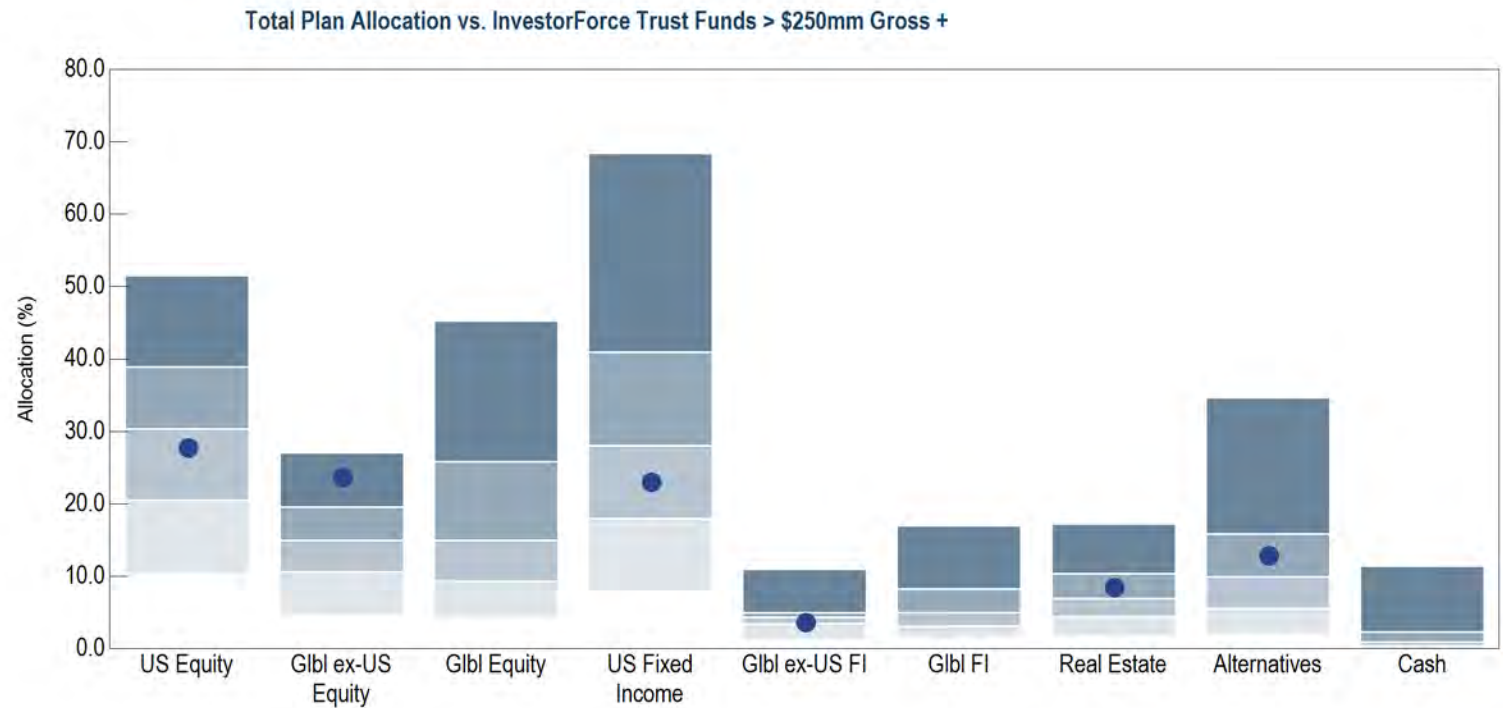


Due to prior performance system methodology, contributions and withdrawals may include intra-account transfers between managers/funds.

# Total Fund

## Peer Universe Comparison: Asset Allocation

Period Ending: December 31, 2013



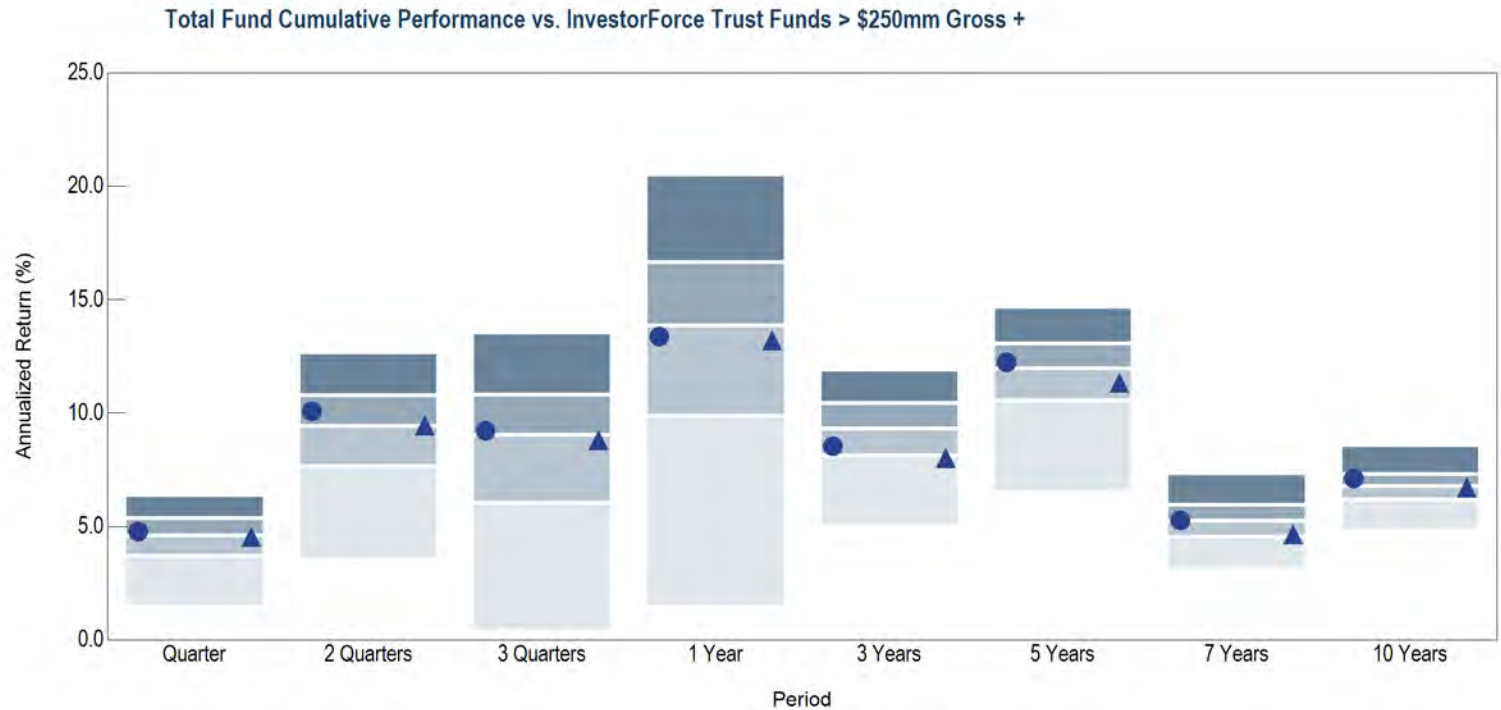
### Allocation (Rank)

5th Percentile	51.5	27.0	45.2	68.4	11.0	17.0	17.3	34.7	11.5									
25th Percentile	39.0	19.6	25.9	41.0	5.1	8.3	10.5	16.0	2.4									
Median	30.4	15.0	15.0	28.1	4.5	5.1	7.0	10.0	1.0									
75th Percentile	20.7	10.7	9.4	18.0	3.6	3.2	4.5	5.7	0.5									
95th Percentile	10.4	4.8	4.4	8.0	1.3	1.5	1.8	2.1	0.0									
# of Portfolios	374	351	76	278	37	30	199	273	251									
● Total Fund	27.7	(58)	23.6	(11)	--	--	23.0	(65)	3.6	(75)	--	--	8.4	(39)	12.8	(41)	--	--

# Total Fund

## Peer Universe Comparison: Cumulative Performance

Period Ending: December 31, 2013



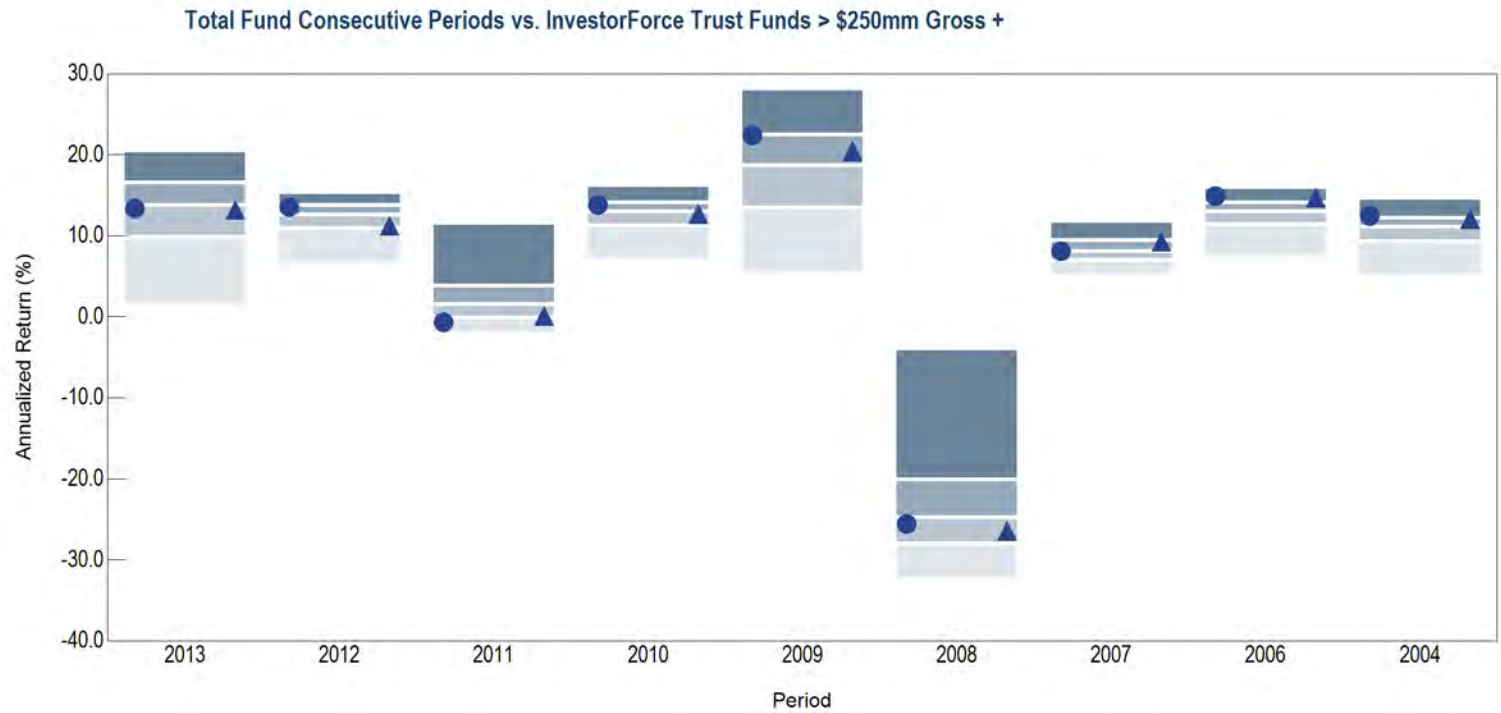
	Return (Rank)							
	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	7 Years	10 Years
5th Percentile	6.4	12.7	13.5	20.5	11.9	14.7	7.3	8.6
25th Percentile	5.4	10.8	10.8	16.7	10.4	13.1	6.0	7.3
Median	4.6	9.4	9.0	13.9	9.3	12.0	5.3	6.8
75th Percentile	3.7	7.7	6.1	9.9	8.1	10.6	4.6	6.2
95th Percentile	1.5	3.6	0.4	1.5	5.0	6.5	3.2	4.8
# of Portfolios	569	565	564	562	540	522	477	410
● Total Fund	4.8 (45)	10.1 (38)	9.2 (49)	13.4 (54)	8.5 (69)	12.2 (45)	5.3 (51)	7.1 (37)
▲ Policy Index	4.6 (53)	9.5 (50)	8.8 (53)	13.2 (55)	8.0 (78)	11.3 (63)	4.7 (73)	6.7 (55)



# Total Fund

## Peer Universe Comparison: Consecutive Periods

Period Ending: December 31, 2013



	Return (Rank)																	
	2013		2012		2011		2010		2009		2008		2007		2006		2004	
5th Percentile	20.5	15.4	11.6	16.2	28.2	-4.0	11.8	16.0	14.6									
25th Percentile	16.7	13.8	3.9	14.2	22.6	-20.1	9.5	14.2	12.3									
Median	13.9	12.6	1.6	13.1	18.7	-24.7	8.1	13.1	11.1									
75th Percentile	9.9	11.0	-0.1	11.3	13.5	-27.9	7.1	11.5	9.4									
95th Percentile	1.5	6.6	-2.0	7.2	5.5	-32.3	5.1	7.3	5.1									
# of Portfolios	562	530	495	477	469	460	447	432	380									
● Total Fund	13.4	(54)	13.6	(31)	-0.7	(86)	13.8	(32)	22.4	(26)	-25.6	(57)	8.1	(52)	14.9	(15)	12.4	(22)
▲ Policy Index	13.2	(55)	11.2	(74)	0.1	(74)	12.7	(58)	20.4	(40)	-26.4	(64)	9.3	(29)	14.7	(19)	12.1	(30)

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Wurts will make every reasonable effort to obtain and include accurate market values. However, if managers or custodians are unable to provide the reporting period's market values prior to the report issuance, Wurts may use the last reported market value or make estimates based on the manager's stated or estimated returns and other information available at the time. These estimates may differ materially from the actual value. Hedge fund market values presented in this report are provided by the fund manager or custodian. Market values presented for private equity investments reflect the last reported NAV by the custodian or manager net of capital calls and distributions as of the end of the reporting period. These values are estimates and may differ materially from the investments actual value. Private equity managers report performance using an internal rate of return (IRR), which differs from the time-weighted rate of return (TWRR) calculation done by Wurts. It is inappropriate to compare IRR and TWRR to each other. IRR figures reported in the illiquid alternative pages are provided by the respective managers, and Wurts has not made any attempts to verify these returns. Until a partnership is liquidated (typically over 10-12 years), the IRR is only an interim estimated return. The actual IRR performance of any LP is not known until the final liquidation.

Wurts receives universe data from InvestorForce, eVestment Alliance and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Wurts will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.

#### **IV. Appendix**

Included in the appendix are the following documents:

- A. CCCERA Investment Staff review of Wurts RFP and on-site visit notes
- B. Reference checks as conducted by Tom Iannucci of Cortex Consulting

## **A. CCCERA Investment Staff Review of RFP and On-Site Visit Notes**

### **Firm Overview:**

The firm is 100% employee owned, with the CEO as the largest equity stakeholder. Wurts & Associates has a subsidiary, KEI Investments, which provides fully discretionary services to clients. Wurts derives 75% of its revenue from general investment consulting, and 25% of its revenue from discretionary consulting services. Wurts is a very “macro” focused firm, and couches their investment guidance in relation to the current economic environment.

### **Team Overview:**

Whalen is an equity owner in the firm and has significant public fund experience. Whalen exclusively serves five clients, which include Imperial County Employees’ Retirement System, Kern County Employees’ Retirement Association, San Diego County Employees’ Retirement Association, San Luis Obispo County Pension Trust, and Tulare County Employees’ Retirement Association. Whalen and Hoffman would be supported by Ian Toner (managing director of strategic research), and a consulting associate and a research associate. CCCERA staff has discussed a possible re-composition of the team to include Jeff Maclean, the CEO of Wurts & Associates, as the lead consultant should the Board choose this.

### **Consulting Strategy:**

Wurts is a mid-size consulting firm that focuses on the “big picture” to address the challenges facing a Fund. Consultants are directly involved in the work presented to clients, but are supported by internal teams.

For asset allocation studies, Wurts focuses on risk allocation instead of capital allocation, using mean-variance optimization as a starting point to their process to determine the “big picture,” with risk allocation determining implementation and tactical tilts. As different assets may carry similar risks, Wurts focuses on helping clients get a better perspective on true diversification and the risks they own. Based upon risk tolerances and anticipated liabilities, Wurts will construct policy portfolios and run them through a multi-faceted process that includes stochastic modeling, risk budgeting and scenario testing to determine an optimal solution. Their construction process favors diversification by economic regime (stagflation or rising interest rate environment, for example) to diversify investments into assets that consider the effects of inflation, deflation, and periods of low economic growth.

