VCERA 2012 Investment Policy Retreat

October 4, 2012

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Agenda

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VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
BOARD OF RETIREMENT INVESTMENT RETREAT

Thursday, October 4, 2012
Ventura Beach Marriott
2055 East Harbor Boulevard, Ventura, California 93001

AGENDA

8:30 a.m. Continental Morning Break (Las Brisas I)

9:00 a.m. **Introductions, Administrative Matters, and Review of Agenda**
Las Brisas I

Tracy Towner, Vice Chair

9:10 a.m. **Macro Economic Update**
Las Brisas I

Rob Arnott, Chairman, Research Affiliates, LLC will speak to the state of the economy and the firm's views on current valuations and anticipated rates of return. This segment will provide the initial set of data points for later discussions from which to launch into a debate on the efficacy of the current rebalancing practices and the portfolio policy, with a particular focus on VCERA's 10% allocation to Real Return.

10:00 a.m. Break

10:30 a.m. **Is it Time to Become More Active in Rebalancing Decisions?**
Las Brisas I

HEK will review the most current medium term market views along with approaches to how institutional investors are using these assessments to manage risk, rebalance their portfolios, identify new opportunities and implement more effectively long-term investment strategies. Ben Lazarus of Clifton will discuss options for measuring the value being added by the rebalancing program. This session will conclude with a joint plan from staff and the consultants about how to best utilize these measures to be more active (rather than passive, or naïve vs. intelligent) in re-balancing the total fund.

12:00 Noon **Working Lunch – "Inflation Risk Re-Examined"**
Las Brisas I

Louis D. Finney, Executive Director, UBS Global Asset Management, will discuss "all things" related to "flation" – "in", "dis" and "stag."

1:00 p.m. **A Range of "Alternatives": CPI-Plus and Real & Absolute Return Strategies**

Las Brisas I

As VCERA looks to diversify beyond traditional stocks and bonds, there are a wide range of options. Some approaches are geared to hedging inflation, while others focus on generating absolute returns independent of economic forces. In considering the array of available strategies, we must consider how each would fit within the broader portfolio. Adam L. Berger, CFA, Vice President & Asset Allocation Strategist and Scott C. Geary, CFA, Vice President & Business Development Manager of Wellington Management will present a framework for understanding the different approaches and assessing their potential role in diversifying the portfolio. Andrew Goldsmith, Head of Institutional Sales & Consultant Relations of Tortoise Capital Advisors will cover Master Limited Partnerships (MLPs) as a potential component of Real Return.

2:30 p.m. Break

3:00 p.m. **Global Private Equity**

Las Brisas I

Kevin Vandolder of HEK will update the Board on the state of the private equity program that is being implemented for the Plan. A particular focus of this presentation will be on current investing opportunities, the condition of the marketplace, and pacing of the program and the striking of a work plan to continue investing in private equity on a more direct and cost effective manner.

4:30 p.m. **Board Member Reaction, Comment and Ideas for the Future**

Las Brisas I

Moderated by Russ Charvonia and Kevin Vandolder of HEK, and Donald Kendig of Staff, this session is meant to provide the Board the opportunity to reflect on the day's discussions, to discuss potential modifications to the investment information provided during Board meetings, and to determine next steps in the implementation of the Board's asset allocation.

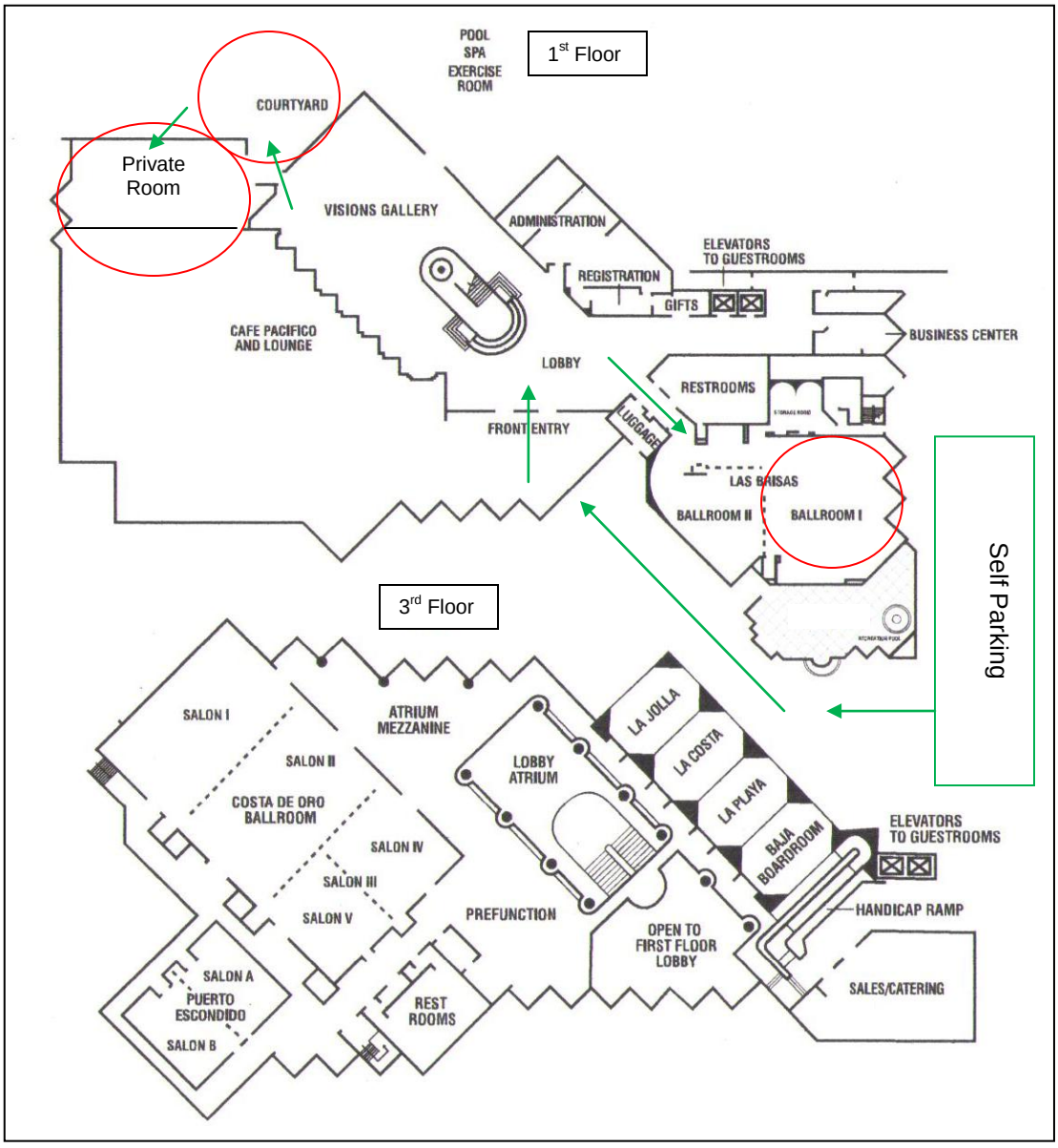
5:00 p.m. Reception

Courtyard

6:00 p.m. Dinner

Café Pacifico
and Lounge
(private room)

HOTEL GUIDE


1st Floor
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EXERCISE
ROOM
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Private
Room
VISIONS GALLERY
ADMINISTRATION
ELEVATORS
TO GUESTROOMS
REGISTRATION
GIFTS
BUSINESS CENTER
CAFE PACIFICO
AND LOUNGE
LOBBY
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LAS BRISAS
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Self Parking
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LOBBY
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LA COSTA
LA PLAYA
BAJA
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ELEVATORS
TO GUESTROOMS
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PREFUNCTION
OPEN TO
FIRST FLOOR
LOBBY
SALON A
PUERTO
ESCONDIDO
SALON B
REST
ROOMS
SALES/CATERING

SPEAKER BIOS

Hewitt EnnisKnupp, Inc., an Aon Company

Kevin Vandolder, CFA, Partner
Kevin.Vandolder@AonHewitt.com

Kevin Vandolder, partner, serves as a primary consultant and manages consulting assignments for a select number of Hewitt EnnisKnupp retainer and project clients. Kevin has led the firm's U.S. equity manager research area along with the defined contribution (DC) team over the past 8 years and currently leads the DC research efforts.

Before joining Hewitt EnnisKnupp in 1996, Kevin spent four years in the corporate finance group of the $9 billion Westcoast Energy group of companies and has previously served in the Canadian Navy (reserve) and Presbyterian World Service.

Kevin holds a B.Comm. degree in finance from the Odette Business School at the University of Windsor and is a CFA charterholder. He is a member of the CFA Society of Chicago where served over the past decade in many capacities including President and Treasurer. Kevin remains active on CFA Institute committees while serving many years as a grader for the Chartered Financial Analyst examination.

Kevin has served as an adjunct faculty member at DePaul and Northwestern University while serving on industry organizations such as the PSCA/401(K) Council's Legal and Legislative Committee, Executive Committee member of the Defined Contribution Institutional Investment Association and an active member of the Executive Club of Chicago. In addition, Kevin continues to be quoted in the industry press including Money Management Letter, Fund Fire, and Pension & Investments and remains active in speaking at industry conferences.

Russ Charvonia, ChFC, CFP®, Esq Partner
Russ.Charvonia@AonHewitt.com

Russ Charvonia, partner, serves as a senior investment consultant in our U.S. investment consulting practice, Hewitt EnnisKnupp. Russ previously served as chairperson of The Grand Lodge Free and Accepted Masons of California Investment Committee, which is a current retainer client of Hewitt EnnisKnupp. Russ is based in our Los Angeles office.

Prior to joining the firm, Russ was a Managing Member of The Renaissance Group and prior to that was a financial advisor with American Express Financial Advisors. He attended various colleges for undergraduate studies and graduated from the Ventura College of Law with a Juris Doctorate in 2003. Russ is a Certified Financial Planner®, Chartered Financial Consultant, and Chartered Life Underwriter. He is a registered representative holding Series 7, 24 and 63 licenses from FINRA. He is a CFA Level I candidate.

Kevin J. Chen, Senior Consultant
Kevin.Chen@AonHewitt.com

Kevin J. Chen is a senior consultant based in HEK's Los Angeles office. Kevin is responsible for all aspects of investment consulting services, including investment manager analysis and monitoring, performance evaluation, asset allocation, investment manager searches, and investment policy development. Kevin has over 15 years of experience in the investment industry, and he has been with HEK over 5 years. Before joining HEK, Kevin was investment manager for a large Indian Tribe overseeing a multi-billion dollar pool in enterprise assets. Prior to that, Kevin was an equity research analyst with primary responsibilities within international and domestic value portfolios; managing assets for plan sponsors, high-net worth individuals, institutions, and foundations. Kevin began his career at Merrill Lynch as a wealth strategist. Kevin holds a Bachelor of Science degree in Business Administration/Finance from California State University, Northridge (CSUN). Mr. Chen is a member of the Chartered Financial Analyst (CFA) Society of Los Angeles and is a CFA Level II candidate.

Research Affiliates

Rob Arnott, Chairman

Mr. Arnott is the founder and chairman of Research Affiliates, a subadvisor to PIMCO. Research Affiliates joined with PIMCO to offer one of the first global asset allocation products that makes active use of liquid alternative markets, beyond conventional stocks, bonds and cash. Mr. Arnott has authored over 100 articles for journals, such as the Financial Analysts Journal, the Journal of Portfolio Management and the Harvard Business Review, and served as editor of the Financial Analysts Journal. In 2002, he established Research Affiliates to offer products like subadvisory services, software and asset allocation models. In the past, he also served as a visiting professor of finance at UCLA, on the editorial board of the Journal of Portfolio Management and two other journals, and on the product advisory board of the Chicago Board Options Exchange and two other exchanges. He previously developed quantitative asset management products and teams as president of TSA Capital Management (now TSA/Analytic) and as vice president at The Boston Company (now PanAgora), and served as global equity strategist at Salomon Brothers. He graduated summa cum laude from the University of California, Santa Barbara in 1977 in economics, applied mathematics and computer science.