In order to estimate the most reasonable return forecast and realistic drawdown risk, Wurts uses a proprietary Scenario Analysis Model. This tool drives returns and risk forecasts using current and prospective valuations, GDP growth and inflation, and potential valuations that could occur during various economic and market "scenarios". Wurts will also examine the policy portfolios relative to the five prominent risk factors found in most all asset classes, which include: equity risk, interest rate risk, credit risk, inflation risk, and currency risk (using BarraOne).

Once a policy portfolio is adopted, Wurts will overlay their research to determine if any strategic tilts are warranted or if special opportunities present themselves. Given the firm’s

heavy emphasis on understanding the economic environment and relative valuations within ever-changing capital markets, it may recommend modest tilts relative to the policy to improve returns.

Wurts & Associates maintains a Focus List of investment managers in which they continuously monitor and review the qualitative and quantitative aspects of the organizations. Though this would not be the sole determinant of which manager is ultimately proposed by Wurts, it will have a meaningful impact. Wurts will use eVestment and Morningstar for manager research in addition to their proprietary preferred manager list.

InvestorForce is used for quarterly reports. Reports would look similar to the quarterly reports the Board currently receives. Additionally, Wurts publishes monthly reports on capital markets and intermittent white papers on major, relevant investment topics which it will provide to the CCCERA investment staff.

**MEMORANDUM**

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**TO:** SEARCH COMMITTEE, CCCERA, CC: TIMOTHY PRICE (CIO)  
**FROM:** T. IANNUCCI, CORTEX  
**PROJECT:** **INVESTMENT CONSULTANT SEARCH**  
**SUBJECT:** REFERENCES: WURTS & ASSOCIATES  
**DATE:** FEBRUARY 04, 2015

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On behalf of CCCERA, Cortex contacted six references supplied by Wurts and Associates to obtain feedback about its services. The references included current and former clients as follows:

- 1) Three current clients:
  - a) One senior executive at each of the three funds.
  - b) One trustee from one of the funds.
  - c) Each of the above funds are 1937 Act funds.
  - d) Scott Whalen is the lead consultant for each of the above funds.
- 2) Former clients:
  - a) A pension executive at a corporate fund where Jeff Maclean was the lead consultant.
  - b) A pension executive at a Taft-Hartley fund where Scott Whalen was the lead consultant.

Cortex used a discussion guide to structure the telephone interviews. The topics addressed included:

- Timeliness of service delivery (reports, projects, etc.)
- Accessibility and responsiveness
- Communication skills of the lead consultant
- Firm resources and capabilities
- Research and due diligence capabilities in various asset classes
- Relative strengths and weaknesses of the lead consultant
- Flexibility of the firm in serving client needs
- Innovation of the firm
- General comments or concerns

#### FINDINGS – CURRENT CLIENTS

Current clients were unanimously very satisfied and had no concerns regarding timeliness of service delivery, responsiveness, and accessibility. They indicated that Mr. Whalen is highly responsive and easily accessible. He responds to emails quickly. He seldom misses a meeting, so there is rarely a need for back-up consultants. When back-ups have been required, they have been very effective.

Similarly, current clients indicated strong satisfaction with Mr. Whalen's communication skills, indicating that he communicates clearly and is able to effectively tailor his message to his audience. He is not afraid to provide his best advice and thinking even if the client disagrees. Mr. Whalen and the firm have shared views and convictions, which they support consistently over time. They do not however force their clients to adopt similar views.

In terms of flexibility, current clients indicated that Wurts is very flexible from a service delivery standpoint (i.e. they will adapt to their clients' needs). The firm is also flexible in terms of disagreeing with or challenging clients on investment issues, but nevertheless arriving at mutually agreeable outcomes.

Current clients generally view Wurts as a progressive, innovative firm, often citing the firm's risk management capabilities as support for that view. One client indicated that risk management is the firm's strongest feature.

Current clients rated Wurts' capabilities as very high in all areas. The only potential improvement area that was raised was the firm's manager research area, which one client suggested was thinly resourced when compared to the rest of the firm.

Clients expressed great satisfaction with Mr. Whalen as their lead consultant and could not identify any negative things about him. They indicated that he is always prepared and thorough; he is very knowledgeable of capital markets and investments; he appears to truly enjoy what he does and is a pleasure to work with. The only potential concern that was raised by several clients was that they believe Mr. Whalen has a heavy client workload. And while they had no concerns with this, as he has no difficulty managing his workload, they suggested that this was something to be aware of.

FINDINGS – FORMER CLIENTS

Cortex spoke to two former clients of Wurts. They both indicated that Wurts was a very good firm and had provided very strong service.

One client, a corporation, indicated it had terminated Wurts because the company had decided to pursue a different investment strategy, for which Wurts did not have direct experience at the time (liability-driven investing).

The second client indicated it had terminated Wurts after a disagreement on an investment issue, for which they acknowledged Wurts had been correct.

Both former clients indicated that Wurts had provided excellent service during the transition to the new consulting firm. They also indicated they would certainly consider Wurts if they were to once again search for a new consultant.

I trust the above is helpful. If you have any questions, please do not hesitate to contact me at (416) 967-0252 ext. 223 or at [tiannucci@cortexconsulting.com](mailto:tiannucci@cortexconsulting.com)



CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
GENERAL INVESTMENT CONSULTANT SEARCH  
SUMMARY OF PROPOSAL SUBMITTED BY WURTS AND ASSOCIATES

**INTRODUCTION**

*Background*

In May 2014, Contra Costa County Employees' Retirement Association ("CCCERA") initiated a search process for a general investment consultant. A Request for Proposals ("RFP") was posted on CCCERA's website in September and was also issued directly to numerous investment consulting firms.

Thirteen firms submitted proposals, including:

1. Callan Associates Inc. ("Callan")
2. Clearbrook Investment Consulting ("Clearbrook")
3. Fiduciary Research and Consulting, LLC ("FRC")
4. Hewitt EnnisKnupp, Inc., An Aon Company ("HEK")
5. Meketa Investment Group ("Meketa")
6. Milliman, Inc. ("MM or Milliman")
7. NEPC, LLC ("NEPC")
8. Pavilion Advisory Group Inc. ("Pavilion")
9. RVK, Inc. ("RVK")
10. Pension Consulting Alliance, Inc. ("PCA")
11. Segal Rogerscasey ("Segal RC")
12. Strategic Investment Solutions, Inc. ("SIS")
13. Wurts and Associates, Inc. ("Wurts")

*Structure of the Report*

This Report ("Report") contains a summary of the proposal submitted by Wurts and Associates (Wurts) in response to Part B of the RFP (i.e., the Questionnaire). A more comprehensive report summarizing and comparing similar information for *all* of the bidding firms was reviewed by the Search Committee in arriving at its final recommendation to the Board (along with on-site and related due diligence).

This Report is organized according to the evaluation criteria set out in the RFP.

**EVALUATION CRITERION 1**

**RESOURCES & EXPERIENCE OF THE FIRM**

- A. CORPORATE STABILITY
- B. CONSULTING AND CLIENT EXPERIENCE
- C. HUMAN RESOURCES
- D. PROPOSED PROJECT TEAM

**A. Corporate Stability**

This section of the Report provides a summary of a number of Wurts’ RFP responses that relate to general corporate stability (stability of human resources is addressed in a later section of the Report).

<b>Table 1 : Years in Business &amp; Corporate Structure</b>					
	<b>Years in Business</b>	<b>Yrs. Providing Inv. Consulting</b>	<b>Ownership Structure</b> (Multinational, Employee-Owned, Sole Owner)	<b>Number of Offices</b>	<b>Material Corporate Re-Structuring?</b>
Wurts	28	28	Employee-owned by 7 professionals. The CEO owns a majority interest.	2	Yes <sup>a</sup>

Source: RFP Questions 12, 13, 19 & 20

<sup>a</sup> In 2013, Jeffrey MacLean, CEO, acquired Bill Wurts’ remaining minority interest in Wurts & Associates, per the ownership transition plan set in place in 2006. Wurts formed KEI Investments, LLC in 2011, which focuses on discretionary investment consulting.

<b>Table 2 : Length of Client Relationships</b> (Full-Service General Consulting Retainer Clients as at June 30, 2014)						
	<b>&lt; 1 year</b>	<b>1 – 4 years</b>	<b>5 – 10 years</b>	<b>&gt; 10 years</b>	<b>Total Clients</b>	<b>% Turnover</b>
Wurts	7%	15%	24%	53%	136	15%

Source: RFP Q 24 & 25

**B. Consulting & Client Experience**

This section summarizes Wurts’ consulting and client-related experience.

Table 3 : Range of Services Provided (% of Revenues)					
	Non-Discretionary Consulting (%)	Specialty Asset Class Consulting %	Discretionary Consulting %	Investment Management %	Other
Wurts	75	0	25	0	0

Source : RFP Q 21

Table 4 : Number of Large Public, Corporate, and Endowment Fund Clients (i.e. comparable in size to CCCERA)							
	Public Fund Clients		Corporate Pension Plans		Foundations and Endowments		Concentration
	\$1B-\$5B	\$5B+	\$1B-\$5B	\$5B+	\$1B-\$5B	\$5B+	
Wurts	5	2	4	1	0	0	Wurts’ client base does not emphasize any particular market segment.

Source: RFP Q 22

**C. Human Resources**

This section of the report summarizes information about Wurts’ staffing levels and human resource practices.

<b>Table 5 : Number, Type &amp; Location of Employees</b>							
<b>Firm</b>	<b>Total employees</b>	<b>Senior Investment Professional (Consultants/Managers)</b>	<b>Junior Investment Professionals (Consultants/Analysts)</b>	<b>Non-Investment Professionals</b>	<b>Tech/IT staff</b>	<b>Admin staff</b>	<b>Location of employees</b>
Wurts	68	31	23	3	2	9	Seattle: 54 El Segundo, CA: 14

Source : RFP Q 27

<b>Table 6 : Client Load for Lead &amp; Support Consultants Across the Firm</b>			
<b>Firm</b>	<b>Average Number of Clients / Lead Consultant</b>	<b>Average Number of Clients / Support Consultant</b>	<b>Maximum Limit per Consultant</b>
Wurts	11	17	N/A

Source : RFP Qs 27 & 28

<b>Table 7 : Professional Designations of Staff (Designations in Progress are shown in Parentheses)</b>				
<b>Firm</b>	<b>Chartered Financial Analyst (CFA)</b>	<b>Chartered Alternative Investment Analyst (CAIA)</b>	<b>Fellow of the Society of Actuaries (FSA)</b>	<b>Other</b>
Wurts	19 (17)	5 (3)	0 (0)	5(2)

Source : RFP Q 29

<b>Table 8 : Staff Dedicated to Specific Investment Areas</b>				
<b>Firm</b>	<b>Asset Allocation</b>	<b>Operational Due Diligence</b>	<b>Risk Management</b>	<b>Manager Research</b>
Wurts	Research Advisory Committee	Varies <sup>a</sup>	9	6 <sup>b</sup>

<sup>a</sup> The number of Wurts & Associates staff that participate in due diligence trips will vary between 1 and 5.

<sup>b</sup> An additional group of nine analysts split their time between performance monitoring and client reporting as well as manager research functions.

<b>Table 9 : Turnover Among Professional Staff (2009-2014)</b>							
<b>Firm</b>	<b>Pursue other interests</b>	<b>Retired</b>	<b>Terminated</b>	<b>Position Eliminated</b>	<b>Total</b>	<b>Total Professional Staff<sup>a</sup></b>	<b>Total % Turnover (2009-14)</b>
Wurts	7	1	1	1	10	57	18%

Source : RFP Q 32

<sup>a</sup> Includes: Senior Investment Professionals, Junior Investment Professionals, Other Non-Investment Professionals

**D. Proposed Consulting Team**

This section of the report contains an overview of the consulting team being proposed by Wurts.

Table 10: Proposed Lead Consultant and Secondary Consultants for CCCERA Account									
	Consultant	Title	Years of Experience Institutional Investing	Years with firm	Education	Designation	Number of Clients as Lead Consultant	Number of Clients as Secondary Consultant	Names of Clients
Wurts	Scott Whalen (Lead)	Executive Vice President	12	12	MBA University of Southern California	CFA	5	9	Imperial County ERS; Kern County ERA; San Diego County ERA; San Luis Obispo County Pension Trust; Tulare County ERA
	Ed Hoffman (Secondary)	Senior Consultant	3	3	MBA, Harvard Business School	CFA	14	4	Arizona Bricklayers; AVID Center; Castle & Cooke, Inc.; Forever Living; I.A.T.S.E. Local #720; IBEW Local #952; Jack in the Box; The Juan De La Cruz Farmworkers; Karsten Manufacturing; Kinross Gold USA; June G. Outhwaite Charitable Trust; Westfield LLC; Confidential Client

Source: RFP Q 33

**EVALUATION CRITERION 2**

**INVESTMENT CONSULTANT'S PROCESS AND PROGRAM PHILOSOPHY**

- A. ASSET ALLOCATION
- B. MANAGER RESEARCH & SELECTION
- C. RISK MANAGEMENT



**A. Asset Allocation**

This section of the Report summarizes Wurts’ response to various questions concerning asset allocation.

<b>Table 11: Asset Allocation</b>				
	<b>Proposed Frequency and Resourcing of Asset Allocation Studies</b>			<b>Approach to Developing Asset Allocation Policy</b>
	<b>Resourcing of the Asset Allocation Function</b>	<b>Frequency of Full Studies</b>	<b>Interim Reviews or Follow-up</b>	
Wurts	Wurts performs asset allocation studies <b>internally</b> using own staff along with input from clients’ actuaries.	Formal asset allocation studies typically performed <b>annually</b> .	Conducts follow-up analysis and review when adding an asset class or making an incremental change to the current asset allocation. They will also discuss the plan’s asset allocation relative to its policy at each quarterly performance review.	<p>Wurts believes in allocating to risk, not assets, as different assets carry similar risks. Their process begins with forward-looking capital market assumptions linked to economic scenarios and starting valuations. They construct alternative policy allocations and run them through a multi-faceted process that includes stochastic modelling, risk budgeting and scenario testing to determine an optimal solution.</p> <p>Wurts believes that true diversification requires investing in assets taking into account effects of inflation, deflation &amp; low economic growth. They don’t think these ideas can be fully considered in mean variance optimization (MVO) frameworks, which require an unrealistic level of precision. They supplement MVO with other tools, specifically their proprietary Scenario Analysis Model, which generates return &amp; risk forecast using current valuations, GDP growth and inflation, &amp; prospective valuation that could occur under various economic scenarios. They also analyze risk through 5 “risk factors” – equity risk, interest rate risk, credit risk, inflation risk, &amp; currency risk – common to nearly all asset classes. This provides a better handle on true drivers of investment risk than simple standard deviations &amp; correlations.</p>

**B. Manager Research & Selection**

This section of the Report provides insight into Wurts' approach to manager research and selection.