The Clifton Group

Ben Lazarus, CFA, Director, Institutional Relationships
blazarus@thecliftongroup.com

Benjamin Lazarus joined The Clifton Group in 2004. He is responsible for developing, coordinating, and executing the business development and client services plan for Clifton's unique family of products with emphasis on the Western region of the United States and Canada. In addition, Ben works on developing new strategies for Clifton and has presented

on the use of derivatives at different industry events. Prior to joining Clifton, he was the Director of Sales Strategy at Deluxe Corporation in St. Paul, Minnesota. Ben holds a BA in Psychology from the University of California, San Diego and an MBA in Marketing and Strategic Management from the University of Minnesota. He is a CFA charterholder and a member of the CFA Society of Minnesota.

Tortoise Capital Advisors

Andrew Goldsmith, Head of Institutional Sales & Consultant Relations
agoldsmith@tortoiseadvisors.com

Mr. Goldsmith joined Tortoise Capital Advisors in 2011 to lead the institutional sales efforts for the firm. He is responsible for marketing the firm's institutional energy MLP capabilities and to educate the investors and consultants about the Energy MLP sector. He brings more than 16 years of experience, most recently with ClearBridge Advisors, where he served in a similar role as Institutional Sales Manager. Prior to ClearBridge, he worked at Reserve Funds, Bear Stearns and Kemper Funds all in a sales and marketing capacity. Mr. Goldsmith is a graduate of Haverford College and has his FINRA series 7, 63 and 24.

UBS

Louis D. Finney, PhD, Global Investment Solutions, Defined Contribution Specialist Executive Director

Years of investment industry experience: 26

Education: University of Maryland, PhD (Economics); Johns Hopkins University, BA

Louis supports the development and implementation of investment strategies and products for the defined contribution marketplace. He develops the strategic asset allocation for target date funds, inflation protection and real return strategies, and strategies for the transition from retirement to receiving deferred annuities.

Before joining UBS in 2011, Louis was Chief Economist and Principal at Mercer Investment Consulting, where he focused on capital market research and strategic asset allocation. He set capital market assumptions, developed tools to model the capital markets and integrate them with asset/liability systems, and portfolio construction with multiple managers. Louis also had corporate defined benefit and defined contribution clients and assisted in special projects across the US. He sat on several national and global committees.

Louis received his PhD in Economics from the University of Maryland in 1987. He graduated from Johns Hopkins University in 1978.

Wellington Management

Adam L. Berger, CFA, Vice President and Asset Allocation Strategist

As an asset allocation strategist, Adam develops research on capital market and asset allocation themes, advises clients and prospects on investment strategy and policy issues, and implements investment solutions for clients.

Prior to joining the firm in 2012, Adam was the head of Portfolio Solutions at AQR Capital Management, where he delivered thought-leading research and ideas to existing and prospective investors, including white papers, customized research, and proprietary analytical tools (2007 — 2012). At Goldman Sachs Asset Management, Adam served as a research strategist in Global Investment Strategies and as chief of staff to the heads of GSAM. During his 11 years at Goldman Sachs, Adam also worked in the firm's Pension Services Group and Equities Division.

Adam earned his MBA with honors with a concentration in finance from the Wharton School at University of Pennsylvania (2002). He earned his AB in Philosophy, magna cum laude, from Harvard College (1995). Additionally, he holds the Chartered Financial Analyst designation and is a member of the CFA Institute.

Scott C. Geary, CFA Vice President and Business Development Manager

Scott is a US business development manager in the Global Relationship Group at Wellington Management. He is responsible for introducing the firm's capabilities to corporate, public, and endowment and foundation organizations in the western US region.

Prior to joining Wellington Management in 2009, Scott worked at Goldman Sachs, predominantly in Equity Research and Equity Franchise Sales as a vice president in San Francisco and Boston, respectively (1998 — 2009). Prior to Goldman, Scott worked in San Francisco in US Equity Research Sales for Deutsche Bank, JP Morgan, and Genesis Merchant Group Securities.

Scott holds an MBA from the Johnson Graduate School of Management at Cornell University (1993) and a BA, cum laude, from the University of Vermont (1987). Scott also holds the Chartered Financial Analyst designation and is a member of the San Francisco Security Analysts Society.

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Macro Economic Update

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PIMCO

Your Global Investment Authority

Real Return Investing: Lessons from the Past, Thoughts about the Future

2 October 2012

Investors should consider the investment objectives, risks, charges and expenses of the funds carefully before investing. This and other information are contained in the fund's prospectus and summary prospectus, if available, which may be obtained by contacting your financial advisor or PIMCO representative or by visiting www.pimco.com/investments. Please read them carefully before you invest or send money.

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Lessons from the past thoughts about the future

- What did the "naughts" teach us?

- The "3-D" hurricane force headwind:
  - Deficit
  - Debt
  - Demographics

- Where are the opportunities today?
- How is the All Asset Fund currently positioned and how has it performed?

What did the "Naughts" teach us?
Was it a lost decade and counting?

Only for investors who were
(1) Equity centric and
(2) Cap-weighted

Revisiting core principles

- Conventional view: stocks for the long run misconceptions
  - "Stocks beat bonds by 5% a year over the very long run"
  - Historically predicated on higher yields than we've seen in 20 years
  - Largely fueled by falling dividend yields and rising PE ratios
  - Net of these effects historically would have seen half this, 2.5%
  - "Stocks beat bonds for anyone willing to think long term"
  - "Stocks loft from new high to new high with each new bull market"
- The past 10 years has seen a massive revaluation of risk
  - The 10-year realized "risk premium" has been negative
  - Now prices are down and prospective rewards for risk-bearing up
  - Are stocks yet priced to deliver a large risk premium again? Not likely

Refer to the appendix for additional forecast and risk information.

2000-2011: A Lost decade and counting?

	Asset Class	Benchmark	Return (as of 12/31/2011)
Fixed Income	Emerging Markets Bonds	JPM EMBI Plus	10.87%
	Long Treasury	BarCap US Treasury Long	9.45%
	Long Credit	BarCap US Long Credit	8.56%
	TIPS	BarCap US Treasury US TIPS	8.06%
	High-Yield Bonds	BarCap US Corporate High Yield	7.24%
	Emerging Local Currency	JPM ELMI+	7.01%
	Core Bonds	BarCap US Agg Bond	6.47%
	Bank Loans	Credit Suisse Leveraged Loan	4.55%
	Short-Term Bonds	ML US Corp&Govt 1-3 Yr	4.36%
	Convertibles	ML Convertible Bonds All Qualities	3.67%
Asset Allocation	**Equally Weighted 16 Asset Classes**	**EW 16 Asset Classes**	**6.99%**
	60/40	**60% S&P 500/ 40% BarCap Agg**	**3.24%**
Equity	Emerging Markets Equities	MSCI Emerging Markets (Gross)	8.13%
	Small Cap US Equities	Russell 2000	4.61%
	Global Equities	MSCI AC World	1.19%
	Developed ex US Equities	MSCI EAFE (Gross)	0.93%
	Large Cap US Equities	**S&P 500**	**0.55%**
Other	REITs	FTSE NAREIT All REITs	11.29%
	Commodities	DJ UBS Commodity	6.02%
	US Inflation	**IA SBBI US Inflation**	**2.47%**

All returns are total returns and are reported in USD.
Equally Weighted 16 Asset Classes consist of all of the benchmarks above except for 60/40 S&P/BarCap and MSCI AC World.
Equally Weighted 16 Asset Classes and 60% S&P/40% BarCap Aggregate returns assume monthly rebalancing.
Source: Research Affiliates, LLC., Morningstar Encorr and Bloomberg.
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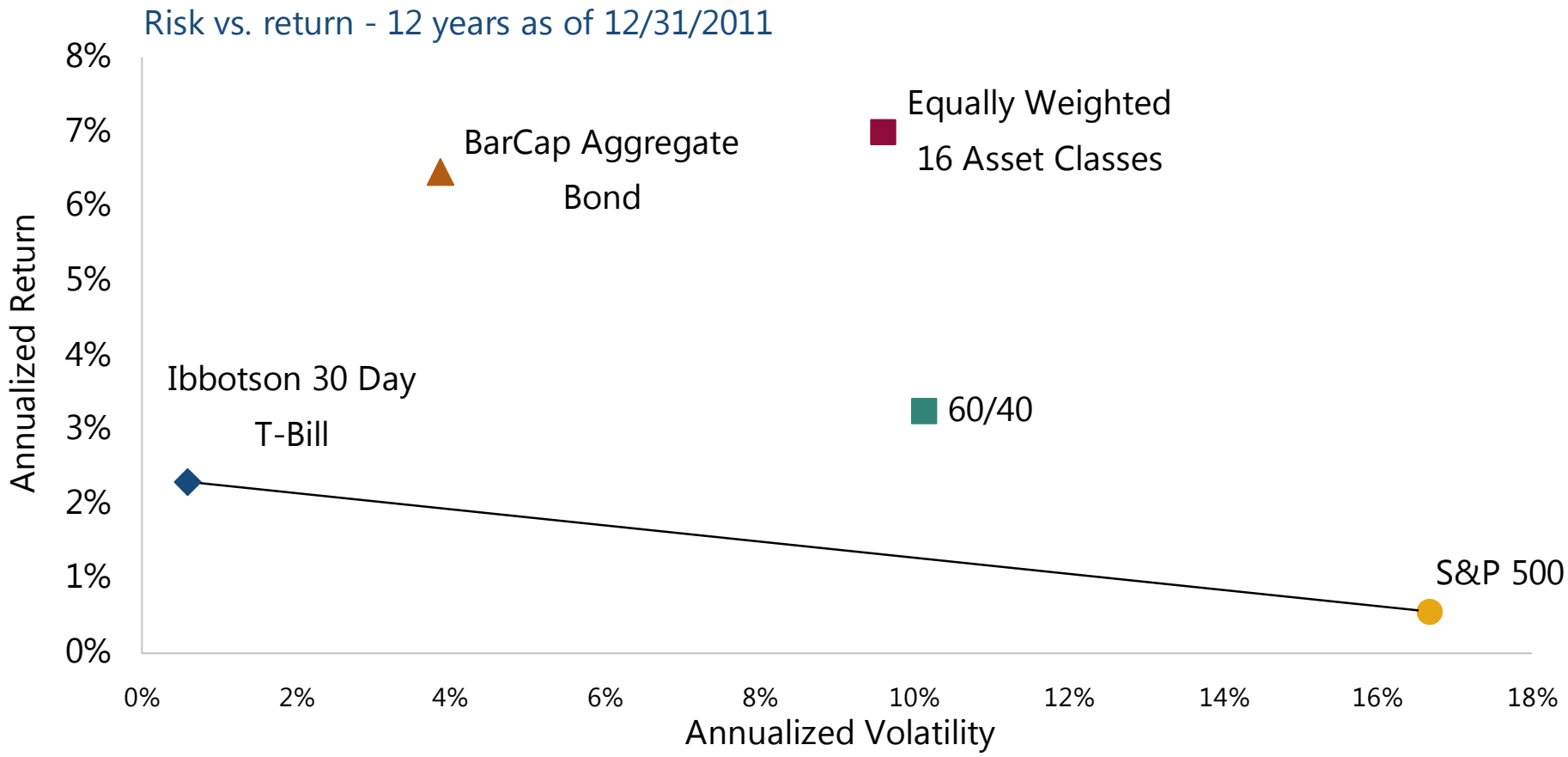
A capital market line inversion
(Why, exactly, do we seek equity-like returns at bond-like risk?)



The Equally–Weighted portfolio is comprised of the following indexes, rebalanced monthly. BoA ML US Corporate & Government 1-3 Year; BarCap US Aggregate Bond TR; BarCap US Treasury Long TR; BarCap US Long Credit TR; BarCap US Corporate High Yield TR; Credit Suisse Leveraged Loan; JPM EMBI + Composite TR; JPM ELMI + Composite; BoA ML Convertible Bonds All Qualities; BarCap Global Inflation Linked US TIPS TR; FTSE NAREIT All REITs TR; DJ AIG Commodity TR; S&P 500 TR; MSCI Emerging Markets TR; MSCI EAFE TR; Russell 2000 TR. The 60-40 portfolio is 60% S & P 500 TR and 40% BarCap Aggregate Bond TR rebalanced monthly. Past performance is no guarantee of future results.
Sources: Barclays Capital, Merrill, JPMorgan, Russell, Credit Suisse, S&P, MSCI, Dow Jones, Bloomberg, Ibbotson.
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Price indifferent indexing vs. cap weighted equities

Region	Weighting	Benchmark	(1/1/2000 through 12/31/2011)
All World	Economic Size	FTSE RAFI All World 3000	6.79%
	Market Capitalization	MSCI AC World	1.19%
US	Equal	S&P 500 Equal Weight	5.99%
	Economic Size	FTSE RAFI US	5.53%
	Market Capitalization	S&P 500	0.55%
Developed ex US	Equal	MSCI EAFE Equal Weighted (Net)	4.61%
	Economic Size	FTSE RAFI Developed ex US 1000	4.15%
	Market Capitalization	MSCI EAFE (Gross)	0.93%
Emerging Markets	Equal	MSCI EM Equal Weighted (Gross)	9.67%
	Economic Size	FTSE RAFI Emerging Markets	15.43%
	Market Capitalization	MSCI Emerging Markets (Gross)	8.13%

Source: Bloomberg
Note: All returns are total returns and are reported in USD.
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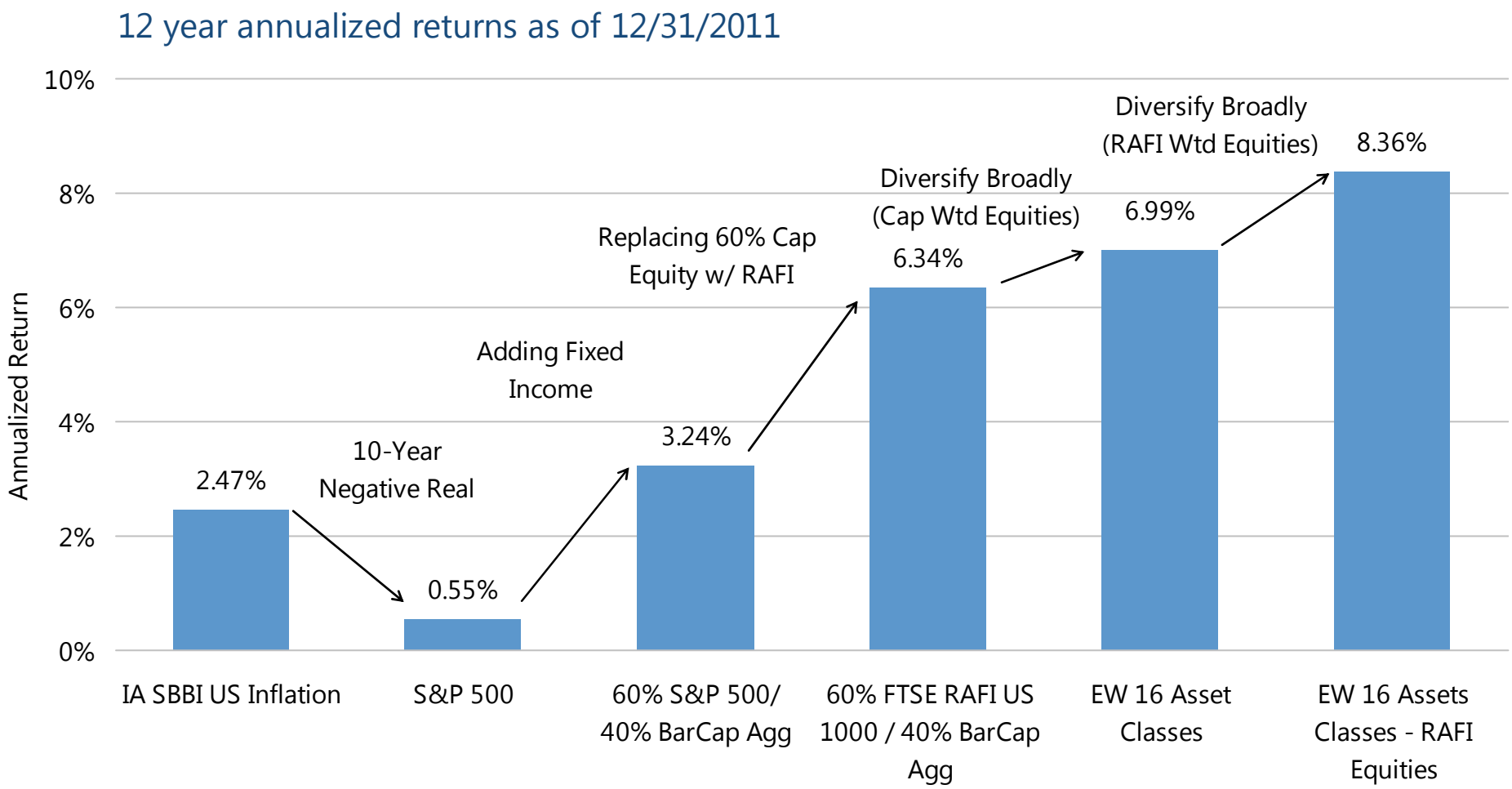
Salvaging a lost opportunity…in hindsight

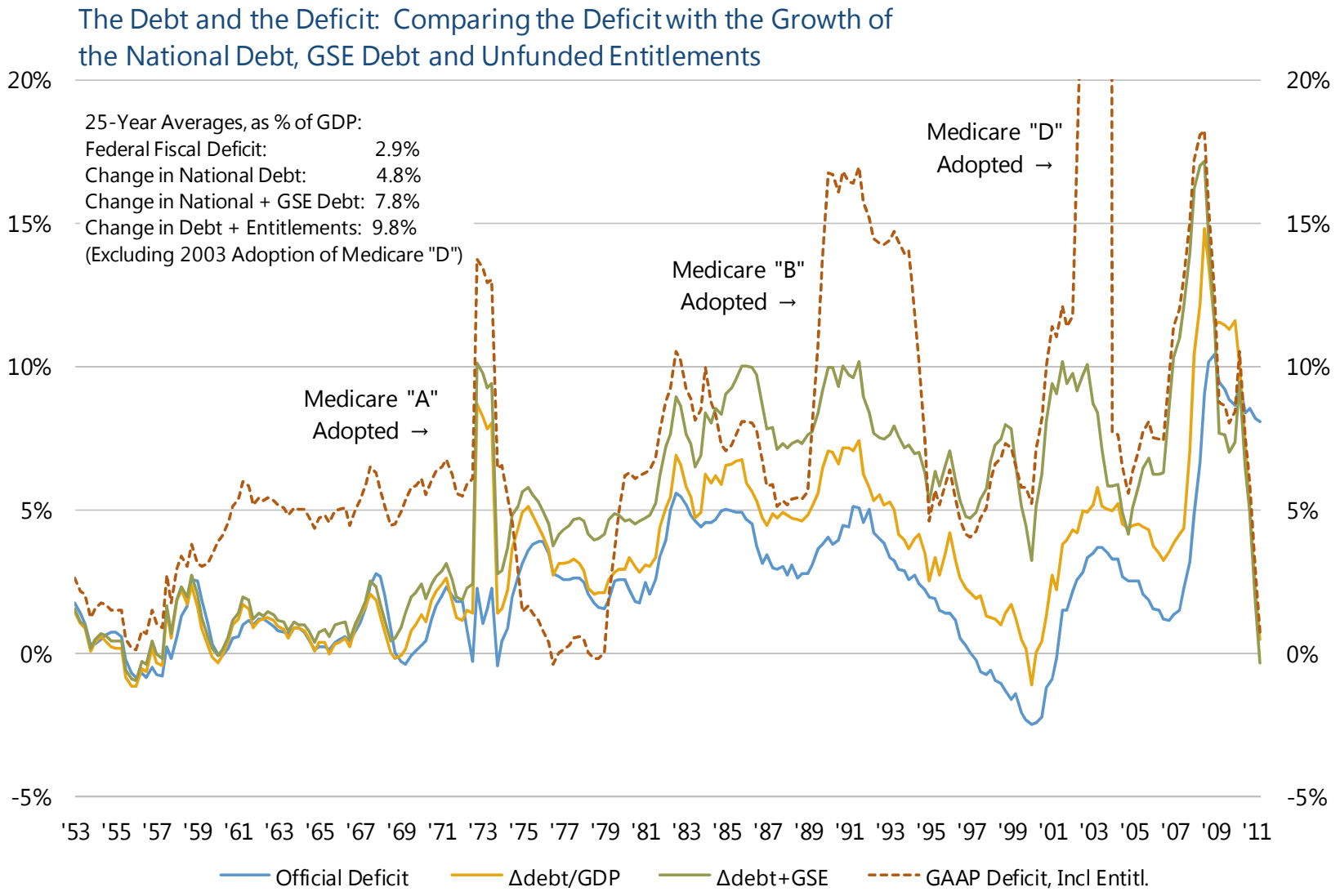


Source: Research Affiliates, Morningstar, Encorr, Bloomberg.