<b>Table 12 : Number of Manager Searches – Public Markets – 3 Years Ended December 31, 2013</b>				
<b>Firm</b>	<b>Domestic equities – all styles &amp; market caps</b>	<b>Domestic fixed income – incl. high-yield bonds, mortgages, etc.</b>	<b>Int'l &amp; Global Equities – incl. emerging &amp; frontier markets</b>	<b>Int'l &amp; Global Bonds – incl. emerging &amp; frontier markets</b>
Wurts	90	45	52	17

Source : RFP Q.68

<b>Table 13 : Number of Manager Searches – Alternatives and Real Estate – 3 years ending December 31, 2013</b>				
	<b>Alternative Investments – real estate, private equity &amp; hedge funds:</b>		<b>Real Assets – commodities, timberland, infrastructure, etc.:</b>	
<b>Firm</b>	<b>Individual funds or managers</b>	<b>Fund-of funds</b>	<b>Individual funds or managers</b>	<b>Fund-of funds</b>
Wurts	0	34	14	0

Source : RFP Q.68

<b>Table 14 : Dedicated Manager Research Groups and Research Staff</b>			
	<b>Specific unit in firm dedicated to manager research (i.e. spends 90% of its time)?</b>	<b>Number of dedicated research staff assigned to asset class research (e.g. at least 90% of their time)</b>	
Wurts	<p>Wurts has a specific group dedicated to manager research (i.e., spends 90% of its time on this function).</p> <p>This group (the Manager Group) consists of <b>6 individuals</b>: 1 project lead, 3 Senior Research Associates and 2 Research Associates who spend 100% of their time on manager research initiatives.</p> <p>An additional group of nine analysts split their time between performance monitoring and client reporting as well as manager research functions.</p>	Public equity:	2
		Public fixed income:	1
		Hedge funds:	2
		Private equity:	
		Real estate:	1
		Real assets:	
		Infrastructure:	
		Commodities:	
Others (specify):	-		

Table 15 : Manager Selection Process (Key Elements)		
	Approach to manager selection in public markets?	How often is the manager list updated?
Wurts	<p>Wurts maintains a “watch list” and “focus list” of highly rated managers. Staff spends considerable time conducting qualitative and quantitative analysis of these managers through meetings, conference calls and on-site visits. Macroeconomic consideration is incorporated in all their investment advice including manager selection.</p> <p>In addition to peer group rankings and performance relative to benchmark, Wurts has developed a proprietary Macro-Factor Analysis methodology in which they evaluate the manager’s excess return under various market environments.</p>	<p>Formal review of every asset class conducted <u>annually</u>. This serves as a forum for the official review and amendment (if necessary) of the “top tier” manager list.</p> <p>Each manager is monitored on an <u>ongoing basis</u> to capture qualitative and quantitative changes within the manager’s organization. As well, there is constant evaluation of prospective managers.</p>

Table 16 : Criteria for Establishing a Manager as “Top Tier”	
Firm	Summary Response
Wurts	<p>Wurts highlights five factors that distinguish “top tier” firms – people, philosophy, process, performance and price. Wurts believes that the latter two factors are “secondary” and that it is the people, philosophy and processes in place that are the best determinants of a firm’s quality. According to Wurts and Associates, other features of “top tier” firms include the alignment of the firm’s investing philosophy with Wurts and Associates’ own philosophy, and the likelihood that a firm will be able to offer services that are broadly applicable across a range of client problems.</p>

Table 17: Operational Due Diligence Practices	
Firm	Summary Response
Wurts	<p>According to Wurts, even the most informed investors can face challenges with operational weakness. While operational due diligence is helpful even for traditional managers, it is critically important for private equity and hedge funds. To conduct ODD well requires a dedicated team of very experienced professionals.</p> <p>However, at Wurts ODD is a “shared responsibility” across all research professionals. Their senior staff conduct on-site due diligence meetings (for private market managers the CFO will often also attend. Due diligence typically revolves around an examination of the back office or infrastructure of the firm to ensure a “quality institutional platform”.</p>

<b>Table 18 : Experience in Selecting/Monitoring Alternatives &amp; Real Estate Investments</b>	
<b>Firm</b>	<b>Summary Response</b>
Wurts	<p>Wurts has over two decades of experience in providing advice on real estate, private equity, and hedge funds.</p> <p>In private equity, Wurts helps clients evaluate the complexities in establishing a direct program versus a fund-of-funds versus a specialist consulting model. They find that most clients are best served by a fund-of-funds approach. Wurts currently tracks about 50 private equity managers. On hedge funds they have a neutral to negative view due to high fees, limited liquidity and marginal effectiveness versus stated objectives. Most hedge funds have not fulfilled their promise. They currently track about 50 institutional quality hedge funds. They also advise clients on a variety of real assets including timber, infrastructure, MLPs, real estate, and commodities.</p>

**C. Risk Management**

This section of the Report summarized Wurts' responses to a number of RFP questions related to investment risk management.

<b>Table 19 : Risk Management</b>		
	<b>Top risks and approaches to managing them</b>	<b>Characteristics that make your investment risk management services/function unique or distinctive</b>
Wurts	<p><b>Asset Allocation Risk</b> – in terms of risk exposures, volatilities and tail risk. This risk is managed through careful study and consideration of the Asset Allocation Policy. Wurts also ensures that that the board and stakeholders have a clear understanding of the rationale for the asset allocation given the plan’s risk tolerances.</p> <p><b>Implementation Risk</b> – active risk relative to the investment policy benchmark. Wurts provides the board with tools and analysis to manage this risk. It identifies and presents the plan’s risk tolerances along multiple dimensions, and links ongoing risk measurement with risk tolerance within the investment policy.</p>	<p>Wurts delivers full outsourced CIO services and risk-advisory services to clients seeking those specific capabilities. Both of these service lines strengthen our traditional non-discretionary – the focus of this proposal – by leveraging the same internal research and resources. This is an important differentiator because it demonstrates a true implementation of our risk management capabilities as opposed to risk management research that remains academic in nature.</p> <p>Wurts has invested and continues to invest heavily in personnel, software and technology. Our risk management software toolkit includes BarraOne, FINCAD, and MPI Stylus Pro. Our Risk and Asset team has significant experience not only using BarraOne and similar software, but also in incorporating the analysis produced by these tools into the investment management process through robust governance practices. This experience includes the team’s history working together at Wurts as well as past roles at Alaska Permanent Fund Corporation, Microsoft and elsewhere.</p>

<b>Table 20 : Portfolio Risk Monitoring &amp; Reporting</b>		
	<b>Capabilities in place to monitor security positions and counterparty risk within underlying managers’ portfolios?</b>	<b>Frequency with which transparency is provided into security positions and counterparty risk</b>
Wurts	<p>Assessing a portfolio’s true economic exposures requires using the information on the positions held by each manager. With this as a starting point for measuring and monitoring total plan risk, we have all of the resources needed to conduct robust monitoring and oversight of managers’ exposures in total, and relative to mandates. Counterparty exposure is measured and monitored using detailed, holdings-level information from all available sources regarding OTC derivatives and counterparties.</p> <p>Wurts’ team has significant experience sourcing, interpreting, cleaning and processing information on portfolio holdings from custodians, private asset record keepers, fund administrators as well as the managers themselves to provide the greatest insight possible into the true economic exposures of the fund.</p>	<p>Wurts provides risk reporting to clients as <b>frequently as daily.</b></p>

## **EVALUATION CRITERION 3**

### **INDEPENDENCE**

**Independence & Regulatory Actions or Litigation**

This section of the Report summarizes Wurts' responses to RFP questions pertaining to independence.

<b>Table 21 : is the Firm in Receipt of any Compensation from Investment Managers</b>					
<b>Firm</b>	<b>Charged for inclusion in firm database</b>	<b>Conference fees</b>	<b>Brokerage commissions</b>	<b>Purchase of software</b>	<b>Consulting fees</b>
Wurts	No	No	No	No	No

<b>Table 22</b>					
<b>Firm</b>	<b>Do you have any affiliates, divisions, or investments in joint ventures that would be involved in the management of CCCERA's assets under this assignment?</b>			<b>Does the firm or any affiliate provide any services or conduct any business with CCCERA's current investment managers?</b>	
	<b>Affiliates</b>	<b>Divisions</b>	<b>Investments</b>	<b>Firm</b>	<b>Affiliates</b>
Wurts	No	No	No	No	No

<b>Table 23</b>					
<b>Firm</b>	<b>Does the firm or any employee of the firm invest their own capital in investment opportunities that they also recommend or clients?</b>		<b>Has the firm or anyone in the firm, or any affiliate, had any professional relationship (e.g., investment banking, brokerage, custodial, insurance, or actuarial) with CCCERA or the CCCERA Board of Supervisors during the past three years?</b>		
	<b>Firm</b>	<b>Employee</b>	<b>Firm</b>	<b>Employees</b>	<b>Affiliates</b>
Wurts	No	Yes <sup>a</sup>	No	No	No

<sup>a</sup> Wurts and Associate's Chief Compliance Officer receives quarterly statements from each employee to monitor trading activity. The firm has guidelines with regard to prohibited trades, pre-clearing trades, and permitted trades in all accounts.

Table 24						
Firm	Has the firm or anyone in the firm provided any gifts or other remuneration, or paid any expenses for travel, hotel, meals or entertainment for or on behalf of a Board member or staff of CCCERA during the past twelve months?			Does the firm have any arrangement or understanding (written or oral) with any advisor, placement agent, broker, law firm, or other individual or entity in connection with the solicitation or referral of clients?	Other actual or potential conflicts of interest that may arise from the firm's representation of CCCERA?	
	Gifts	Remuneration	Expenses	Arrangement/Understanding	Firm	Affiliate
Wurts	No	No	No	None	None	None

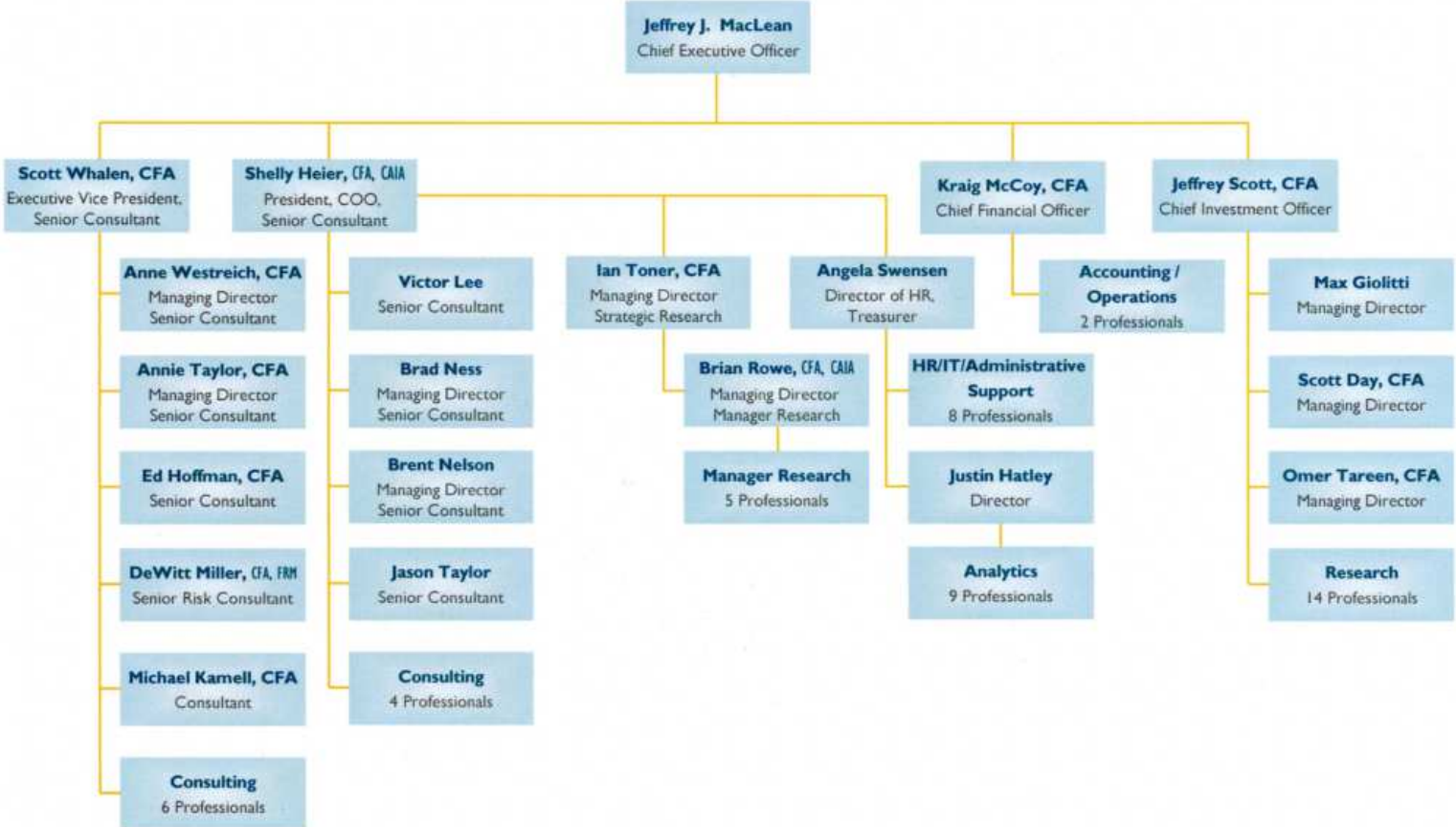
Table 25 : Regulatory Matters & Litigation					
Firm	Ever investigated and/or charged by regulatory body (SEC, DOL, etc)?	Any action taken by self-regulatory body (e.g. NASD) in last 5 years?	Last SEC/DOL exam or audit. Any material findings? Any pending actions?	Firm or employee ever involved in business litigation?	Firm or employee have any lawsuits pending?
Wurts	No	No	SEC – 2004 No material findings. No pending actions.	Yes <sup>a</sup>	No

<sup>a</sup> One lawsuit against Wurts involving an illiquid investment made by a client prior to the employment of Wurts that turned out to be fraudulent. Settled out of court.



**Appendix A**  
**Organizational Chart**

**I. Wurts & Associates**



# Investment Solutions

PRESENTATION TO

Contra Costa County Employees'  
Retirement Association

February 18, 2015

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OUR APPROACH TO WORKING WITH YOU PAGE 9

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APPENDIX PAGE 20

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# I. Our firm

# Perspectives that drive enterprise success

Wurts & Associates provides research-driven investment solutions that enable institutional investors to prudently discharge their fiduciary responsibility.

Through independent, conflict-free advice and investment expertise, our professionals strive to be the driving force that empowers clients to achieve their enterprise objectives.

# Firm overview

### ESTABLISHED

Founded in 1986  
69 employees across four regional offices  
56 investment professionals (81%)

### EXPERIENCED

Established reputation for research  
17+ years average consultant experience

### CREDENTIALALED

48% of staff with advanced degrees and certifications

### VESTED

100% Employee-owned; conflict-free business philosophy and structure

### INDUSTRY LEADING

Global thought leadership on risk allocation, risk management, and capital markets

### BOUTIQUE CULTURE

Personalized and well-resourced

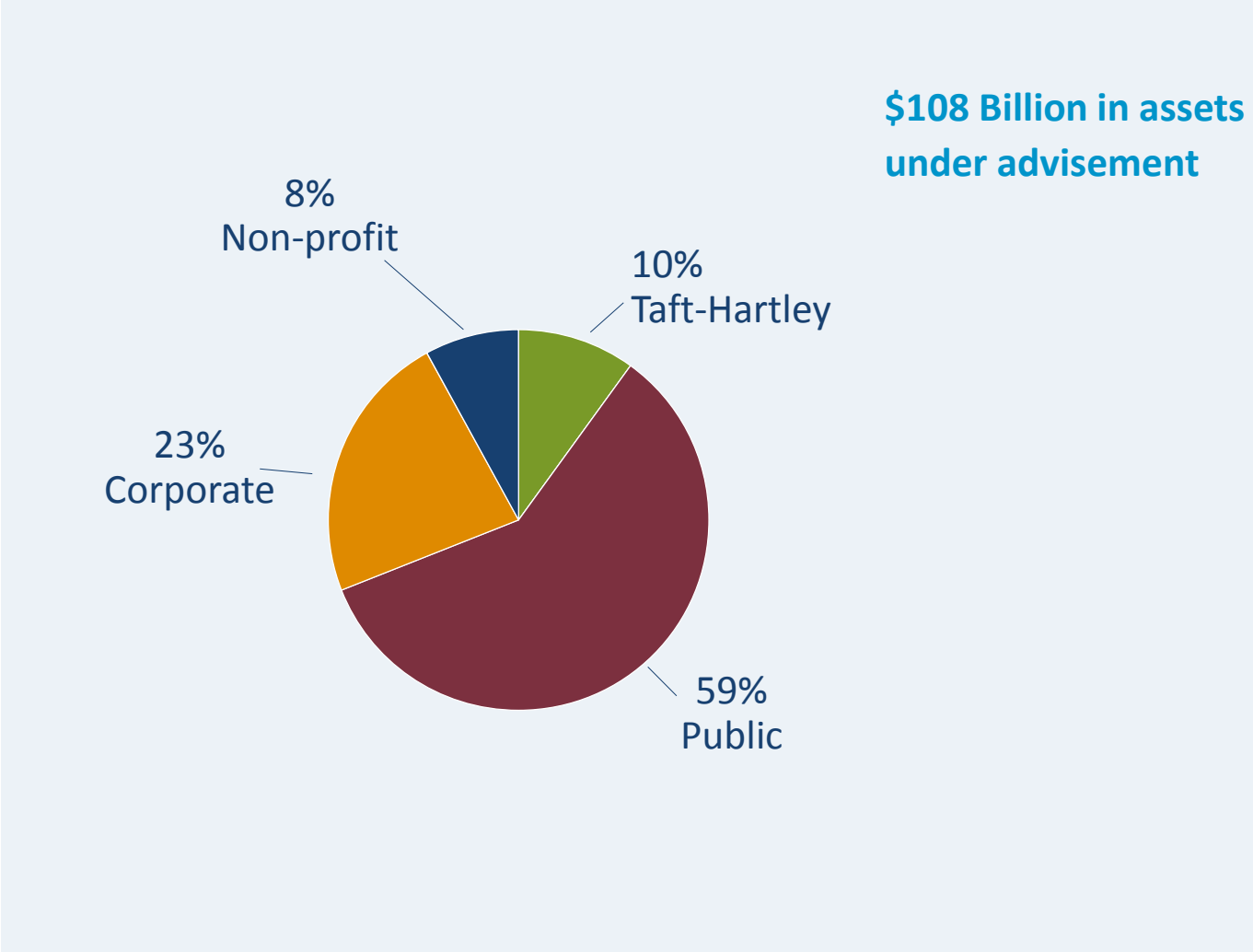


Chart depicts assets by client type.