Looking to the future

A 3-D Hurricane:
Our deficit, debt, and demographics

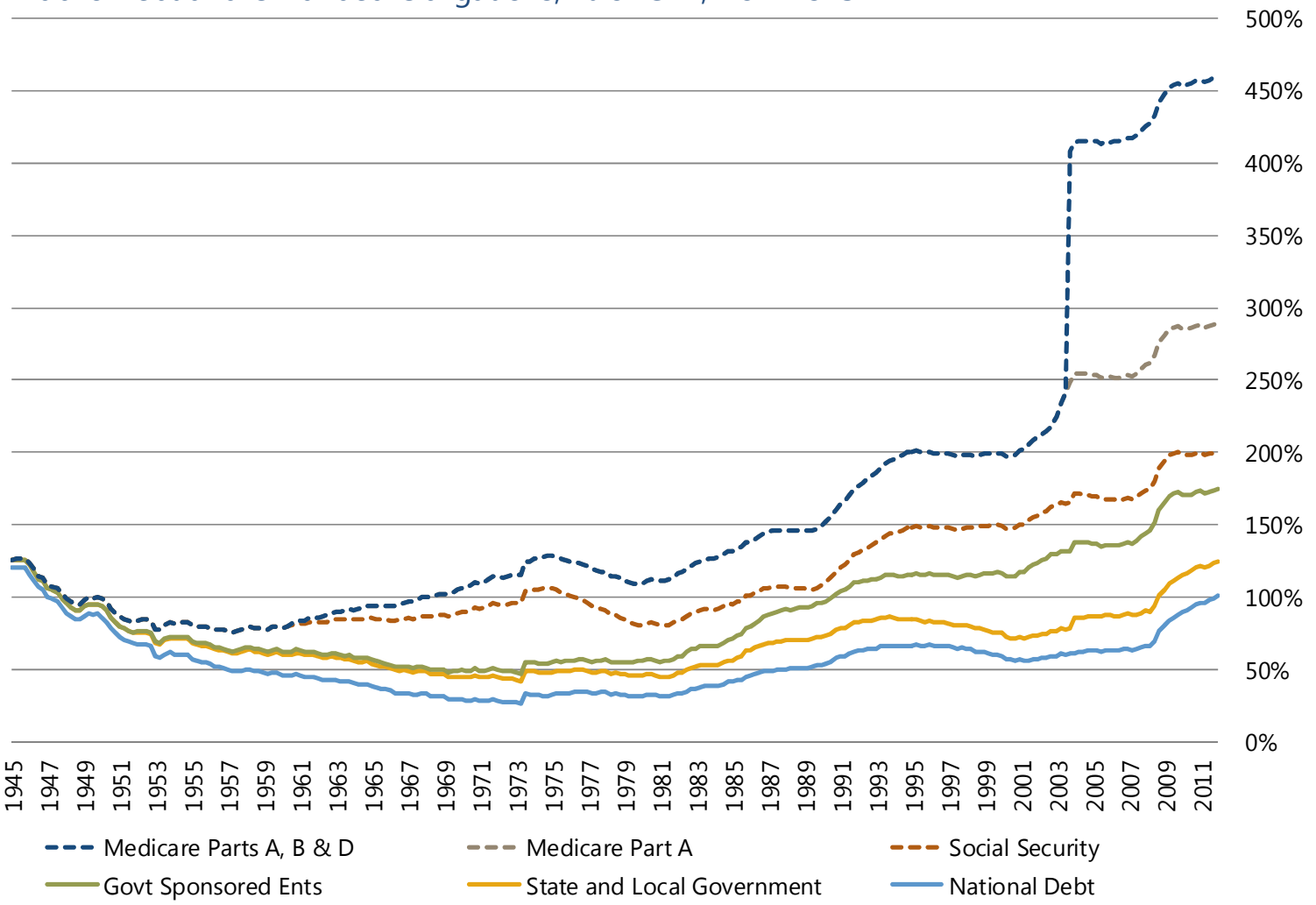
What's the true deficit? Under GAAP accounting, far higher than official statistics



Source: Research Affiliates, LLC, based on data and projections from the U.S. Treasury Department. Through 2012 Q1.

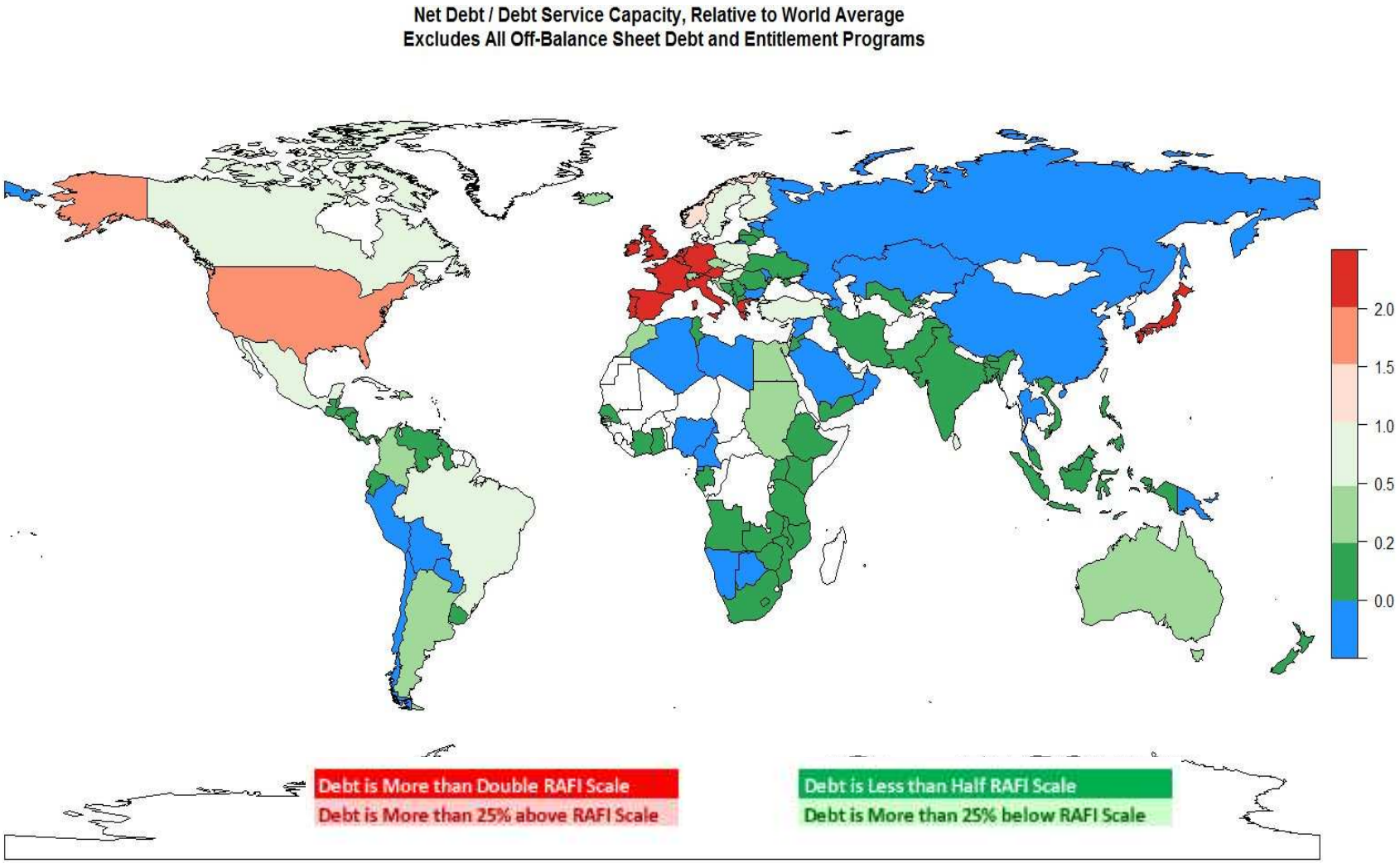
Public debt and entitlement obligations are growing at a frightful pace

Public Debt and Unfunded Obligations, % of GDP, from 1945



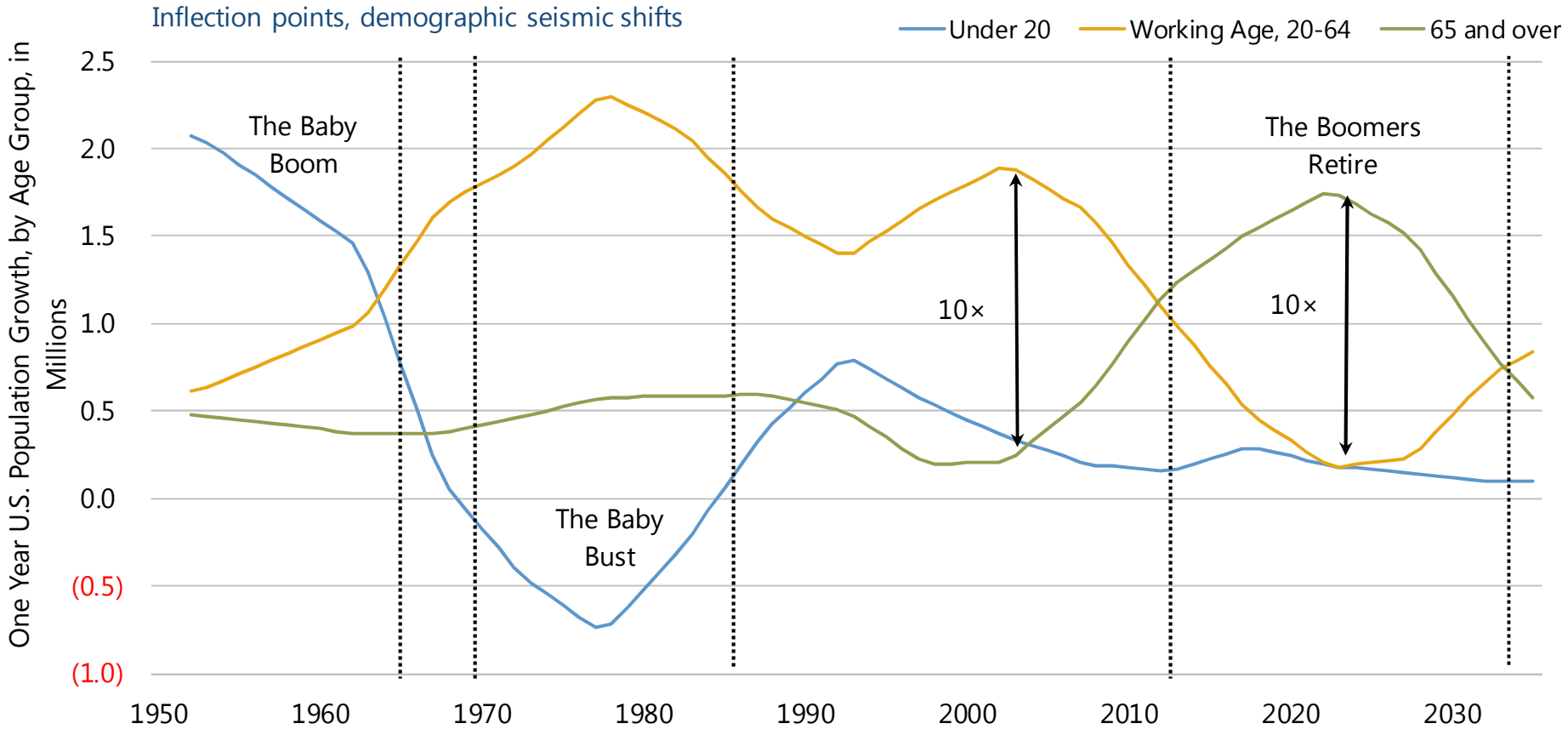
Source: Research Affiliates, LLC, based on data from the U.S. Federal Reserve Flow of Funds database and the U.S. Social Security Administration. Through 2012 Q1.

Comparing debt levels: Developed versus emerging countries



Source: Research Affiliates, LLC, based on data from CIA World Fact Book 2010, International Monetary Fund.
Note: RAFI® Scale is defined as the equal weighted average of four measures of a country's ability to repay its debt obligations: capital (GDP), labor (population), resources (land mass), and energy (energy consumption). This average is compared to the amount of a country's net debt outstanding to determine its overall debt service capability relative to the rest of the world.