# Representative clients

## PUBLIC

Fresno County Employees' Retirement Association

Imperial County Employees' Retirement System

Indiana Public Retirement System

Kern County Employees' Retirement Association

Los Angeles Metropolitan Transportation Authority

Pasadena Fire and Police Retirement System

San Diego County Employees Retirement Association

San Luis Obispo County Pension Trust

Tulare County Employees' Retirement Association

## TAFT-HARTLEY

Arizona Bricklayers' Pension

Golden Valley Electric Association

Gunite Workers Pension Trust Fund

IATSE Local 720 Pension Trust

Juan de la Cruz Farm Workers

Laborers Pension Trust Fund for N. California

Northern California Pipe Trades

Oregon Retail Employees Pension

Puget Sound Electrical Workers

San Diego County Cement Masons

San Diego Theatrical

Solano and Napa Counties Electrical Workers

Southern CA Cement Masons

Utah Laborers

Washington State Plumbers

Western Glaziers

Western Washington Laborers - Employers

## CORPORATE

Allergan, Inc.

Apria Healthcare

Avista Corporation

Barrick Gold Corporation

Carnival Corporation

Castle & Cooke

Eastside Retirement Association

Holland America

Jack in the Box, Inc.

Karsten Manufacturing

Kinross Gold Corporation

LaCrosse Footwear

Moss-Adams LLP

Mutual of Enumclaw Insurance Company

Plum Creek Timberlands

The Seattle Times

Southwest Airlines Pilots' Association

Virginia Mason Medical Center

## NOT-FOR-PROFIT

Archdiocese of Seattle

AVID Center

Blood Centers of the Pacific

Carroll College

Community Foundation for Monterey County

Congregation of the Sisters of Mercy

Diocese of San Bernardino

Foundation for CSU Monterey Bay

Gonzaga University

Leichtag Foundation

Miller Foundation

Providence Portland Medical Foundation

Puget Sound Energy Foundation

Riverside Community Foundation

University of Colorado Hospital

Whitworth University

World Vision International

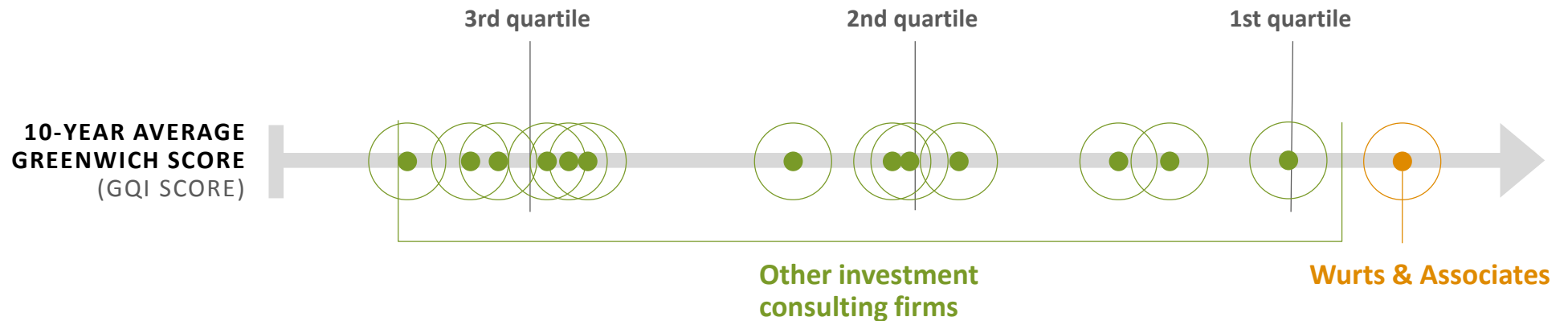
(As of January 31, 2015)

# Top-rated client service

Clients rated Wurts' service the best in the US.  
(Greenwich Associates Annual Consultant Survey)



- Wurts ranked higher in overall scores than any other consulting firm over the last 10 years
- 1st place in the most recent 2013 survey
- 1st place in 6 of last 10 years
- Top quartile in 9 of last 10 years
- Greenwich Survey participant for 10 years





# Comprehensive asset class and manager coverage

## EQUITY

- **Anne Westreich**  
CFA\*  
Managing Director
- **Vincent Francom**  
CFA, CAIA  
Senior Research Associate
- **Elena Solovyeva**  
CFA, Research Associate
- **Colton Loder**  
CFA, CAIA  
Senior Portfolio Manager
- **Riley Dinnison**  
Consulting Associate
- **Kevin Tjernberg**  
Consulting Associate
- **Lyudmila Nikolenko**  
Analyst
- **Ryland Sukola**  
Analyst
- **Kiran Malik**  
Analyst

## FIXED INCOME

- **Philip Schmitt**  
CIMA, Senior Research Associate
- **Scott Day, CFA\***  
Managing Director
- **Matt Brady, CFA**  
Assistant Portfolio Manager
- **Eric Crowder**  
Senior Analyst
- **Rob Meussner**  
Consulting Associate

## REAL ASSETS

- **Brent Nelson\***  
Managing Director
- **John Wasnock**  
Senior Research Associate
- **Shaharyar Asaf**  
CFA, Senior Portfolio Manager
- **Bryant Pierce**  
Senior Consulting Associate
- **Michael Thompson**  
Analyst
- **Zeca Cardoso**  
Analyst

## PRIVATE ASSETS

- **Jeffrey MacLean\***  
Chief Executive Officer
- **Jeffrey Scott, CFA\***  
Chief Investment Officer
- **Trevor Parmelee**  
Research Analyst
- **Herbert Nishii**  
Senior Consulting Associate
- **Austin Vierra**  
Consulting Associate
- **Nick Pursley**  
Analyst

## HEDGE FUNDS

- **Shelly Heier, CFA, CAIA\***  
President, Chief Operating Officer
- **Brian Rowe**  
CFA, CAIA  
Managing Director
- **Omer Tareen**  
CFA, Managing Director
- **Wilson Ma**  
CFA, FRM  
Portfolio Manager
- **Brian Kwan**  
Consulting Associate
- **Thomas Winkler**  
CAIA, Consulting Associate

- Manager research and analytics
- Capital markets and portfolio management
- Consulting team

\*Research Advisory Committee Member

## Comprehensive coverage

- Opportunity assessments based on fundamentals, risk exposures, valuations, technical trends, and investment manager environment
- Investment manager due diligence and evaluation
- Portfolio design and implementation including transition, guidelines, and fee negotiations
- Continuous monitoring of personnel, performance, holdings, and assets

(As of November, 2014)

# The right adviser for CCCERA

## **STRATEGIC FIT**

- High touch client service model designed to extend the capabilities of the Staff in serving the needs of the Board
- Industry leading perspectives on risk management, education, and customization to meet the specific and developing needs of public plans
- Experience serving public pension plans including 5 SACRS members

## **ESTABLISHED RECORD OF SUCCESS**

- Successfully serving our clients since 1986
- Over 130 relationships across all sponsor segments and plan types
- Consistent top quartile ranking in industry survey of investment consulting firms

## **UNPARALLELED STABILITY**

- Distributed ownership with next generation leadership in place
- 100% employee-owned
- Very low investment professional and client turnover
- Culture of collaboration and partnership – both internally and externally – for the benefit of clients

## **SUPERIOR SERVICE**

- CCCERA will be very important to Wurts & Associates
- Consulting team is often in the Northern California area and is just a short flight away
- “Client first” culture contributes to low client-to-consultant ratio

## II. Our approach to working with you

# Your consulting team



## **SCOTT WHALEN, CFA**

Co-Lead Consultant for CCCERA  
EVP & Senior Consultant  
MBA, University of Southern California  
BA, Wake Forest University  
12 years experience

Mr. Whalen serves primarily to provide high quality strategic investment advice and ensure his clients meet their long-term investment objectives. Mr. Whalen is a shareholder and a key member of the leadership team; he sits on the Management Committee and oversees the firm's consulting staff. Prior to joining Wurts & Associates in 2002, Mr. Whalen worked in management consulting with McKinsey & Company and Ernst & Young.



## **ED HOFFMAN, CFA**

Co-Lead Consultant for CCCERA  
Senior Consultant  
MBA, Harvard Business School  
BS, Carnegie Mellon University  
18 years experience

Mr. Hoffman joined the firm in 2011, providing strategic investment advice to ensure his clients meet their long-term investment objectives. Mr. Hoffman previously served institutional clients at Causeway Capital Management and Legg Mason, Inc. Today, his work in risk-based services provides an additional and valuable perspective on the needs of our non-discretionary clients.



## **JEFFREY MACLEAN**

CEO & Senior Consultant  
MBA, Darden School of Business  
BA, University of Washington  
26 years experience

Mr. MacLean joined the firm in 1992 and is primarily responsible for managing the firm and providing investment advice to several clients. Mr. MacLean chairs the firm's Management Committee and serves on the Research Advisory Committee.



## **BRIAN KWAN**

Consulting Associate  
BS, California State University, Long Beach  
9 years experience

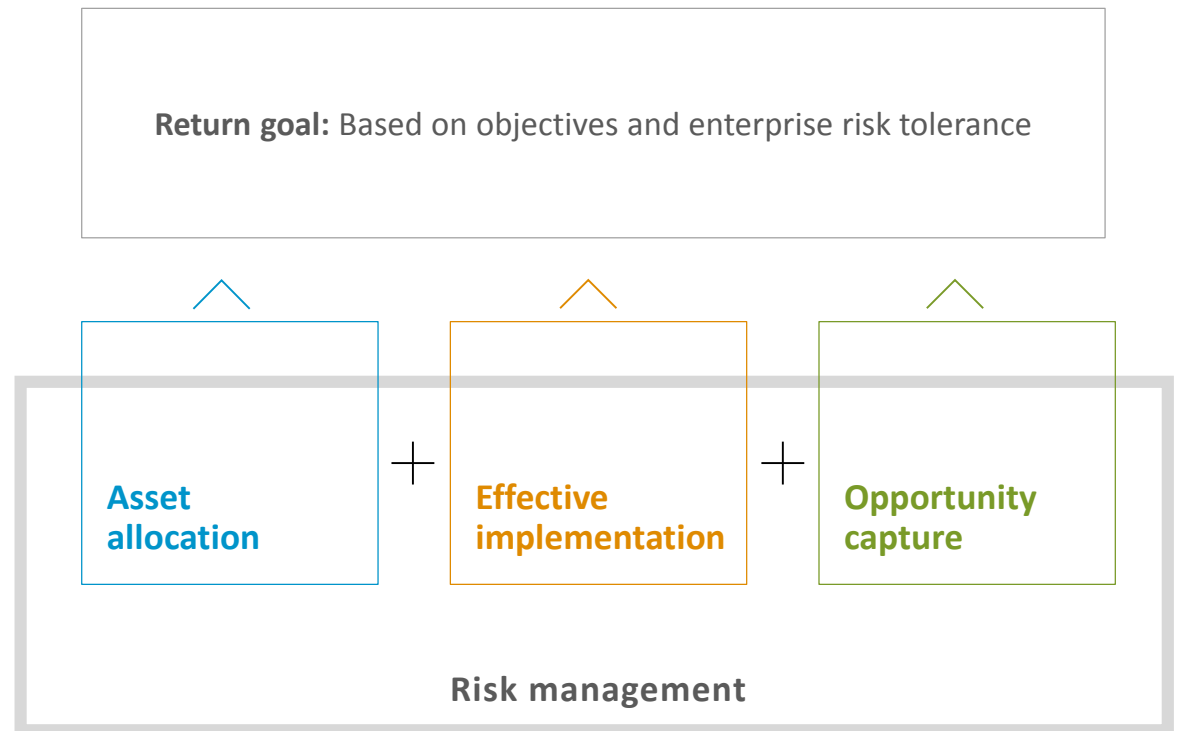
Since starting at Wurts & Associates in 2013, Mr. Kwan provides various types of investment research and analysis, along with consulting support to the Los Angeles based consulting team. He works with a broad range of institutional clients. Prior to joining the firm, Brian provided investment research and portfolio advisory services to active portfolio managers as a Consultant with William O'Neil and Company.

# Our principles

- Enterprise objectives and risk tolerance should guide all decisions
- Asset allocation and risk exposures drive portfolio results
- Economic factors and valuation drive long-term asset class returns
- Risk and diversification must be viewed through multiple lenses
- Fees and costs must be minimized...and justified

# Our approach

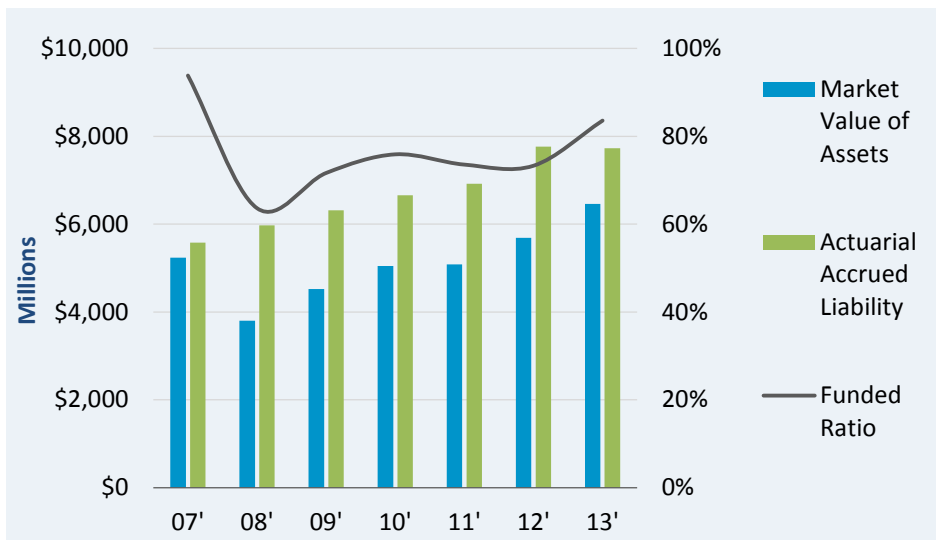
- Develop a thoughtful **strategic asset allocation** based on your enterprise objectives and risk tolerance
- Effective and efficient implementation, combining **best-in-class investment managers**, low-cost passive exposures, and appropriate operations
- Identify and **capture attractive** valuation-based **market opportunities**
- Apply **risk management best practices** across the portfolio to **maximize risk-adjusted return**



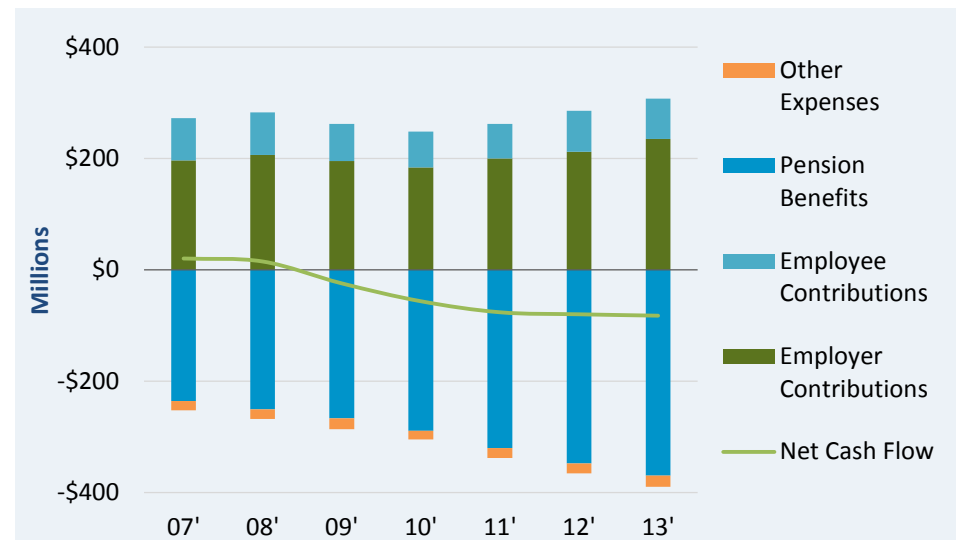
# Your plan characteristics

- Market value of assets have grown at a 5.6% annual rate since 2008
- Pension liabilities have historically increased at a steady rate (5.6% since 2008)
- Assumed rate of return (7.25%)
- The funded status, based on market value of assets, is at its highest level since 2007
- Employer contribution rates have trended upwards in the last 3 years
- Net Cash Flows have been negative for the last 5 years