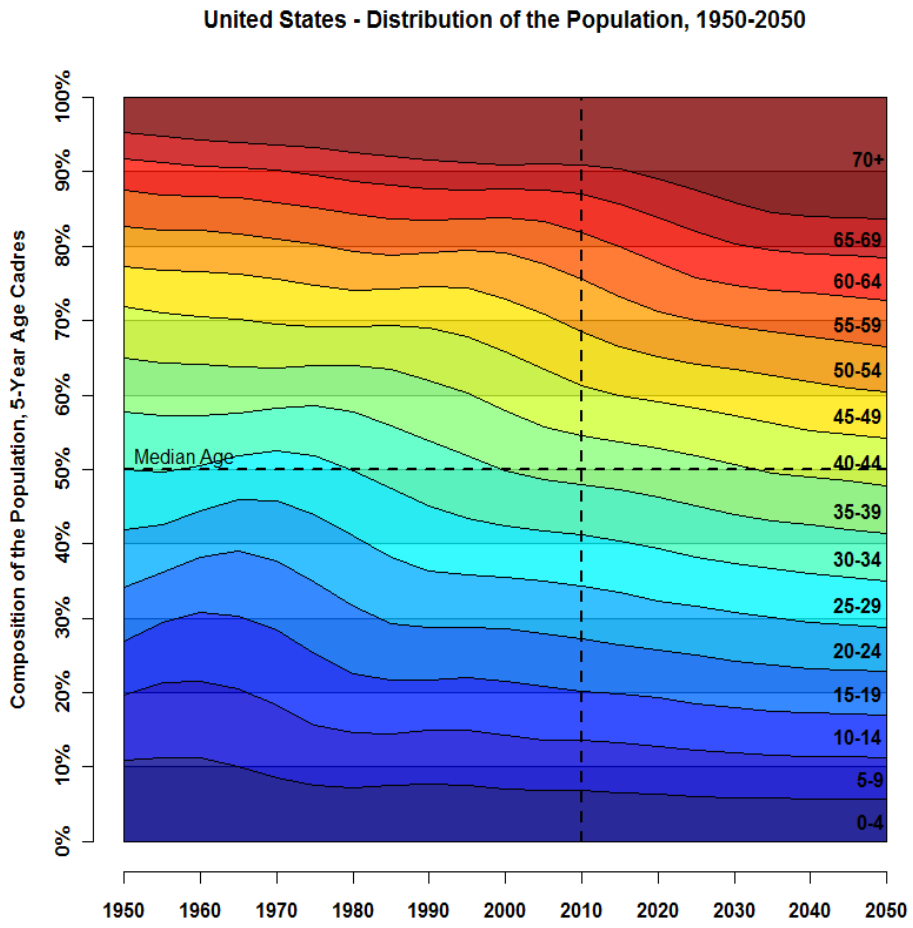
And demographics won't make this any easier in the years ahead

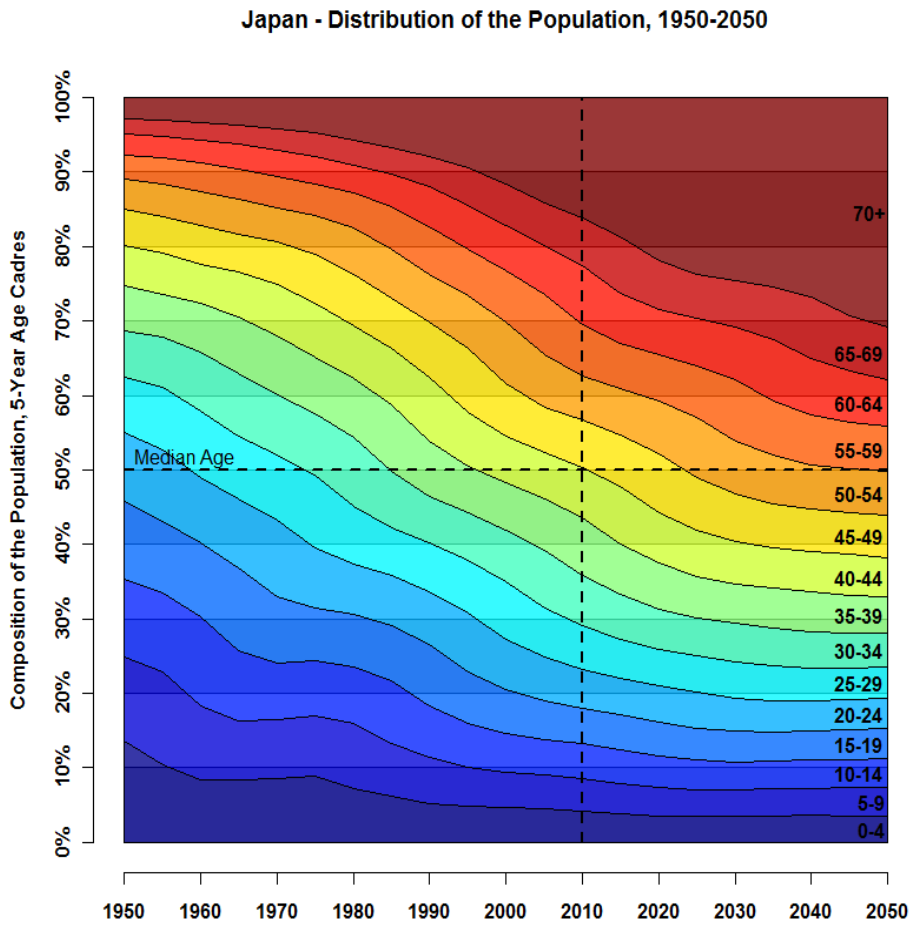


Source: Population data and projections from the U.S. Social Security Administration.

And demographics won't make this any easier in the years ahead

Whither U.S.? Whither Japan?

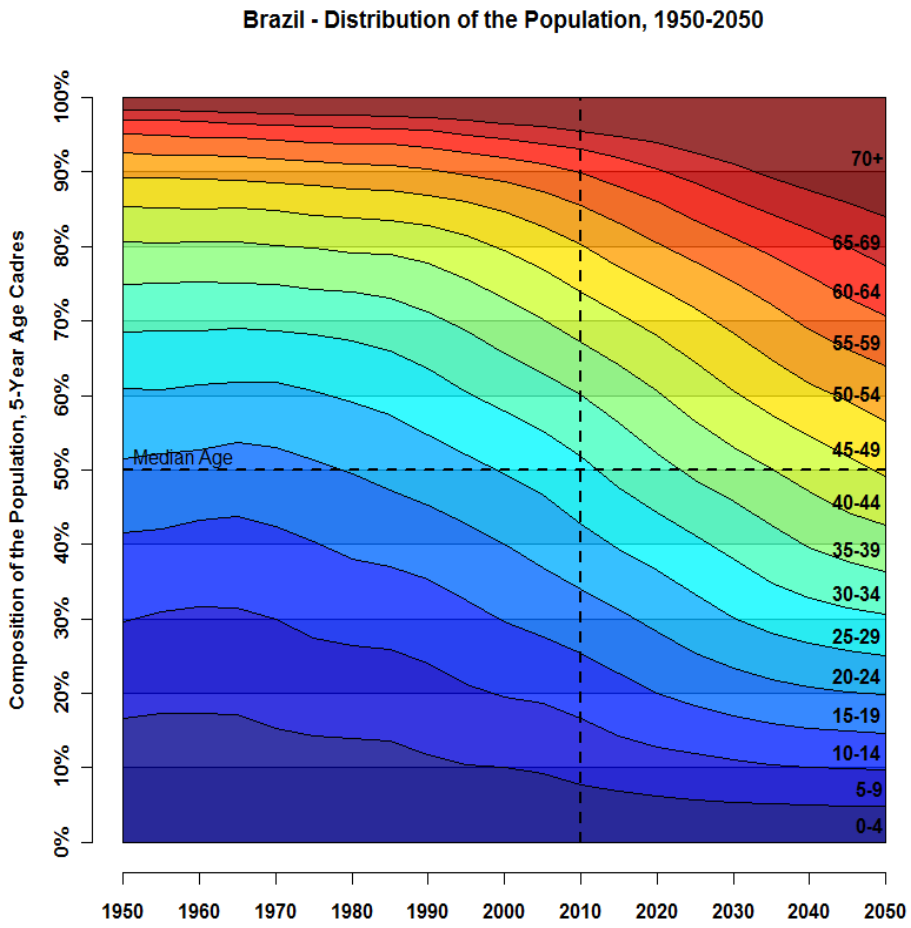


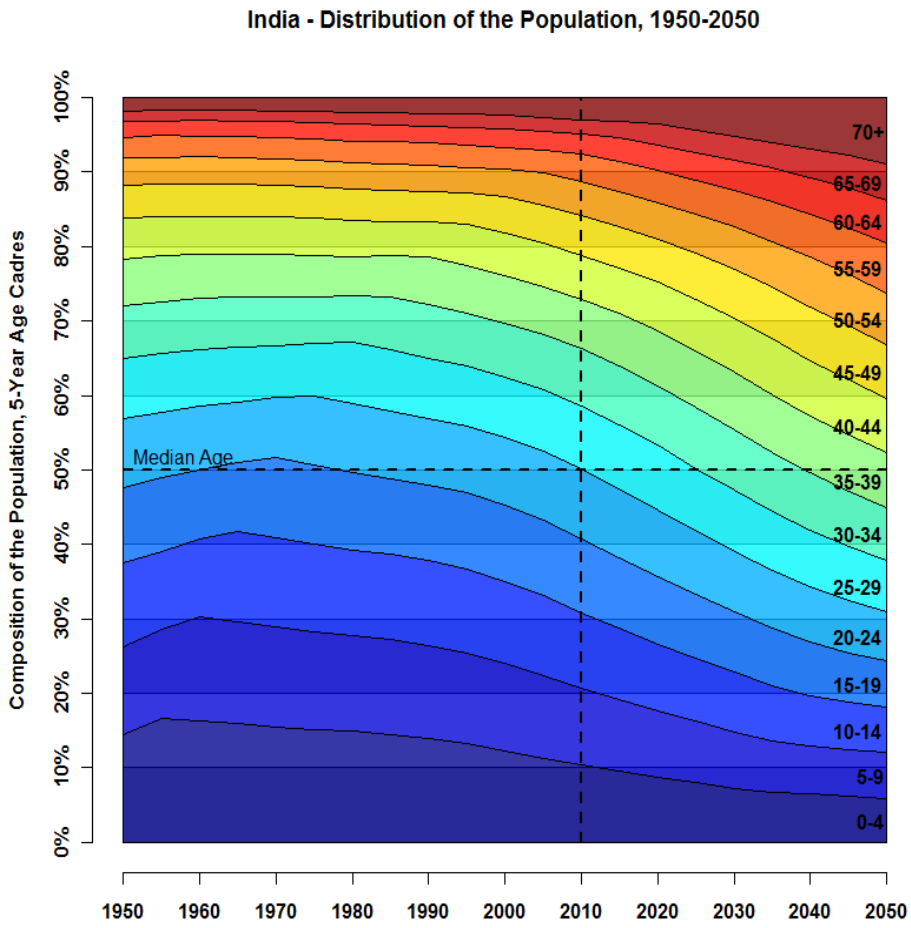


SOURCE: U.S. Census, United Nations.

Demographic picture brightens in EM our headwinds are their tailwinds

Brazil and India are in an entirely different league





SOURCE: U.S. Census, United Nations.