PLAN ASSET VS. LIABILITIES



PLAN CASH FLOWS

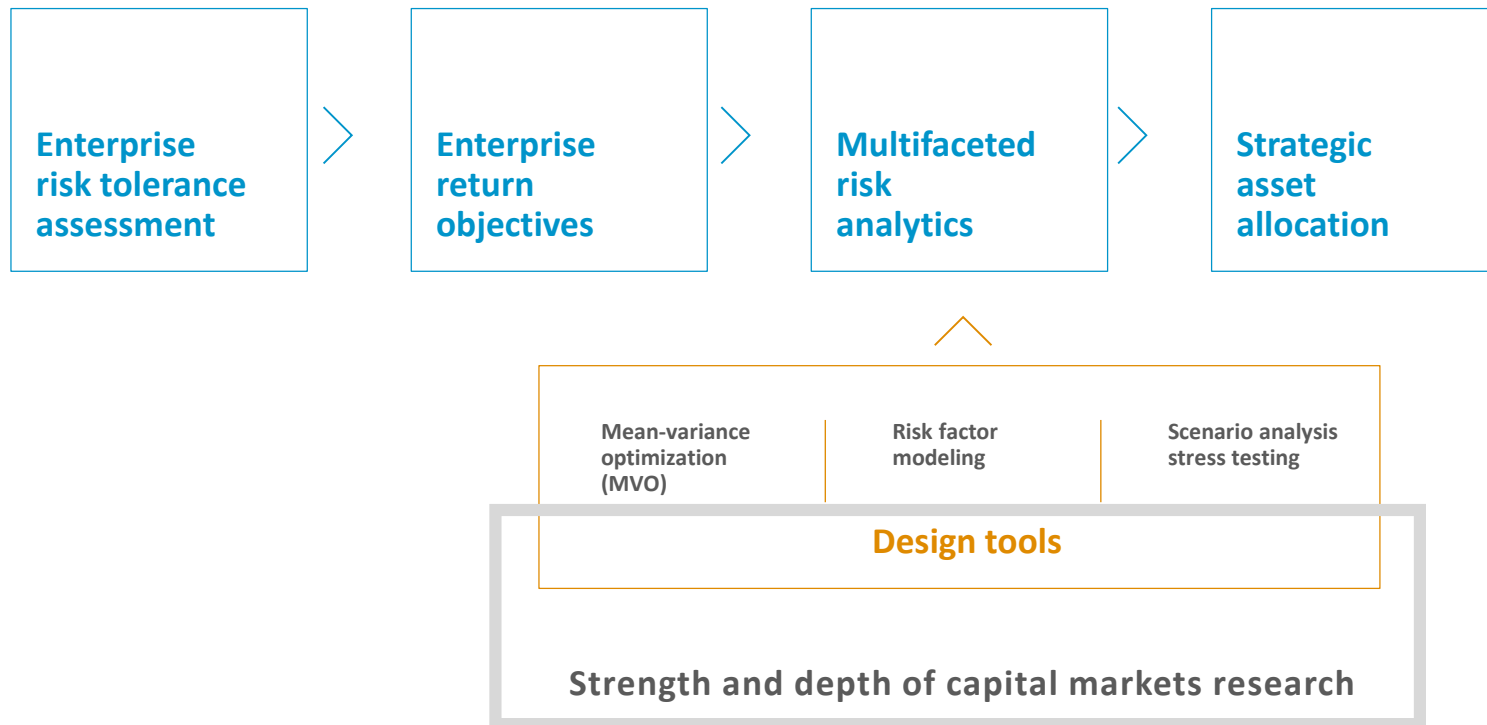


\*as of 9/30/2014

Source: CCCERA investment performance reports

# Asset allocation designed to your enterprise objectives

Asset allocation and risk exposures drive portfolio results



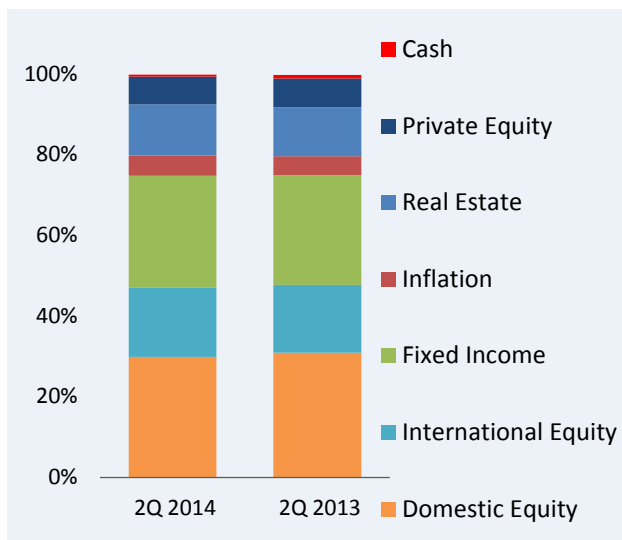
Understanding a defined benefit plan's liability profile in concert with the desired asset allocation mix is essential to determining risk appetite and risk tolerance



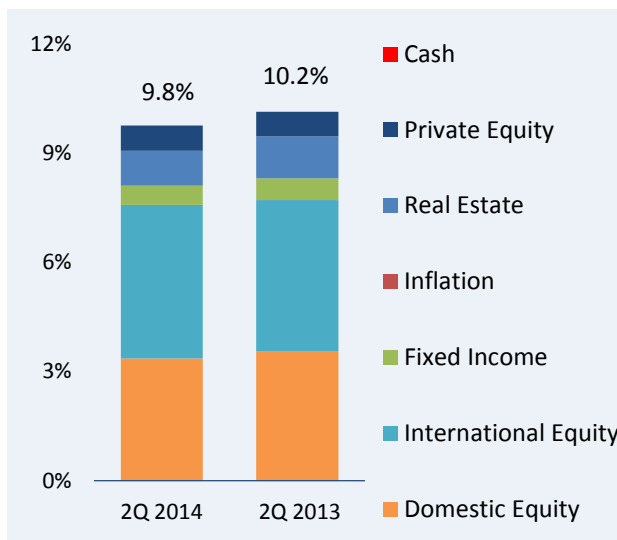
# Your portfolio allocations

- Limited passive exposure
- Diversified mix of domestic and international equity exposure
- Domestic tilt in fixed income exposure
- No current allocations to commodities or hedge funds
- Equity and cash allocations reduced while fixed income, real estate, and inflation allocations were increased over the past year
- Total risk decreased to 9.8% vs. 10.2% a year ago

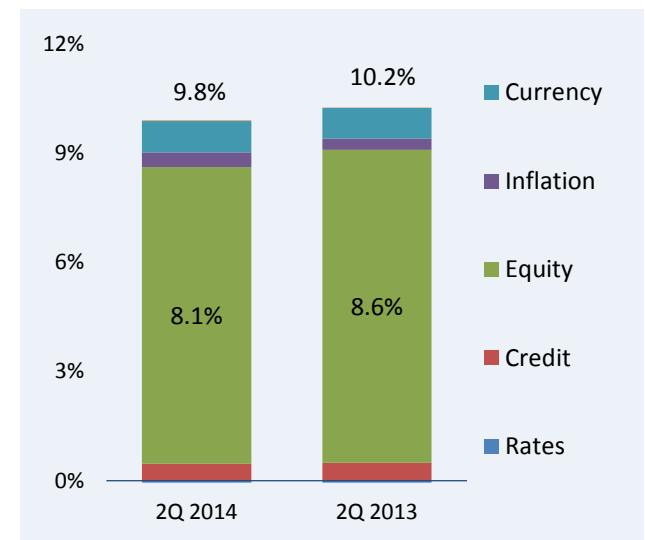
**ASSET ALLOCATION BY ASSET CLASS**



**RISK CONTRIBUTION BY ASSET CLASS**



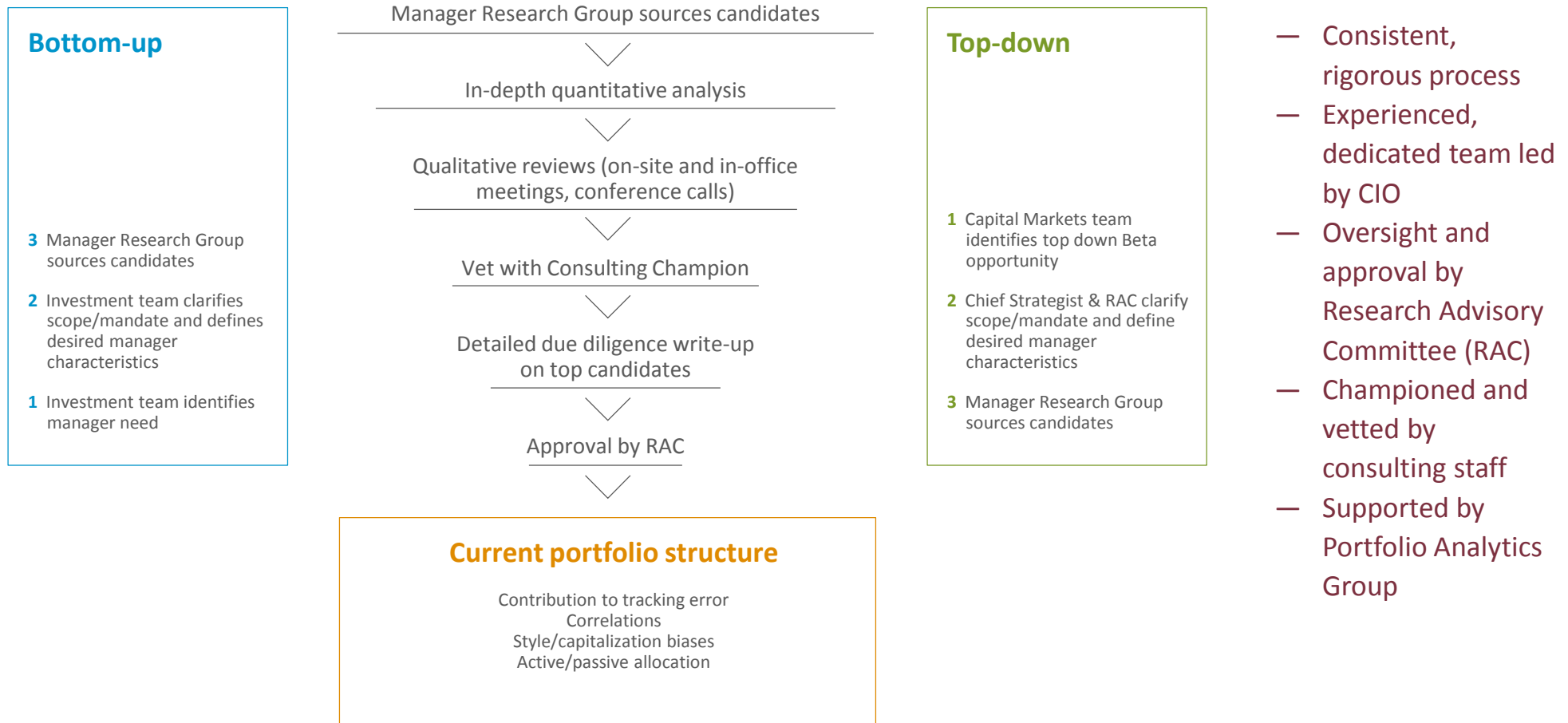
**RISK CONTRIBUTION BY RISK FACTOR**



Risk and return metrics are based on Wurts' 10 year capital market assumptions  
 Source: CCCERA investment performance reports

# Multifaceted manager selection approach

Focused, nimble and collaborative team; emphasis on top-down integration



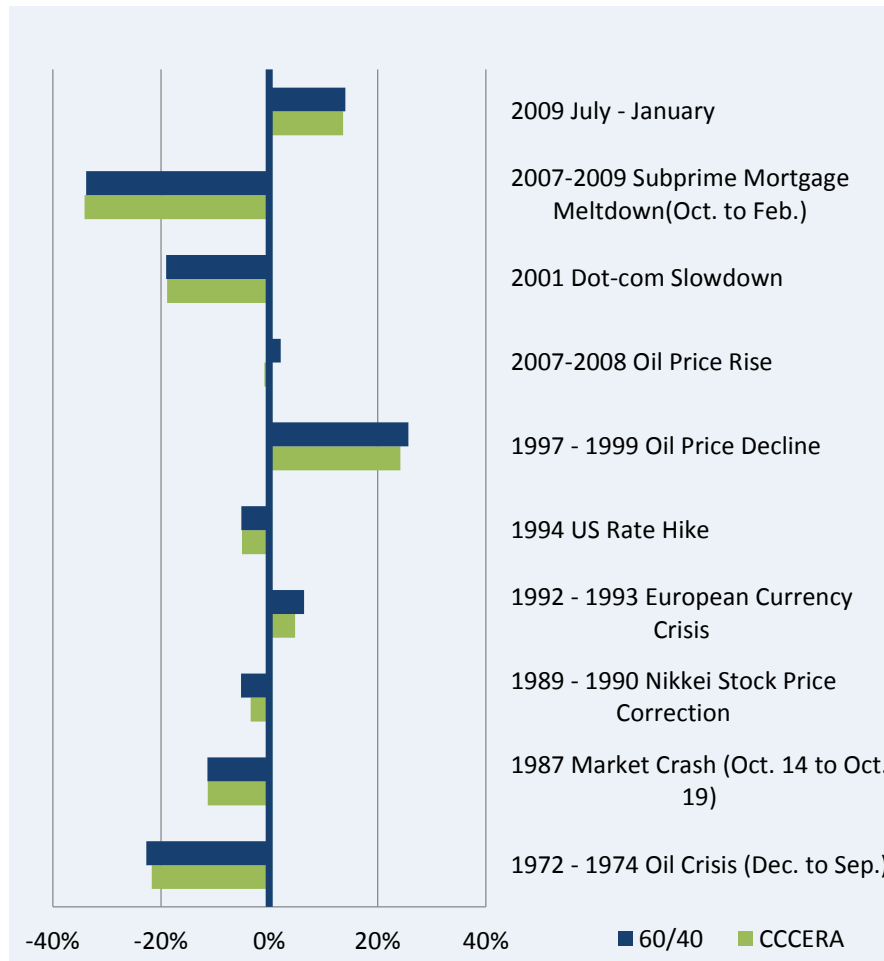
- Consistent, rigorous process
- Experienced, dedicated team led by CIO
- Oversight and approval by Research Advisory Committee (RAC)
- Championed and vetted by consulting staff
- Supported by Portfolio Analytics Group

# Benefits of risk management

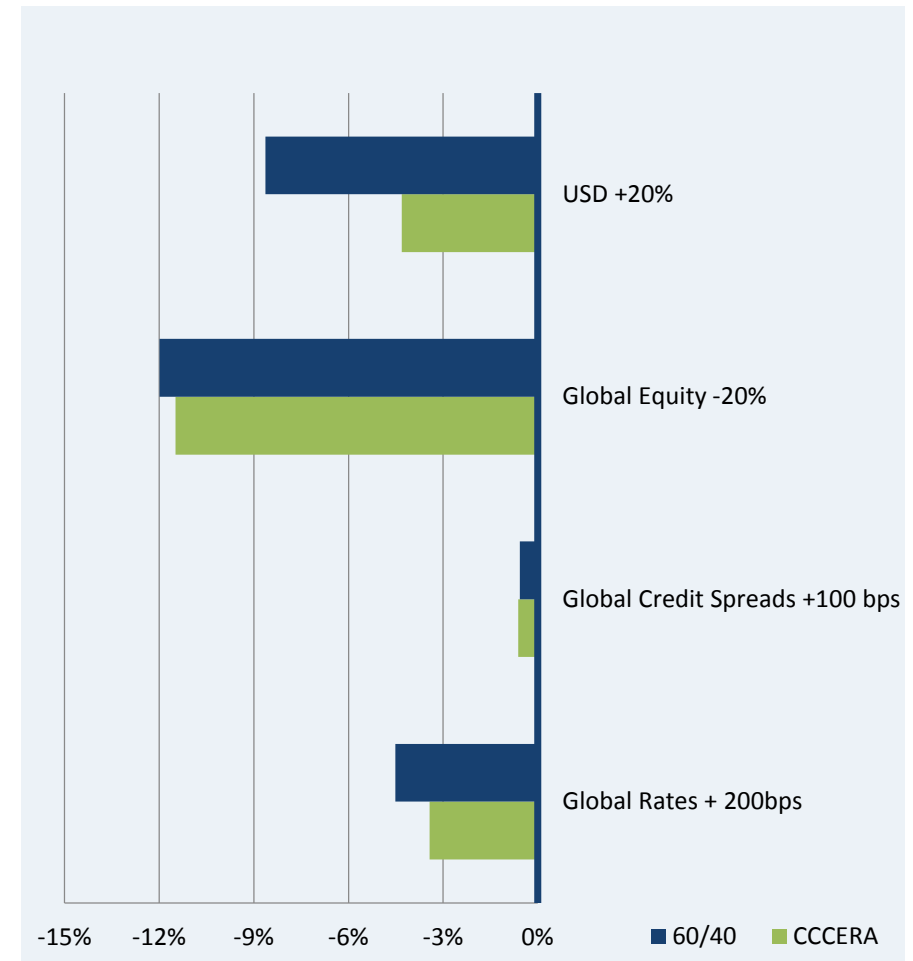
- Risk appetite and tolerance is often assumed but rarely articulated
    - Wurts has experience working with Boards to develop these
  - Risk exposures are a key driver of portfolio results
  - Risk is more easily forecasted and managed than returns
  - Wurts has unique experience in risk modeling and measurement
    - World-recognized thought leaders
    - MSCI BarraOne
    - Customized risk monitoring and management tools
- Understanding risks inherent in a plan's liability structure, asset mix, and the sponsor's financial stability are essential to determining risk appetite and risk tolerances

# Your tail risk exposures

## TAIL RISK – HISTORICAL SCENARIO ANALYSIS



## TAIL RISK - SCENARIO ANALYSIS



Sources: BarraOne, CCCERA 6/30/2014 investment performance report

# Risk Management Tools & Capabilities



1. Sample Risk Dashboards

# III. Appendix

# Biographies



## Mr. Jeffrey MacLean

Mr. MacLean, *Chief Executive Officer*, joined Wurts & Associates in 1992. Mr. MacLean is primarily responsible for managing the firm and providing investment advice to several clients. With over 25 years of investment experience, he has longstanding consulting experience with all asset classes working with corporate defined benefit plans and defined contribution plans, public institutions, multi-employer trusts, endowments, and foundations.

Mr. MacLean chairs the firm's Management Committee and serves on Wurts & Associates' Research Advisory Committee, which provides strategic guidance to the firm's research staff on the important issues affecting clients and vetting the research department's initiatives. Mr. MacLean often speaks at various investment forums regarding the macro-economic environment, asset allocation, risk management, alternatives, and industry trends. Prior to joining Wurts & Associates, Mr. MacLean was Vice President of Shurgard Realty Group, a real estate advisory firm. He also worked as a consultant for Arthur Andersen & Company.

Mr. MacLean currently volunteers for Children's Hospital of Los Angeles and he serves on the Advisory Board for the University of Washington Foster School of Business. He is also currently a member of the Young Presidents Organization and Past Chair of the Golden West Chapter.

Mr. MacLean holds a Masters Degree in Business Administration (MBA) from the Darden School of Business and a Bachelors Degree in Business Administration (BBA) from the University of Washington. He served as student body president his senior year at the University of Washington.

# Biographies



## Mr. Scott Whalen, CFA

Mr. Whalen, *Executive Vice President and Senior Consultant*, joined Wurts & Associates in 2002. Mr. Whalen serves primarily to provide high quality strategic investment advice and ensure his clients meet their long-term investment objectives. Mr. Whalen is a Wurts & Associates shareholder and a key member of the Wurts & Associates leadership team; he sits on the Management Committee and oversees the firm's consulting staff. Prior to joining Wurts & Associates, Mr. Whalen built a distinguished career in management consulting with McKinsey & Company and Ernst & Young, where he led corporate and public sector institutions to increase efficiency and improve operational performance. Through his vast experience working with multiple stakeholders across industries, Mr. Whalen has honed his ability to drive effective decision-making, often in challenging environments.

Mr. Whalen is a recognized speaker at industry conferences, where he has presented on a broad range of investment topics including asset allocation, alternative investing, investment manager oversight, attaining operational efficiencies in investment programs, the challenges and potential benefits of dynamic asset allocation, and the importance of maintaining a long-term perspective.

Mr. Whalen received a Bachelor of Arts degree in Economics from Wake Forest University and a Masters in Business Administration (MBA) from the University of Southern California. He is a recipient of the Chartered Financial Analyst (CFA) designation and a member of the CFA Institute and the CFA Society of Los Angeles.



# Biographies



## Mr. Edward Hoffman, CFA

Mr. Hoffman, *Senior Consultant*, joined Wurts & Associates in 2011. He brings more than 18 years of experience to his clients, providing strategic investment advice to ensure his clients meet their long-term investment objectives. Prior to joining the firm, Mr. Hoffman served institutional clients at Causeway Capital Management and Legg Mason, Inc. In addition to his client service responsibilities at Legg Mason, he served on the operating and valuation committees, led a variety of corporate development initiatives, and managed mutual fund product development projects. Today, his work in risk-based asset allocation services provides an additional and valuable perspective on the needs of our non-discretionary clients.

Mr. Hoffman earned a Bachelor of Science degree in Industrial Management with honors from Carnegie Mellon University and a Masters in Business Administration (MBA) from the Harvard Business School. He is a Chartered Financial Analyst (CFA) charterholder, a member of the CFA Society of Los Angeles, has completed both levels of the FRM program, and is a member of the Global Association of Risk Professionals (GARP).

# CCCERA Schedule of Investments

Manager	Benchmark	9/30/14		Manager	Benchmark	9/30/14	
<b>Domestic Equity</b>		<b>1,583,704,601</b>	<b>23.1%</b>	<b>Domestic Core/CorePlus Fixed Income</b>		<b>1,266,136,576</b>	<b>18.4%</b>
Intech - Large Core	S&P 500	287,721,629	4.2%	AFL-CIO	BC Agg	230,079,999	3.4%
PIMCO Stocks Plus	S&P 500	300,100,144	4.4%	Goldman Sachs Core Plus	BC Agg	322,024,336	4.7%
Jackson Square Partners	Russell 1000 Growth	303,497,992	4.4%	GSAM Workout	BC Agg	4,078	0.0%
Robeco	Russell 1000 Value	302,194,434	4.4%	Lord Abbett	BC Agg	321,187,101	4.7%
Emerald	Russell 2000 Growth	201,474,447	2.9%	PIMCO	BC Agg	392,841,062	5.7%
Ceredex	Russell 2000 Value	188,715,955	2.7%				
<b>International Equity</b>		<b>716,525,531</b>	<b>10.4%</b>	<b>Domestic High Yield</b>		<b>476,985,301</b>	<b>6.9%</b>
Pyrford	MSCI ACWI ex-US Value	358,504,765	5.2%	Allianz Global Investors	ML HY Master II	339,064,566	4.9%
William Blair	MSCI ACWI ex-US Growth	357,483,083	5.2%	Torchlight II	ML HY Master II	74,823,501	1.1%
International Transition	MSCI ACWI ex-US	537,683	0.0%	Torchlight III	ML HY Master II	13,642,135	0.2%
				Torchlight IV	ML HY Master II	49,455,099	0.7%
<b>Global Equity</b>		<b>842,923,550</b>	<b>12.3%</b>	<b>Global Fixed Income</b>		<b>270,097,365</b>	<b>3.9%</b>
Artisan Partners	MSCI ACWI	277,116,062	4.0%	Lazard Asset Management	BC Global Agg	270,097,365	3.9%
First Eagle	MSCI ACWI	270,900,768	3.9%				
Intech Global Low Vol	MSCI ACWI	22,568,958	0.3%	<b>Total Fixed Income</b>		<b>2,013,219,242</b>	<b>29.3%</b>
JP Morgan	MSCI ACWI	272,337,762	4.0%				
<b>Total Equity</b>		<b>3,143,153,682</b>	<b>45.8%</b>	<b>Inflation Protection</b>		<b>339,899,181</b>	<b>5.0%</b>
				PIMCO All Asset Fund	CPI +400 bps	118,134,977	1.7%
				Wellington RTR	CPI +400 bps	202,935,921	3.0%
				Aether	CPI +500 bps	9,359,578	0.1%
				Commonfund	CPI +500 bps	9,468,705	0.1%

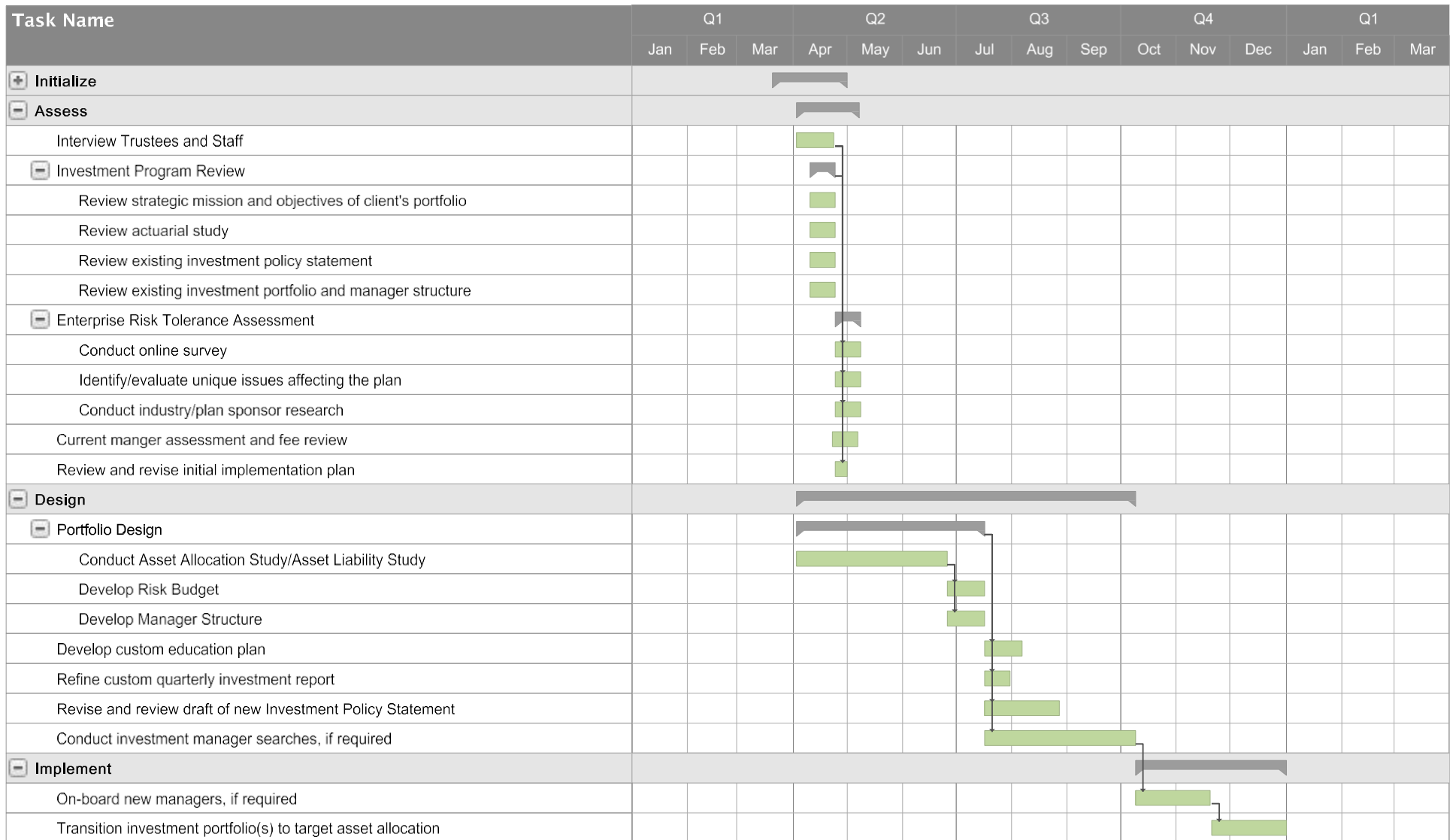
Source: Performance report September 30, 2014.

# CCCERA Schedule of Investments

Manager	Benchmark	9/30/14		Manager	Benchmark	9/30/14	
<b>Real Estate</b>		<b>834,620,856</b>	<b>12.2%</b>	<b>Private Investments</b>		<b>497,620,474</b>	<b>7.2%</b>
Adelante	Wilshire REIT	167,396,779	2.4%	Adams Street Partners	S&P 500 +4% QTR Lag	146,713,617	2.1%
INVESCO Intl REIT	EPRA/NAREIT Dev ex-US	92,377,697	1.3%	Bay Area Equity Funds	S&P 500 +4% QTR Lag	33,076,084	0.5%
Angelo, Gordon & Co	NCREIF +500 bps	61,278,902	0.9%	Carpenter Bancfund	S&P 500 +4% QTR Lag	38,535,081	0.6%
DLJ Real Estate II	NCREIF +500 bps	3,828,093	0.1%	Energy Investor Fund	S&P 500 +4% QTR Lag	835,343	0.0%
DLJ Real Estate III	NCREIF +500 bps	47,842,421	0.7%	Energy Investor Fund II	S&P 500 +4% QTR Lag	40,059,559	0.6%
DLJ Real Estate IV	NCREIF +500 bps	79,226,138	1.2%	Energy Investor Fund III	S&P 500 +4% QTR Lag	49,838,974	0.7%
DLJ Real Estate V	NCREIF +500 bps	9,364,417	0.1%	Energy Investor Fund IV	S&P 500 +4% QTR Lag	16,885,521	0.2%
Hearthstone I	NCREIF +500 bps	86,511	0.0%	Nogales	S&P 500 +4% QTR Lag	3,342,336	0.0%
Hearthstone II	NCREIF +500 bps	(31,807)	0.0%	Ocean Avenue	N/A	7,315,132	0.1%
INVESCO Fund I	NCREIF +300 bps	9,769,037	0.1%	Oaktree PIF 2009	N/A	32,048,814	0.5%
INVESCO Fund II	NCREIF +300 bps	37,694,321	0.5%	Pathway Funds	S&P 500 +4% QTR Lag	109,568,778	1.6%
INVESCO Fund III	NCREIF +300 bps	27,573,730	0.4%	Paladin III	S&P 500 +4% QTR Lag	19,401,235	0.3%
LaSalle Income & Growth Fund VI	NCREIF +500 bps	42,276,389	0.6%	<b>Cash</b>		<b>35,750,855</b>	<b>0.5%</b>
Long Wharf Fund II	NCREIF +300 bps	794,382	0.0%	<b>Total</b>		<b>6,864,264,290</b>	<b>100%</b>
Long Wharf Fund III	NCREIF +300 bps	25,923,448	0.4%				
Long Wharf Fund IV	NCREIF +300 bps	10,394,062	0.2%				
Oaktree REOF V	NCREIF +500 bps	44,547,066	0.6%				
Oaktree REOF VI	NCREIF +500 bps	62,798,211	0.9%				
Paulson Real Estate II	NCREIF +500 bps	15,260,203	0.2%				
Siguler Guff Distressed RE Opportunities	NCREIF +500 bps	69,621,239	1.0%				
Siguler Guff Distressed RE Opportunities II	NCREIF +500 bps	16,599,617	0.2%				
Willows Office Property	NCREIF	10,000,000	0.1%				

Source: Performance report September 30, 2014.