Recap of the headwinds

- Deficit spending creates phony GDP
  - Cutting 10% deficit to zero in 5-10 years reduces GDP growth by 1-2% per year.
- Debt incurs debt service costs
  - National debt up from 50% to 100% of GDP in the past 30 years implies 0.83% slower GDP growth until debt is reduced.
- Demographic aging slows GDP growth
  - GDP growth = growth in work force + productivity growth.
  - Slower work force growth costs the difference, 0.8%, in GDP.
- Real GDP Growth: 2.4% past 30 years, 2.7% past 50 years
  - With these headwinds, 2% GDP growth is a home run.
  - 1% is far more likely. *New Normal, Indeed!*

SOURCE: Bureau of Economic Analysis

Investment implications

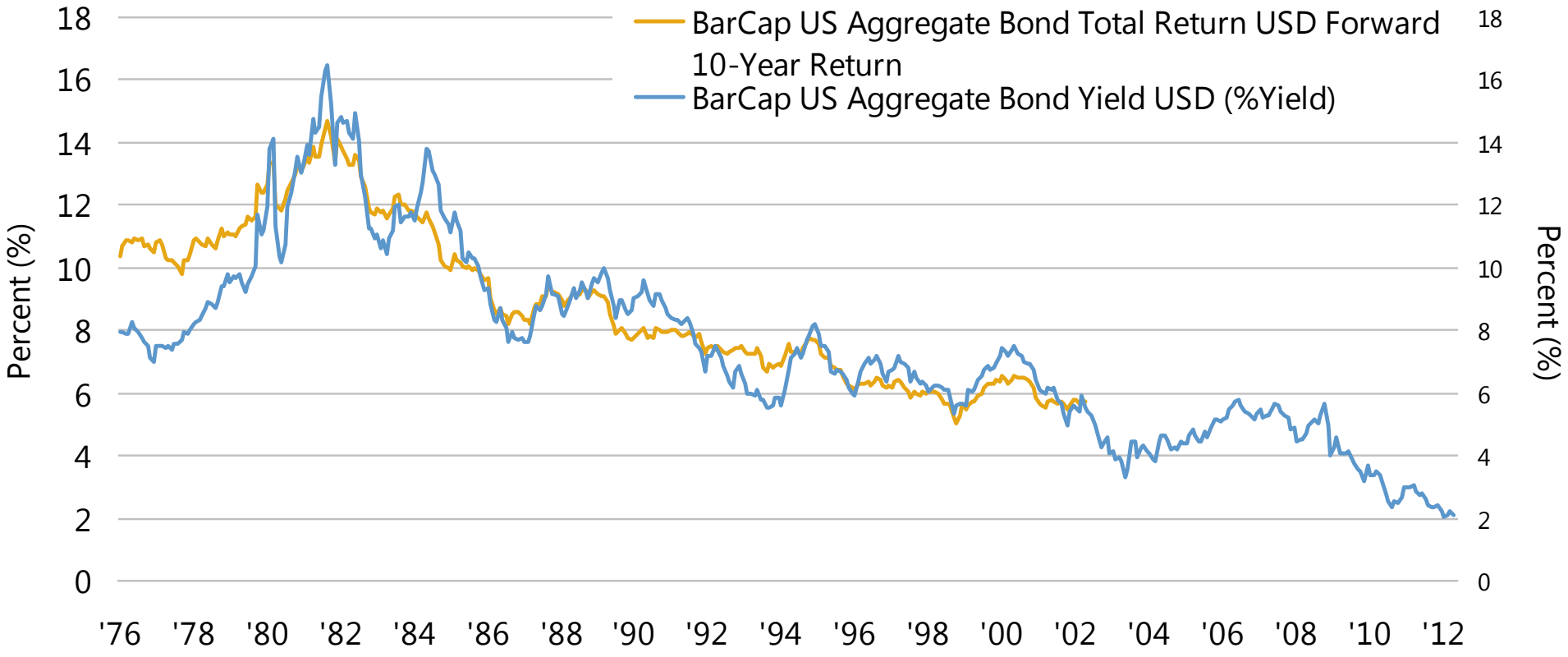
- If our debt burden is too large, choices are:
  - Pay the debt, abrogate, or reflate
- Which will our politicians choose?
  - Inflation protection will be priced at a premium
  - Retirees selling assets to a proportionally smaller pool of buyers
  - Equities under pressure
  - Opportunities in emerging markets
- The "Third Pillar" of what we feel should be considered:
  - The first two pillars, stocks & bonds, crater during reflation
  - Diversifying into EM, alternative markets, and inflation hedges

Refer to appendix for additional investment strategy and outlook information.

Where are the opportunities today?

How do we set bond and
stock market expectations?

Bond market returns follow yields



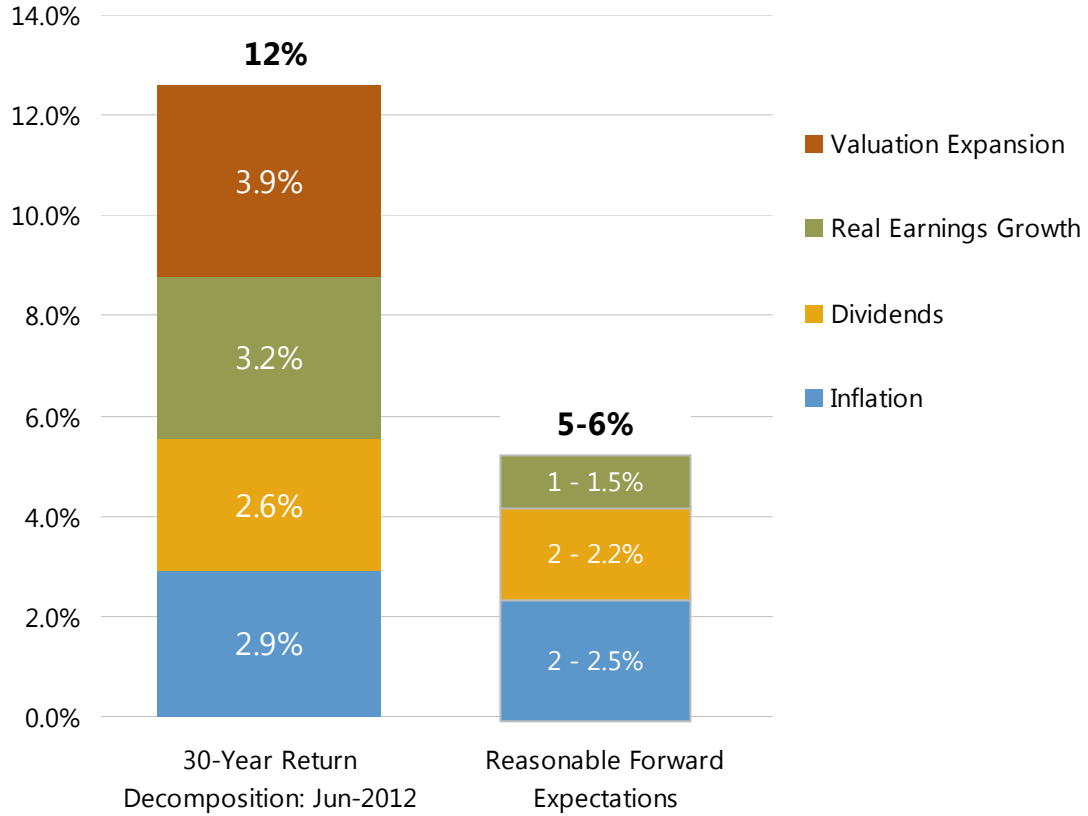
As of 30 June 2012
SOURCE: Ibbotson and Barclays

Forward stock returns set to be ½ of past returns

30-year returns of S&P 500 stocks: 12%!

Should we expect that for the next decade?? No!

This past period was driven by strong valuation multiple expansion:



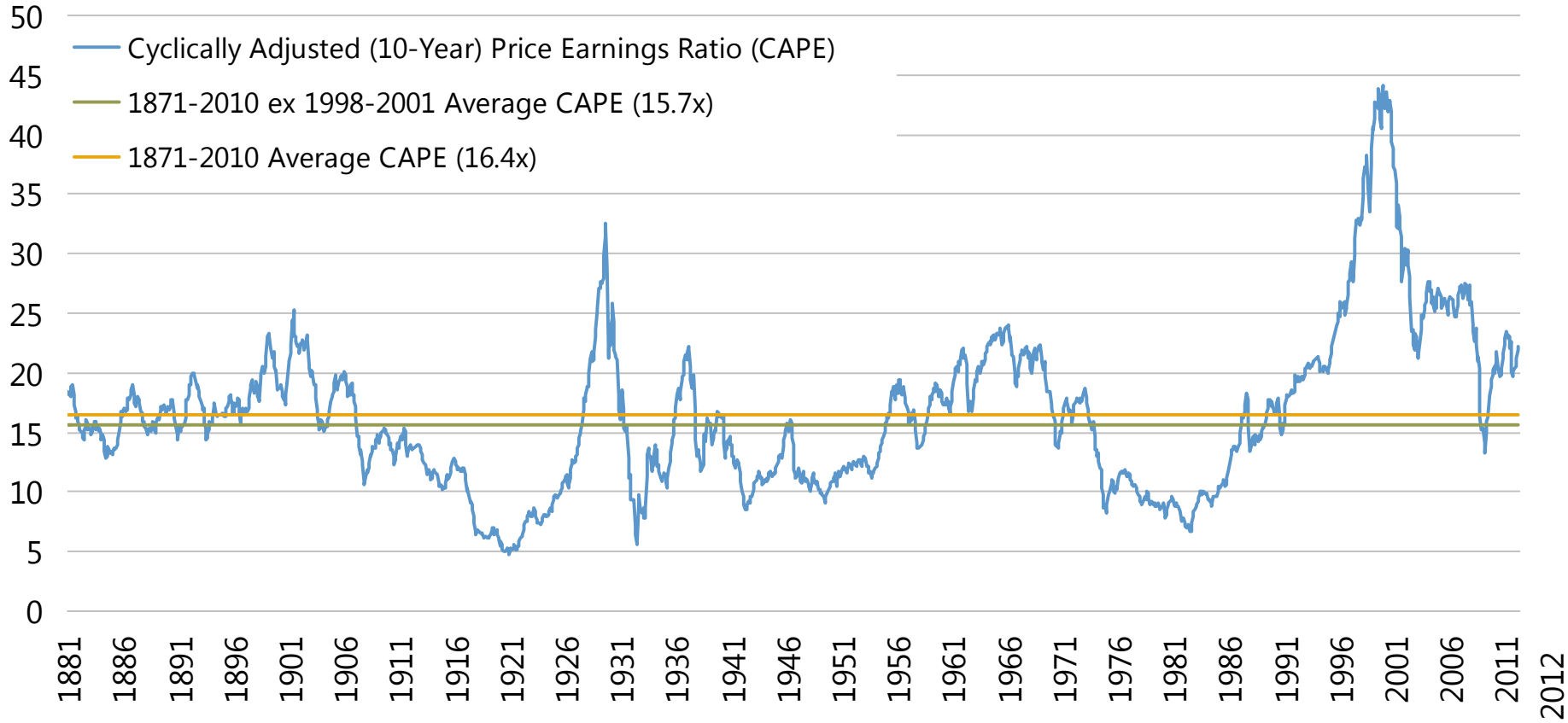
As of 30 June 2012

SOURCE: Ibbotson, Research Affiliates, LLC based on data from Ibbotson and Robert Shiller of Yale. Sub-components do not equal total return due to compounding effects.

* Actual S&P return (Ibbotson)

Refer to the appendix for additional forecast and risk information.

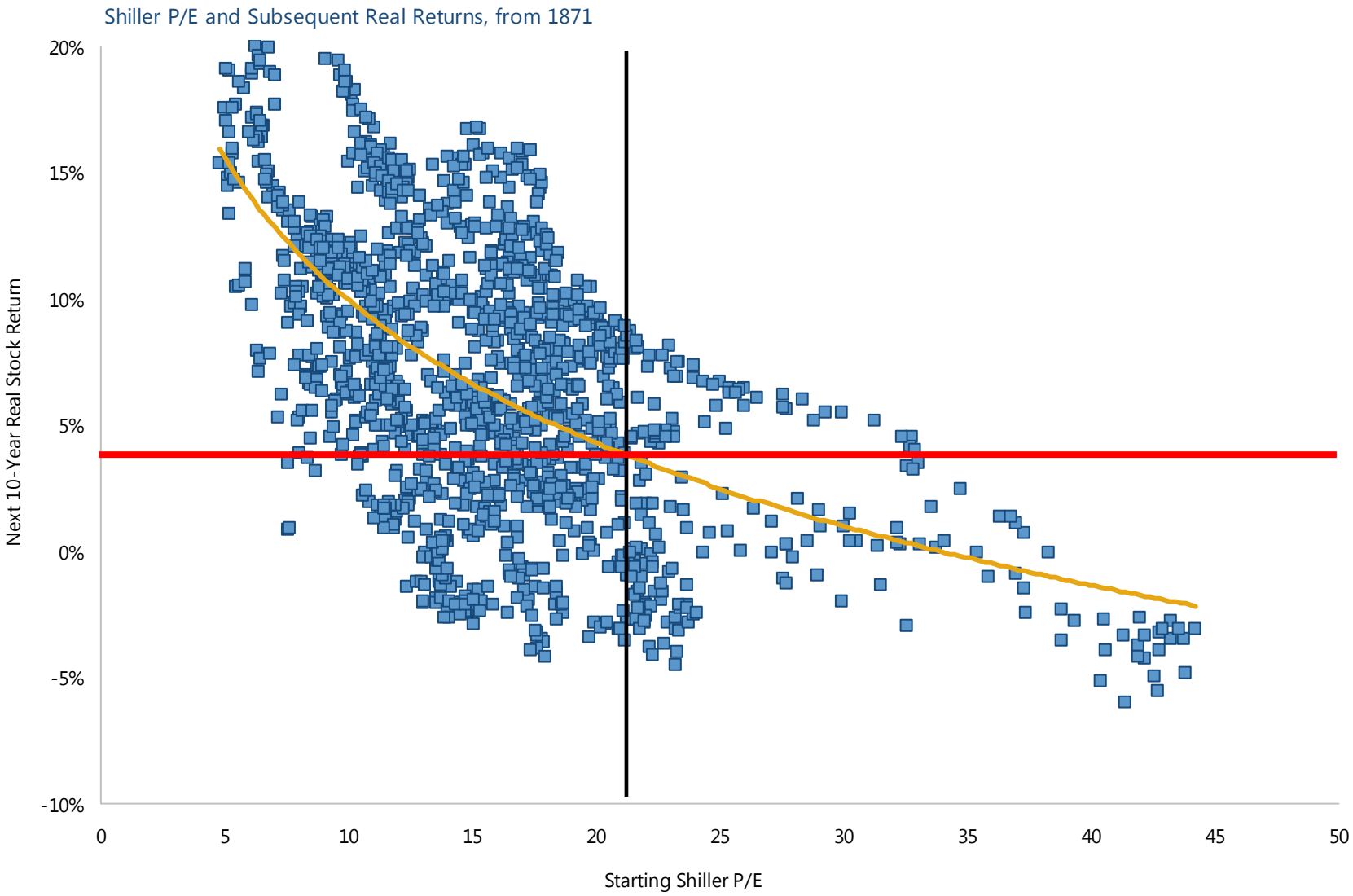
U.S. Equities priced at "above average" valuations



- Above average valuations in the face of tremendous uncertainty—re-regulation, deleveraging, protectionism, and deglobalization—isn't compelling from a risk and reward standpoint.
- Moving from current level of 21x back to historical average of 16x would be a -22% correction in equity markets

As of 30 June 2012
SOURCE Robert Shiller. http://www.econ.yale.edu/~shiller/data.htm

Future valuation expansion not promising



As 30 June 2012
SOURCE: Morningstar and Robert Shiller. http://www.econ.yale.edu/~shiller/data.htm

A Spectrum of returns
"The first shall be last and the last shall be first"

	Cumulative Returns				1993–2011	
Asset Class	2008–2011	2003–2007	1998–2002	1993–1997	Standard Deviation	Correlation with 60–40
Emerging Markets Stocks	-18	391	-21	44	24	0.71
International Stocks	-28	171	-12	74	17	0.79
REITs	10	131	23	118	21	0.56
Commodities	-23	95	21	58	16	0.32
Large Cap U.S. Stocks	-6	83	-3	152	15	0.99
Emerging Markets Bonds	39	82	44	—	10	0.6
High Yield Bonds	39	67	3	75	9	0.64
Convertibles	6	66	20	92	13	0.83
Unhedged Foreign Bonds	27	43	27	47	9	0.17
TIPS	31	36	52	—	6	0.17
Long Government Bonds	52	32	52	62	10	0
Mortgages	28	25	43	42	3	0.17
Core Bonds	28	24	44	43	4	0.22
Money Market	2	16	23	26	1	0.08

Red = worst three **Blue = best three**

Note: Emerging markets and TIPS standard deviations and correlations are for the 11 years ended December 2011.
Past performance is no guarantee of future results. 60-40 represents a composite of the S&P 500 (60%) and Barclays Government/Credit Bond Index (40%). Standard deviation is an absolute measure of volatility measuring dispersion about an average which, for an index, depicts how widely the returns varied over a certain period of time. The greater the degree of dispersion, the greater the risk. Correlation w/60-40 measures the correlation, or tendency to move in tandem, of the performance of the listed asset class with the 60/40 portfolio for the 18-year period ended 12/31/10. A higher number indicates a greater correlation. Emerging Markets Stocks represented by MSCI Emerging Markets Gross Index. Commodities represented by Dow Jones UBS/AIG Commodity Index. REITS represented by Wilshire REIT Index. Emerging Markets Bonds represented by JP Morgan Emerging Markets Bond Index Global. TIPS represented by Barclays U.S. TIPS Index. High Yield Bonds represented by Merrill Lynch High Yield Master II Index. Long Term Govt Bonds represented by Barclays Long-Term Treasury Index. Mortgage Bonds represented by Barclays Mortgage Index. Convertible Bonds represented by Merrill Lynch ALL US Convertible Securities Index. Unhedged Foreign Bonds represented by Citigroup World ex-U.S. Government Bond Index. Money Markets represented by Citigroup 3-Month T-Bill Index. Intl Stocks represented by MSCI EAFE Gross Index. The Standard & Poor's 500 Stock Index (S&P 500) is an unmanaged, capitalization-weighted index of U.S. companies generally representative of the U.S. Stock Market. The Barclays US Aggregate Bond Index is generally considered to be representative of the domestic, investment-grade, fixed-rate, taxable bond market. Returns are not indicative of the past or future performance of any investment product.

Three paths to improved return potential

- Consider Other Asset Classes
  - Stocks and bonds are not the only choices
  - Unconventional assets may at times be priced to offer better return potential
- Seek Alpha
  - Conservatively, focusing on avoiding negative alpha, or
  - Aggressively, if you have confidence in the opportunities
- Actively Manage the Asset Mix
  - Include alternative markets in these decisions
  - Seek assets which are out of favor, priced for better returns
- We Believe All Three Paths Can Be Pursued in Parallel!
  - Our fourth alternative–leverage–boosts risk far more than it improves prospective returns

Refer to appendix for additional investment strategy and outlook information.

Achieving Sensible Returns? Yes, We Can.

- A carefully crafted, well-executed departure from the classic balanced portfolio can move portfolios materially towards our aspired returns:
  - Larger allocations to out-of-favor markets
  - Using better indexes and well-crafted low risk active strategies
- Rebalancing can add up to 1% to long-term risk-adjusted investment returns, if it's done with discipline
  - Tactical shifts from comfort to uncomfortable (and cheap) markets
- How far you can move down this path, without exceeding the risk tolerance—the maverick aversion—of clients, is something that you'll need to judge very carefully

Refer to appendix for additional investment strategy and outlook information.

Fundamental index performance

30 June 2012	3 Month	1 Year	3 Year	Since Launch	Launch Date
FTSE RAFI All World 3000	-6.9%	-10.7%	10.8%	7.9%	6-Oct-08
MSCI All World	-5.4%	-6.0%	11.4%	7.4%	
Value Added	-1.5%	-4.7%	-0.6%	0.5%	
FTSE RAFI US 1000	-3.2%	2.0%	18.5%	4.7%	28-Nov-05
Russell 1000	-3.1%	4.4%	16.6%	3.5%	
Value Added	-0.1%	-2.4%	1.9%	1.2%	
FTSE RAFI US MS 1500	-4.9%	-3.6%	21.2%	4.5%	4-May-06
Russell 2000	-3.5%	-2.1%	17.8%	1.9%	
Value Added	-1.4%	-1.5%	3.4%	2.6%	
FTSE RAFI Developed ex-US 1000	-9.2%	-19.0%	4.8%	2.1%	28-Nov-05
MSCI EAFE	-6.9%	-13.4%	6.5%	1.4%	
Value Added	-2.3%	-5.6%	-1.6%	0.7%	
FTSE RAFI Dev. ex-US MS 1500	-8.4%	-14.2%	10.2%	-0.5%	6-Aug-07
MSCI EAFE Small	-8.5%	-14.8%	9.5%	-4.4%	
Value Added	0.1%	0.6%	0.7%	3.9%	
FTSE RAFI Emerging Markets	-10.8%	-17.2%	9.4%	0.8%	9-Jul-07
MSCI Emerging Markets	-8.8%	-15.7%	10.1%	-0.9%	
Value Added	-2.0%	-1.5%	-0.7%	1.7%	

Note: The index version of the RAFI methodology, or the FTSE RAFI Indexes, is licensed globally by our partner the FTSE Group. All returns are Total Returns in USD. This material relates only to a hypothetical model of past performance of the Fundamental Index® strategy itself, and not to any asset management products based on this index. No allowance has been made for trading costs or management fees which would reduce investment performance. Actual results may differ. Indexes are not managed investment products, and, as such cannot be invested in directly. Returns represent performance based on rules used in the creation of the index, are not a guarantee of future performance and are not indicative of any specific investment. Returns listed prior to the individual indexes launch dates are simulated.
Source: Research Affiliates, LLC., based on data from Bloomberg.

Appendix

Research Papers

Asset Allocation

1. Surprise! Higher Dividends = Higher Earnings Growth (**Arnott** and Asness, *Financial Analysts Journal* , 2003)
2. What Risk Premium is "Normal"? (**Arnott** and Bernstein, *Financial Analysts Journal* , 2002)
3. Demographics and Capital Market Returns (**Arnott** and Casscells, *Financial Analysts Journal* , 2003)
4. Cyclicality in Stock Market Volatility and Optimal Portfolio Allocation (**Hsu** and **Li**, in *Stock Market Volatility* , 2009)
5. Model Risk for Market Risk Modeling (**Hsu**, **Kalesnik,** and **Shepherd**, in *The Risk Modeling Evaluation Handbook* , 2010)
6. Shadow Banks and the Financial Crisis of 2007-2008 (**Hsu** and **Moroz**, in *The Banking Crisis Handbook* , 2010)
7. The Equity Premium Revisited (Cornell and **Moroz**, *Journal of Portfolio Management* , 2010)
8. Replacement Cost and REIT Pricing (**Hsu**, **Kalesnik,** and **Li**, *RA Working Paper* , 2009)
9. Fed Fund Policy and Stock Market Reaction (**Hsu**, **Little,** and **Shepherd**, *RA Working Paper* , 2009)

Fixed Income

1. Valuation-Indifferent Indexing for Bonds (**Arnott**, **Hsu**, **Li,** and **Shepherd**, *Journal of Portfolio Management* , 2010)
2. Bonds, Why Bother? (**Arnott**, *Journal of Indexes* , 2009)
3. A Structural Model of Default Risk (**Hsu**, Saa-Requejo, and Santa-Clara, *Journal of Fixed Income* , 2010)
4. The Cross-section of Corporate Bonds (Ang, **Hsu,** and **Shepherd**, *RA Working Paper* , 2010)
5. Alternative Weightings of Municipal Debt (Namvar, Pukthuanthong, and **Shepherd,** *RA Working Paper* , 2010)