# CCCERA Draft Implementation Plan



# Investment Model Evaluation Summary

Selection Criteria	Global Market Portfolio	Pure 60/40	Typical Peer	Typical Peer w/ Higher Complexity	Typical Peer w/ Heavy Private Assets	Endowment Model	Risk-Balanced (50/25/25)	Risk-Balanced (40/30/30)	Risk-Balanced (Accepted Mix)	Risk-Balanced (Interim Mix)
<b>Risk/Return Metrics</b>										
Expected Return	5.7%	5.4%	6.5%	7.0%	7.2%	7.7%	7.1%	6.8%	7.9%	7.0%
% chance of meeting 7.75%	19.7	22.1	34.2	41.0	42.4	48.2	42.9	36.6	50.8	39.1
Volatility	6.8%	8.9%	9.1%	10.1%	9.8%	11.7%	9.4%	8.6%	9.9%	8.7%
Sharpe Ratio	0.47	0.33	0.44	0.45	0.48	0.45	0.49	0.50	0.55	0.52
Daily VaR (95% confidence, \$MM)	\$63.4	\$99.8	\$84.4	\$75.5	\$62.2	\$87.2	\$64.1	\$57.0	\$61.1	\$64.1
Daily CVaR (95% confidence, \$MM)	\$101.1	\$138.2	\$135.7	\$152.2	\$128.6	\$185.1	\$124.0	\$118.1	\$148.3	\$130.6
Potential impact on Discount Rate	-2.12%	-1.87%	-1.39%	-0.61%	-0.54%	0.00%	-0.45%	-0.95%	0.23%	-0.74%
<b>Other Key Metrics (Expected Yr. 10)</b>										
\$MM Contributions - Employer	\$611	\$638	\$554	\$512	\$498	\$464	\$504	\$532	\$438	\$514
% of Pay Cont. - Employer	45.8	47.9	41.7	38.6	37.7	34.7	38.0	40.0	33.1	38.6
\$MM Contributions - Employee	\$128.5	\$128.5	\$128.5	\$128.5	\$128.5	\$128.5	\$128.5	\$128.5	\$128.5	\$128.5
% of Pay Cont. - Employee	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%
Funded Ratio	82.9	81.0	87.0	89.7	90.6	93.1	90.3	88.5	95.0	89.6
<b>Risk Factors</b>										
Portfolio Complexity	low	low	med	high	med	high	med	med	high	High
Leverage	low	low	low	med	high	high	high	high	high	high
Peer Risk	high	high	low	med	med	high	med	med	high	high
Headline Risk	high	low	low	med	med	high	med	med	high	high
Operational Risk	low	low	low	med	high	high	med	med	high	high
Liquidity Risk	low	low	low	Low	med	high	med	med	med	med
Tail Risk	low	high	high	med	med	med	med	low	low	low
Equity Risk Allocation	low	high	high	med	med	med	med	low	low	low
<b>Annual Management Cost</b>										
Estimated Cost (bps.)	29	4	44	62	76	104	65	115	89	86
Estimated Cost (\$MM)	\$28.8	\$4.3	\$44.1	\$61.8	\$75.6	\$104.0	\$64.7	\$115.1	\$88.8	\$85.8
<b>Implementation Characteristics</b>										
Active / Passive	Combination	Passive	Combination	Combination	Combination	Combination	Combination	Combination	Combination	Combination
Direct / Fund of Funds	Direct	n/a	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct
Level of Private Assets	14%	0%	10%	20%	35%	50%	35%	30%	30%	30%
<b>Organization Structure Assumptions</b>										
Internal / Outsourced	Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal
Size of Investment Staff	5	1	6	6	6	6	6	6	6	6
Specialty Consultants	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



**MEETING DATE**

FEB 18 2015

**AGENDA ITEM**

#7

## **MEMORANDUM**

Date: February 18, 2015  
To: CCCERA Board of Retirement  
From: Gail Strohl, Retirement Chief Executive Officer  
Subject: Consider and take possible action regarding repairs and upgrades to the Willows Office Building as recommended by Transwestern.

---

### ***Background***

On October 23, 2013, the Board of Retirement approved removing all siding and trim pieces, replacing with stucco and replacement of all windows with double pane windows on the Willows Office Building. Recently, project bids were received and evaluated by Transwestern and CCCERA. A final candidate was selected and is available to answer any questions.

### ***Recommendation***

There have been some changes since the initial review. The Board should review the information and decide whether the project scope should be changed or not.

Consider and take possible action regarding repairs and upgrades to the Willows Office Building as recommended by Transwestern.

**Roundtable for Public & Taft-Hartley Plans** AGENDA ITEM

April 22-24, 2015 ■ The Beverly Hilton ■ Los Angeles, CA

#8a

Roundtable Co-Chairs

**Cheryl D. Alston**

Employees' Retirement Fund of the City of Dallas

**Vijoy Chattergy**

Hawaii Employees Retirement System

Advisory Board

**Christopher J. Ailman**

CalSTRS

**David Cooper, CFA, CAIA**

Indiana Public Retirement System

**Jennifer Paquette, CFA**

Colorado Public Employees  
Retirement Association

**Bob Alvarado**

Northern California Carpenters  
Regional Council

**Elizabeth Crisafi**

San Diego City Employees'  
Retirement System

**Mansco Perry, III, CFA, CAIA, CIPM**

Minnesota State Board of Investment

**David Asselstine**

Teachers' Retirement Allowances  
Fund

**Bruce H. Cundick**

Utah Retirement Systems

**Donald Pierce**

San Bernardino County Employees'  
Retirement Association

**Carlos Borromeo**

Arkansas Public Employees'  
Retirement System

**Michelle Cunningham, CFA**

CalSTRS

**Timothy Price, CFA**

Contra Costa County Employees'  
Retirement Association

**Fadi J. BouSamra**

The Metropolitan Government of  
Nashville & Davidson County  
Employee Benefit System

**Gary R. Dokes**

Arizona State Retirement System

**Gregory Samay**

Fairfax County Retirement System

**Michael Brakebill**

Tennessee Consolidated Retirement  
System

**James L. Failor, CFA**

Sonoma County Employees  
Retirement Association

**Kevin SigRist**

North Carolina Department of State  
Treasurer

**Christopher J.G. Brockmeyer**

The Broadway League

**Anne-Marie Fink**

Employees' Retirement System of  
Rhode Island

**John D. Skjervem**

Oregon State Treasury

**Derek M. Brodersen, CFA**

Alberta Teachers' Retirement Fund

**Jonathan Grabel**

New Mexico Public Employees'  
Retirement Association

**Terry Slattery**

Municipal Fire & Police Retirement  
System of Iowa

**Gary Bruebaker**

Washington State Investment Board

**Andrew Greene**

Ontario Public Service Employees  
Union (OPSEU)

**Anthony Smith**

Seattle City Employees' Retirement  
System

**Jerome Burns**

Michigan Municipal Employees  
Retirement System

**Ron Lind**

CalPERS Board of Administration

**Michael G. Trotsky, CFA**

Mass PRIM

**T.J. Carlson**

Texas Municipal Retirement System

**Chuck Mack**

Western Conference of Teamsters  
Pension

**Tom Tull, CFA**

Employees Retirement System of  
Texas

**Scott Chan**

Fmr. Sacramento County Employees'  
Retirement System

**Farouki Majeed, CFA**

School Employees' Retirement  
System of Ohio

**David Villa, CFA**

State of Wisconsin Investment Board

**Matthew Clark, CFA**

South Dakota Investment Council

**Rick Miller**

(Fmr. Board Chair) OMERS  
Administration Corporation

**Ashbel C. Williams, Jr.**

Florida State Board of Administration

*If you're not confused you don't understand things very well.*

- *Charlie Munger, Berkshire Hathaway*

*Prediction is difficult, especially about the future.*

- *Yogi Berra, New York Yankees*

### *Introduction*

The demands of the macro and market environments, the necessity to support a plan's objectives, and the need to generate returns while mitigating risk, combine to create significant challenges for investors and their teams. Many believe that the drivers of return over the past several decades may no longer characterize the investing landscape. If portfolio returns are expected to be more modest in the future, how are investors thinking about supplementing these returns? Will they seek to build returns through greater asset class diversification or greater concentration? Or will investors rely on alpha generation, ramping up beta, enduring illiquidity, tactical shifts, managing or hedging risk exposures, or through opportunistic investing? This roundtable will provide a forum for delegates to engage in a thoughtful discussion about risk, return expectations, and how they think about investing and building a successful portfolio in an era when so many investors are investing the same way. Participants will also share thoughts on how to most effectively use the resources and tools which are at their disposal to successfully construct their portfolios.

The 2015 *Roundtable for Public and Taft-Hartley Plans* will explore a range of critical investment issues and indicate what they mean for the future of pension plan asset allocation and investing. Through an array of plenary sessions, workshops, case studies and discussion groups, delegates will focus on innovative ways that plan sponsors are managing their portfolios amid economic and financial uncertainty. Created in consultation with a distinguished Advisory Board this program will provide a forum for participants to discuss and debate important investment issues with colleagues and peers, and gather information and insights to share with committees, boards and staff.

## **Tuesday, April 21, 2015 (Pre-Roundtable)**

*Join us for a special investor-only case study presentation and private conversation to be held on the eve of the Roundtable's official start. This session will be followed by cocktails & dinner at The Beverly Hilton Aqua Star Pool. Please join your peers.*

5.00

Investor-only Session: Case Study Presentation & Private Conversation

6:30 -8:30

Welcome Reception & Dinner for All Delegates at the Beverly Hilton Aqua Star Pool



## Wednesday, April 22, 2015

7:00 – 8:00

Buffet Breakfast and Registration

8:00 - 8:15

Welcome and Introductory Remarks

**Robin Coffey**, *Executive Director*, Institutional Investor Memberships

**Scott Chan**, *Chief Investment Officer*, Sacramento County Employees' Retirement System

8:15 - 8:45

The New Global Context

Complexity, fragility and uncertainty are all challenging progress at global, regional and national levels. This has resulted in a “new global context” for future decision-making. This new context requires a greater awareness of the near and long-term implications of the certain trends and developments including the systemic impact of deepening geopolitical fault-lines along with the expected normalization of monetary policy through the reduction of quantitative easing and a future rise in interest rates. If all of these factors result in modest returns over the next several years, where should investors turn to meet their obligations? With economic slowdowns in Europe and China, what assets would do well in the deflationary environment? Why this is not a normal cycle this time? What does it really mean to be in a deleveraged cycle? How can investors play the dislocations in the global markets and take advantage of the opportunities? This speaker will cover these issues and more.

**Peter Berezin**, *Chief Strategist*, BCA Research

8:45 - 9:30

Hedge Funds and Alternative Strategies: Are they Worth It?

Investors continue to revise their methods of diversification and asset allocation in order to accommodate the changes in economic markets that have evolved over the last few years. Despite lackluster returns and steep fee structures, coupled with historically low interest rates and increased volatility, it is clear that investors do not plan to get rid of hedge funds and other alternative investments any time soon. Although the CalPERS decision to unwind their hedge fund program made headlines, this was due to scalability rather than issues of cost and complexity. However, the longer term ripple effects, especially on the board level, has resulted in increased scrutiny regarding the role of non-conventional asset classes such as hedge funds, private equity and other alternative strategies. How investors can balance their quest for alpha with their need for consistent returns? How should managers address investors' concerns regarding, among other things, ownership and generational change; size and complexity of funds; liquidity matching and transparency. This panel of industry leaders will share their views on the state of the industry and offer perspectives on where it is headed.

**Moderator: Ed Robertiello**, *Partner and Director of Strategic Development*, Chatham Asset Management

**Reza Ali**, *Founder & Chief Investment Officer*, Prosir Capital Management

**Gideon Berger**, *Senior Managing Director, Hedge Fund Solutions*, Blackstone Alternative Asset Management

**Clint Carlson**, *Chief Investment Officer and Founder*, Carlson Capital, L.P.

**Daniel MacDonald, CFA**, *Portfolio Manager, Alternative Investments*, Ontario Teachers' Pension Plan

9:30 – 10:00

Coffee Break

10:00 - 10:45

### Co-Investment Programs

Co-investment programs that allow plan sponsors to invest alongside their hedge fund managers have become more popular in the plan community as investors look to move from traditional hedge fund vehicles to those that are more private equity-like in nature. However, opportunities can be missed if the plan does not move expeditiously. What resources does a plan require to run an optimal co-investment program from proposal and due diligence through board approval and, ultimately, execution? What is the cost/benefit of running such a program and is it feasible for smaller staffed plans? Is this model the ideal paradigm of investor-manager alignment of issues which many consider the top priority when allocating their funds capital? This panel will discuss the ins and outs of constructing an exceptional co-investment program.

**Richard Perry**, *Chief Executive Officer*, Perry Capital

**Michael J. Sacks**, *Chief Executive Officer*, Grosvenor Capital Management L.P.

*Additional speakers to be announced*

10:45 - 11:45

### The Search for Alpha (Part I): Top Investors Tell You Their Best Ideas

Over a series of five-minute presentations done in rapid-fire succession, we'll find out what some of the top CIOs in the country view as the best sources for excess return, while still leaving plenty of time for audience members to poke holes in, or validate, these ideas. A whirlwind session no one should miss.

**Bruce H. Cundick**, *Chief Investment Officer*, Utah Retirement Systems

**Leo De Bever**, *Former Chief Executive Officer*, Alberta Investment Management Corporation

**Craig A. Husting**, *Chief Investment Officer*, Missouri Public School Retirement System

**David Villa, CFA**, *Chief Investment Officer*, State of Wisconsin Investment Board

11:45- 12:45

### Think Tanks: To Have (or Have Not)? Justifying Alternative Strategies

Building on the morning sessions, breakout groups will share creative ways investors are using alternative strategies in their portfolios.

- I. **Cheryl D. Alston**, *Executive Director*, Employees' Retirement Fund of the City of Dallas

**Jay Kloepfer**, *EVP, Director of Capital Markets & Alternative Research*, Callan

- II. **Christopher M. Schelling, CAIA**, *Director- Private Equity*, Texas Municipal Retirement System

**Don Stracke, CFA, CAIA**, *Senior Consultant*, NEPC

- III. **Sam Masoudi**, *Chief Investment Officer*, Wyoming Retirement System

**Timothy Sant**, *Senior Vice President*, Summit Strategies Group

- IV. **John Claisse**, *Head of Portfolio Group*, Albourne America LLC

*Co-leader to be announced*

- V. *Co-leaders to be announced*

12:45 - 2:15

## Seated Lunch and Featured Speaker

*What Lies Ahead: Trends, Risks & Opportunities*

**Zachary Karabell**, Author, *The Leading Indicators: A Short History of the Numbers That Rule Our World*; Commentator, Slate Magazine; Head of Global Strategy, Envestnet

2:15- 2:30

## Mitigating Downside Risk While Harvesting Risk Premia

Not losing too much during crisis situations and still harvesting the best risk premia given all your constraints are two important factors for successful long-term investing. This presentation will include a risk management case study to illustrate how investors can achieve these goals by using a smart active hedging strategy.

**Walter Braegger, PhD**, Partner, Sanostro AG

2:30 - 3:15

## Energy Markets: Revolution AND Evolution

Investors have been taking bets on how far the price of oil may go before showing sign of recovery: The possibility that a sustained lull could render oil a barometer is bad for the oil market – but good for the energy revolution. Amid adjustments to the new world order, attention is being directed toward the United States. But given the recent price pullback, how does the rise of US production affect the global and US supply/demand metrics? What are the short and intermediate impact on industry and commodity prices? What are the possible recovery and stabilization scenarios? How does this impact the various market participants i.e., how will companies and bankers react? Most importantly, where are the opportunities to capitalize: upstream and midstream plays in oil and gas? Energy credit? This panel will explore these issues and more.

**Moderator: David Altshuler**, Partner, StepStone Group LLC

**Jacques Demers**, Global Head, Investment Partners and Partnerships, Ontario Municipal Employees Retirement System (OMERS)

**Thomas Martin**, Managing Director, TorreyCove Capital Partners

**Robert V. Sinnott**, Chief Executive Officer, Kayne Anderson Capital Advisors, L.P.

**Mark Williams**, Managing Director, Cliffwater LLC

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3:15 – 3.30

## Coffee Break

3:30 - 4:15

## Concurrent Workshops:

### I. Private Equity: Staying Ahead of the Herd

To nimbly tread where other large institutional investors are not yet present, while maintaining discipline at the negotiation table, has never been trickier in a sector that is more complicated and competitive than ever before. In today's high-price, low-yield environment, is PE still viable and what strategic adaptations may be needed to satisfy objectives in today's market? What are the next generation of PE products and strategies? This panel of industry experts will discuss and debate the core issues, trends, outlooks, challenges, opportunities and strategies that will shape the PE industry for today and the future.

**Christopher J.G. Brockmeyer**, Director of Employee Benefit Funds, The Broadway League

**Jerome Burns**, *Chief Investment Officer*, Michigan Municipal Employees Retirement System

**Jonathan Grabel**, *Chief Investment Officer*, New Mexico Public Employees' Retirement Association

**John Skjervem**, *Chief Investment Officer*, Oregon State Treasury

**Sarah Keohane Williamson**, *CFA, CAIA, Partner, Director Alternative Investments*, Wellington Management International Ltd

II. The Credit Markets Lab: Mitigating Interest Rate Risk through Diversification  
Scouring across an ever-widening spectrum of credit alternatives, investors are investigating new opportunities to earn income while also guarding against what many market participants warn could be a coming bear market for bonds. Which private lending opportunities are still viable? Which bundles of loans should be avoided? Are we overcomplicating what was once plain vanilla -- or are we leaving a pile of lucrative interest income on the table?

**Richard J. Byrne**, *President*, Providence Equity Partners, LLC

**Andrew Palmer**, *CFA, Deputy Chief Investment Officer & Director-Fixed Income*, Tennessee Consolidated Retirement System

*Additional speakers to be announced*

4:15 – 5.00

### The Top Unlearned Lessons of the Financial Crisis

Have new regulations (Dodd-Frank, Basel III, etc.) lessened systemic risk from the banking sector? Has the US government created the right incentives for banks and regulators to reduce the possibility of another crisis? What other risks lurk in the shadows (or shadow banking)? Is risk management an oxymoron? That is, perhaps risk is risk precisely because it can't be managed! Prolific columnist, author and financial industry watcher, Bethany McLean, sits down for an in-depth one-on-one conversation to discuss the impact of the financial crises, where we are today, and the effect of media coverage on the industry.

**Moderator: Steve Bruce**, Managing Partner, ASC Advisors LLC

**Bethany McLean**, *Contributing Editor*, *Vanity Fair*

6:00

Departure from Beverly Hilton

6:30 - 9:00 PM

Reception, Dinner and Presentation of 2nd Annual *Investor Intelligence Awards* at the Four Seasons Hotel Los Angeles – Beverly Hills

Cocktails and dinner will be served at one of the most glamorous venues in Beverly Hills, the renowned Four Seasons hotel. We are thrilled to present the 2<sup>nd</sup> Annual Investor Intelligence's Awards, recognizing the most outstanding and innovative public & Taft-Hartley plan sponsors in North America.

## Thursday, April 23, 2015

7:00 - 8:15

Private Breakfast and Conversations:

At this year's Roundtable, there will be a private sessions designed to provide an informal dialogue among Canadian plan sponsors and another private session for Taft-Harley plan sponsors. Issues for discussion will be designated in advance, based upon audience suggestions.

- Taft-Hartley Executives

Breakfast Co-Chairs:

**Ron Auer**, *Executive Director*, CORPaTH

**Christopher J.G. Brockmeyer**, *Director of Employee Benefit Funds*, The Broadway League

- Canadian Plan Sponsors

Breakfast Co-Chairs:

*To be announced*

7:15 – 8:15

Buffet Breakfast and General Registration

8:15 - 8:30

Welcome and Introductory Remarks

**Robin Coffey**, *Executive Director*, Institutional Investor Memberships

**Cheryl D. Alston**, *Executive Director*, Employees' Retirement Fund of the City of Dallas

8:30 - 9:15

A Conversation with Myron Scholes

Nobel Laureate in Economic Sciences, Myron Scholes is best known as the co-originator of the Black-Scholes options pricing model. During this conversation Professor Scholes will discuss how this theory was developed from motivation and intuition of the original formula to the broad range of uses in today's financial markets.

**Myron Scholes, Ph.D.**, *Chief Investment Strategist*, Janus Capital Group

9:15 - 10:00

Jeffrey Gundlach Speaks Out

Bond market guru Jeffrey Gundlach offers his views on a wide range of topics including the outlook for the financial markets, direction of central bank policies and the changing parameters of the asset management business. Gundlach, a veteran of market booms and swoons, will comment on what it takes to prosper in a constantly evolving economic environment.

**Jeffrey E. Gundlach**, *Co-Founder, Chief Executive Officer, Chief Investment Officer*, DoubleLine Capital

10:00 - 10:30

Coffee Break

10:30 - 11:45

The Search for Alpha (Part II): Top Investors Tell You Their Best Ideas

Over a series of five-minute presentations done in rapid-fire succession, we'll find out what some of the top CIOs in the country view as the best sources for excess return, while still leaving plenty of time for audience members to poke holes in, or validate, these ideas. A whirlwind session no one should miss.

**Fadi J. BouSamra**, *Chief Investment Officer*, The Metropolitan Government of Nashville & Davidson County Employee Benefit System

**Derek Brodersen**, *CFA, Chief Investment Officer*, Alberta Teachers' Retirement Fund

**Farouki Majeed, CFA**, *Director of Investments (CIO)*, Ohio School Employees Retirement System

**Robert M. Maynard**, *Chief Investment Officer*, Public Employee Retirement System of Idaho

**Tom Tull, CFA**, *Chief Investment Officer*, Employees' Retirement System of Texas

11:45 - 12:45

### Think Tanks of Investable Ideas: Asset Allocation

Discussion groups will discuss and debate the merits of various asset allocation strategies. Delegates will explore how the current market experience impacts thinking about diversification, liquidity, and other portfolio attributes that result from the asset allocation process.

#### **THINK TANK LEADERS:**

- I. **Jim Callahan, CFA**, *EVP, Manager, Head of Fund Sponsor Consulting*, Callan Associates  
**Carlos Borrromeo**, *Chief Investment Officer*, Arkansas Public Employees' Retirement System  
**Jennifer Paquette, CFA**, *Chief Investment Officer*, Colorado Public Employees Retirement Association
- II. **Elizabeth Crisafi**, *Chief Investment Officer*, San Diego City Employees' Retirement System  
**Amanda Montgomery**, *Director, Senior Relationship Manager*, Allianz Global Investors  
**Steven Voss**, *Principal*, Hewitt EnnisKnupp
- III. **Donald Pierce**, *Chief Investment Officer*, San Bernardino County Employees' Retirement Association  
**Gregory Samay**, *Chief Investment Officer*, Fairfax County Retirement System  
**Ian Toner, CFA**, *Managing Director*, Strategic Research, Wurts & Associates
- IV. **Michael Brakebill**, *Chief Investment Officer*, Tennessee Consolidated Retirement System  
**Timothy Price, CFA**, *Chief Investment Officer*, Contra Costa County Employees' Retirement Association  
**Neil Rue**, *Managing Director*, Pension Consulting Alliance
- V. **Ron Lind**, *Public Member*, CalPERS Board of Administration  
**Michael A. Rosen**, *Principal & Chief Investment Officer*, Angeles Investment Advisors LLC  
**David Silber**, *Chief Investment Officer*, Milwaukee Employees Retirement System

12:45 - 2:15

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### Seated Lunch and Featured Speaker

#### *Inside the West Wing*

Gene Sperling shares with audiences insights on today's most pressing U.S. and global economic challenges—and solutions. Drawing on his recent experience serving as director of the National Economic Council and principal economic policy advisor for President Obama, Sperling provides an assessment of a myriad of global economic issues, including: the current U.S. and global economic landscape; critical economic policy issues impacting the U.S. economy—including corporate tax reform; government-sponsored economic reform, skill challenges in the 21st century and the impact and future of the affordable care act (ACA); and economic lessons from 12 years in the west wing.

**Gene Sperling**, *Director*, National Economic Council and *Assistant to the President for Economic Policy (2011-2014 and 1997-2001)*; *Senior Counselor to Secretary of Treasury (2009-2011)*; *Consultant*, NBC's Award-Winning West Wing

2:15 – 3:00

### Case Study: Inside a Bold, Derivatives-Heavy, Asset Allocation Strategy

Nearly a decade ago, the Healthcare of Ontario Pension Plan - then a reasonably classic 60/40 fund - decided to embark on a new approach to asset allocation. Splitting between "risk free" and "return-producing" buckets may sound very familiar to pension fund counterparts. Yet having a return-seeking portfolio comprised almost entirely of derivatives is far more unusual. This CAD 52 billion fund has a levered value of nearly CAD 120 billion. Using a case study format, HOOPP's James Keohane will explore this radical change.

**James Keohane**, *President & Chief Executive Officer*, Healthcare of Ontario Pension Plan

3:00 - 3:45

### The Road Less Traveled: Combining Uncorrelated Alphas to Achieve Higher Returns

Many investors reaching for incremental returns are all reaching in the same direction -- which pushes up certain asset prices and ultimately reduces yields. Moreover, their choices are often highly correlated with existing assets, so total portfolio risk is increased more than the potential additional returns. A more reliable path to higher returns entails finding new return streams that are not correlated with existing holdings. Because there are a limited number of beta sources with low correlations it can be difficult to raise returns through beta alone. However, there are many alphas sources with low correlations. Accessing them, particularly in ways that work well with beta, is an under-utilized strategy which deserves more attention. This presentation will explore how investors can effectively combine uncorrelated alpha with their asset allocation.

**Paul Podolsky**, *Senior Portfolio Strategist*, Bridgewater Associates, LP

3:45 - 4:15

### Coffee Break

4:15 - 5:00

### Living Forever. Really?!

Rising life expectancy is nearly always considered a good thing. But as people live longer, the financial demands mount. Enter Aubrey de Grey, chief science officer at the Mountain View, California-based SENS Research Foundation, which is funding rejuvenation biotechnology research in more than a dozen laboratories that is aimed at extending the aging process. New medicines for age-related disease and disability that actually reduce an individual's medium-term mortality risk rather than merely slowing its rise, will precipitate a magnitude of departure from past trends that far exceeds anything seen thus far. As an illustration, period life expectancy will very suddenly become incalculable because most people alive will be predicted to live longer than anyone has lived so far. De Grey will discuss why this need not be a disaster for the pension industry - only for those who do not anticipate it and plan accordingly.

**Aubrey de Grey**, *Chief Science Officer*, SENS Research Foundation

5:30

### Meet in Hotel Lobby for Departure to Private Home in The Hills

6:00 - 8:30

### Lifestyles of the Rich & Famous

Join us for a reception and dinner in this incredible home perched atop famous Mulholland Drive. This spectacular venue provides the perfect setting for wining and dining in true A-list celebrity style. Welcome to Beverly Hills!

## Friday, April 24, 2015

7:00 – 8.15

### Private Breakfast for Heads of Investment Offices

#### Breakfast Chairs:

**Cheryl D. Alston**, *Executive Director*, Employees' Retirement Fund of the City of Dallas

**Vijoy Chattergy**, *Chief Investment Officer*, Hawaii Employees Retirement System

7:15 – 8.15

### Buffet Breakfast and Registration

8:15 – 8.45

### Inflection Points and Imbalances

In today's investment environment it is imperative that decision-makers take note of momentum and imbalances. Taking a view of the longer horizon, this speaker will address such issues as: recovering from the great recession – cyclical vs. structural trends; imbalances accumulated in the global economy and the financial system; and balancing opportunity vs. global imbalances.

**Sam DeRosa- Farag**, *Senior Strategist*, Marinus Capital Advisors, LLC

8:45 – 9.15

### Saving Stockton's Pension Plan – An Insider's View

Marc Levinson, attorney for the City of Stockton, takes us behind the scenes in the city's bold plan to claim bankruptcy while shielding public pensions. It's a case watched by cities around the country. Pension advocates and industry members nationwide have been closely following the case to see whether pensions would be protected – but the ramifications are profound. Just ask the Stockton municipal bond investors!

**Moderator: Rich Blake**, *Global Content Editor*, Investor Intelligence Network (IIN) – Institutional Investor

**Marc A. Levinson**, *Partner, Restructuring Group*, Orrick

9:15 - 9:30

### Coffee Break

9:30 - 10:15

### Workshops (Concurrent Sessions)

#### 1. Impact Investing

Identifying opportunities that fit a client's goals from both a financial and societal perspective can be a challenge as plan sponsors seek investment approaches designed to support specific social and environmental benefits without compromising financial performance potential. What is the ideal framework for categorizing and evaluating the type of societal impact an investment product may be expected to offer? How can investors access these vehicles and properly evaluate their financial integrity, societal impact as well as their realistic return potential? Should this concept be executed as part of the aggregate portfolio strategy or as a carve-out with a different governance structure and related metrics? And, of course, how do you know if your program is a success? This panel will explore the latest thinking on impact investing.

**Moderator: John M. Elliot**, *Partner*, NEPC, LLC

**Scott Barrington**, *Managing Director and CEO*, North Sky Capital



**Timothy J. Coffin**, *Senior Vice President*, Breckinridge Capital Advisors

**Michelle Huang**, *Director*, Generation Investment Management US LLP

**Rick Miller**, *Former Board Chair*, OMERS Administration Corporation

**Brian A. Rice**, *Portfolio Manager*, *Corporate Governance*, CalSTRS

## 2. Hunting for Value in Emerging Markets

Unlike five years ago when they proved strong enough to lift the world out of its slump, emerging markets are now stumbling, too. A property slump in China is pushing down the nation's annual growth to what analysts project is the slowest pace since 1990, while Brazil is trying to escape its recession it entered in the first half of the year. Some emerging markets are being sideswiped by subpar global growth as geopolitical tensions from the Ukraine conflict also weigh on investor confidence and threaten to sink Russia's economy into a recession. But not all emerging markets are created equal. While some markets struggle, India is on a tear as investors bet that new prime minister can boost with the economy with market-minded reforms. Indonesia and Thailand are also bright spots. Thus, despite decidedly uneven recent performance, many still believe these markets offer a significant long-term growth prospect. But what is the relationship between a nation's economic growth and the trends in its financial markets? How should investors evaluate emerging market opportunities on both the debt and equity side? And what is the proper way to evaluate investment results in emerging markets? Is benchmarking to the MSCI EMs index a viable approach? And what is the proper perspective from which to view emerging markets: Should investors think globally, regionally, or country-by-country? This panel of emerging market experts will discuss and debate the outlook for emerging markets and how investors can best play this sector.

**Andrew Greene**, *Director*, *Public Market Investments*, Ontario Public Service Employees Union (OPSEU)

**Michael Rosborough**, *Senior Portfolio Manager - Global Fixed Income*, CalPERS

*Additional speakers to be announced*

10:15 - 11:15

## Governance That Works

Now, more than ever, pension funds are facing increasing pressures from all of their key stakeholders— employees, pensioners, employer agencies, taxpayers and elected officials – to implement leading edge governance and risk management practices in order to position their funds for improved performance, while addressing risks related to the financial markets and global economy. What are the potential structural changes which can lead to improved fiduciary and investment performance? What actions can be taken to improve fiduciary performance which do not require fundamental changes to the laws or governance structure? How can a plan ensure that there is proper alignment of the fund's governance and policy framework, investment operations, and compliance and controls? This case study and subsequent panel discussion will explore and identify what are the real problems surrounding plan governance and what are the alternatives to solving them.

### a. Case Study

**David Asselstine**, *VP Finance & Chief Risk Officer*, Teachers' Retirement Allowances Fund

### b. Panel Discussion

**Moderator: David Asselstine**, *VP Finance & Chief Risk Officer*, Teachers' Retirement Allowances Fund

**Matthew Clark**, *CFA, Chief Investment Officer*, South Dakota Investment Council

**Ruth Ryerson**, *Executive Director*, Wyoming Retirement System

**H. Craig Slaughter**, *Executive Director*, West Virginia Investment Management Board

**Steve Yoakum**, *Executive Director*, Public School & Education Employee Retirement Systems of Missouri

11:15 - 12:00

### The Innovators

Investors are always looking for the next new thing. However, uncovering these opportunities requires a special ability to think-outside-the-box while still keeping in mind the end goals of the portfolio. Hear from those who are leading the hunt for emerging, unconventional strategies that can demonstrate an ability to deliver a consistent return, bringing niche and exotic to new heights within the realm of public funds. What are they considered? What have they embraced? And what have they taken a pass on?

**T.J. Carlson**, *Chief Investment Officer*, Texas Municipal Retirement System

**Chi Chai**, *Senior Managing Director-Internal Public Markets*, Teacher Retirement System of Texas

**Dave Underwood**, *CFA, Assistant Chief Investment Officer*, Arizona State Retirement System

12:00– 12:45

### Trends in Compensation

This presentation will help answer key questions including how compensation levels have moved in recent years; how pay differs by industry segment for public plans versus corporate pensions, endowments & foundations and investment management firms; and what do typical incentive plans look like these days?

**Adam Barnett**, *Head of Asset Management*, McLagan

**Michael Oak**, *Director*, McLagan

12:45 - 1:45

### Buffet Luncheon

**Roundtable Concludes**

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