Fundamental Index

1. Fundamental Indexation (**Arnott**, **Hsu,** and Moore, *Financial Analysts Journal* , 2005)
2. Can Noise Create the Size and Value Effects (**Arnott**, **Hsu**, **Liu,** and Markowitz, *RA Working Paper* , 2009)
3. Clairvoyant Value II: the Growth/Value Cycle (**Arnott**, **Li,** and **Sherrerd**, *Journal of Portfolio Management* , 2009)
4. Clairvoyant Value and the Value Effect (**Arnott**, **Li,** and **Sherrerd,** *Journal of Portfolio Management* , 2009)
5. Beyond Cap Weighting (**Arnott**, **Kalesnik**, Moghtadar, and Scholl, *Journal of Indexes* , 2010)
6. Cap-Weighted Portfolios are Sub-Optimal Portfolios (**Hsu**, *Journal of Investment Management* , 2006)
7. Dollar Cost Averaging (Brennan, **Li,** and Torous, *Review of Finance* , 2005)
8. Agency and Asset Pricing (Brennan and **Li**, *RA Working Paper* , 2009)
9. Predicting the Mean and the Volatility of Value Premium (**Viswanathan**, *Journal of Intl Finance and Economics* , 2009*)*

Pension Management

1. The Right Way to Manage Your Pension Fund **(Arnott** and Bernstein, *Harvard Business Review*, 1988)
2. Managing Investments for the Long Term (**Arnott**, *Financial Analysts Journal* , 2003)
3. The Policy Portfolio Problem (**Arnott**, *Financial Analysts Journal* , 2004)

Appendix

Past performance is not a guarantee or a reliable indicator of future results.

Hypothetical Example
No representation is being made that any account, product, or strategy will or is likely to achieve profits, losses, or results similar to those shown. Hypothetical or simulated performance results have several inherent limitations. Unlike an actual performance record, simulated results do not represent actual performance and are generally prepared with the benefit of hindsight. There are frequently sharp differences between simulated performance results and the actual results subsequently achieved by any particular account, product, or strategy. In addition, since trades have not actually been executed, simulated results cannot account for the impact of certain market risks such as lack of liquidity. There are numerous other factors related to the markets in general or the implementation of any specific investment strategy, which cannot be fully accounted for in the preparation of simulated results and all of which can adversely affect actual results.

Forecasts
Forecasts, estimates, and certain information contained herein are based upon proprietary research and should not be interpreted as investment advice, as an offer or solicitation, nor as the purchase or sale of any financial instrument. Forecasts and estimates have certain inherent limitations, and unlike an actual performance record, do not reflect actual trading, liquidity constraints, fees, and/or other costs. In addition, references to future results should not be construed as an estimate or promise of results that a client portfolio may achieve.

Investment Strategy
There is no guarantee that these investment strategies will work under all market conditions or are suitable for all investors and each investor should evaluate their ability to invest long-term, especially during periods of downturn in the market. No representation is being made that any account, product, or strategy will or is likely to achieve profits, losses, or results similar to those shown.

Outlook
Statements concerning financial market trends are based on current market conditions, which will fluctuate. There is no guarantee that these investment strategies will work under all market conditions, and each investor should evaluate their ability to invest for the long-term, especially during periods of downturn in the market. Outlook and strategies are subject to change without notice.

Risk
All investments contain risk and may lose value. Equities may decline in value due to both real and perceived general market, economic, and industry conditions. Investing in foreign denominated and/or domiciled securities may involve heightened risk due to currency fluctuations, and economic and political risks, which may be enhanced in emerging markets. Sovereign securities are generally backed by the issuing government, obligations of U.S. Government agencies and authorities are supported by varying degrees but are generally not backed by the full faith of the U.S. Government; portfolios that invest in such securities are not guaranteed and will fluctuate in value. High-yield, lower-rated, securities involve greater risk than higher-rated securities; portfolios that invest in them may be subject to greater levels of credit and liquidity risk than portfolios that do not. REITs are subject to risk, such as poor performance by the manager, adverse changes to tax laws or failure to qualify for tax-free pass-through of income.

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Appendix

Index Descriptions

JPMorgan Emerging Local Markets Index Plus (Unhedged) tracks total returns for local currency-denominated money market instruments in 23 emerging markets countries with at least U.S. $10 billion of external trade.

The Barclays Capital U.S. Corporate High-Yield Index the covers the USD-denominated, non-investment grade, fixed-rate, taxable corporate bond market. Securities are classified as high-yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below. The index excludes Emerging Markets debt.

The JPMorgan Emerging Markets Bond Index Plus is a total return index that tracks the traded market for U.S. dollar-denominated Brady and other similar sovereign restructured bonds traded in the emerging markets.

Barclays Capital U.S. Long Credit Index is the credit component of the Barclays Capital US Government/Credit Index, a widely recognized index that features a blend of US Treasury, government-sponsored (US Agency and supranational), and corporate securities limited to a maturity of more than ten years.

Barclays Capital U.S. TIPS Index is an unmanaged market index comprised of all U.S. Treasury Inflation Protected Securities rated investment grade (Baa3 or better), have at least one year to final maturity, and at least $250 million par amount outstanding. Performance data for this index prior to 10/97 represents returns of the Barclays Capital Inflation Notes Index.

The Barclays Capital U.S. Treasury Index is a measure of the public obligations of the U.S. Treasury.

Barclays Capital U.S. Aggregate Index represents securities that are SEC-registered, taxable, and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities. These major sectors are subdivided into more specific indices that are calculated and reported on a regular basis.

The BofA Merrill Lynch All Convertibles Index is an unmanaged market index comprised of convertible bonds and preferred securities.

The Credit Suisse Leveraged Loan Index is designed to mirror the investable universe of the $U.S.-denominated leveraged loan market. The index inception is January 1992. The index frequency is monthly. New loans are added to the index on their issuance date if they qualify according to the following criteria: Loans must be rated "5B" or lower; only funded term loans are included; the tenor must be at least one year; and the Issuers must be domiciled in developed countries (Issuers from developing countries are excluded). Fallen angels are added to the index subject to the new loan criteria.

The BofA Merrill Lynch Government Corporate 1-3 year index is an unmanaged index that trades short-term U.S. government securities and short-term domestic investment-grade corporate bonds with maturities between 1 and 2.99 years.

The Dow Jones UBS Commodity Total Return Index is an unmanaged index composed of futures contracts on 19 physical commodities. The index is designed to be a highly liquid and diversified benchmark for commodities as an asset class. Prior to May 7, 2009, this index was known as the Dow Jones AIG Commodity Total Return Index.

Appendix

The Morgan Stanley Capital International All Country World Index ("MSCI ACWI") is a market capitalization weighted index composed of over 2000 companies, and is representative of the market structure of 22 developed countries in North America, Europe, and the Pacific Rim. The index is calculated separately; without dividends, with gross dividends reinvested and estimated tax withheld, and with gross dividends reinvested, in both U.S. Dollars and local currency.

The MSCI EAFE (Morgan Stanley Capital International Europe, Australasia, Far East Index) is an unmanaged index of over 900 companies, and is a generally accepted benchmark for major overseas markets. Index weightings represent the relative capitalizations of the major overseas markets included in the index on a U.S. dollar adjusted basis.

The Morgan Stanley Capital International Emerging Markets Index is an unmanaged index that measures equity market performance in the global emerging markets. As of May 2005, the Emerging Markets Index (float-adjusted market capitalization index) consisted of indices in 26 emerging countries: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, Turkey, and Venezuela.

The S&P 500 Index is an unmanaged market index generally considered representative of the stock market as a whole. The index focuses on the Large-Cap segment of the U.S. equities market.

The Russell 2000 Index is an unmanaged index generally representative of the 2,000 smallest companies in the Russell 3000 Index, which represents approximately 10% of the total market capitalization of the Russell 3000 Index.

The FTSE RAFI Emerging Markets Index is part of the FTSE RAFI Index Series, launched in association with Research Affiliates. As part of FTSE Group's range of non market-cap weighted indexes, the FTSE RAFI Index Series weights index constituents using four fundamental factors, rather than market capitalisation. These factors include dividends, cash flow, sales and book value. The FTSE RAFI Emerging Markets Index is designed to provide investors with a tool to enable investment in emerging markets whilst using fundamental weightings methodology. The FTSE RAFI Emerging Index consists of the 350 companies with the largest RAFI fundamental values, selected from the constituents of the FTSE Emerging Index.

FTSE RAFI™ U.S. 1000 Index is part of the FTSE RAFI™ Index Series, launched in association with Research Affiliates. As part of FTSE Group's range of nonmarket cap weighted indices, the FTSE RAFI™ Index Series weights index constituents using four fundamental factors, rather than market capitalization. These factors include dividends, cash flow, sales and book value. The FTSE RAFI™ 1000 Index comprises the largest 1000 publicly traded U.S. companies by fundamental value, selected from the constituents of the FTSE U.S. All Cap Index, part of the FTSE Global Equity Index Series (GEIS). The total return index calculations add the income a stock's dividend provides to the performance of the index.

Dow Jones U.S. Select Real Estate Investment Trust (REIT) Total Return Index, a subset of the Dow Jones U.S. Select Real Estate Securities Total Return Index, is an unmanaged index comprised of U.S. publicly traded Real Estate Investment Trusts. This index was formerly known as the Dow Jones Wilshire REIT Index.

Barclays Capital U.S. TIPS Index is an unmanaged market index comprised of all U.S. Treasury Inflation Protected Securities rated investment grade (Baa3 or better), have at least one year to final maturity, and at least $250 million par amount outstanding. Performance data for this index prior to 10/97 represents returns of the Barclays Capital Inflation Notes Index.

The BofA Merrill Lynch High Yield Master II Index is an unmanaged index consisting of U.S. dollar denominated bonds that are rated BB1/BB+ or lower, but not currently in default.

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Is It Time to Become More Active in Rebalancing Decisions?

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Is it Time to Become More Active in Rebalancing Decisions?

October 2012

Presentation to Ventura Country Employees' Retirement Association

Hewitt enniskupp
An Aon Company

Rebalancing Overview

- **Definition:**
  - The systematic selling and buying pieces of investment portfolios across asset classes and/or managers within a pre-determined band (e.g. +/- 3% of target) or at established intervals (e.g. monthly or quarterly)

- **Benefits:**
  - A well-defined and properly implemented rebalancing policy:
    - Ensures that the Fund's actual asset allocation and risk posture remains in conformance with the Board's stated target asset allocation
    - Allows "buy low, sell high"
    - Is an important risk control mechanism

- **Cons:**
  - Rebalancing frequently or conducting many rebalancing moves can result in potentially higher transaction costs
  - Staff time
  - Doesn't allow "profits to run"

We believe a well-defined rebalancing program can add value

Rebalancing Best Practices

- Standard institutional practice is to rebalance when actual allocations deviate materially from target allocations, rather than rebalancing at specified time intervals
- Actual allocations should be examined monthly or quarterly for rebalancing purposes
- Narrower rebalancing ranges improve risk control but generally result in higher transaction costs and more frequent rebalancing trades
- Narrow ranges (+/- 5% or less) are generally appropriate
- Simulation modeling shows that, given reasonable assumptions, ranges of +/-1% to +/-3% produce the best tradeoff of risk control and cost minimization
- Rebalancing to the edge of the range as opposed to the target provides a superior risk control/cost outcome
- When trading can be done at very low cost, even narrower ranges and rebalancing to the target may be appropriate

Rebalancing Considerations

- In developing a rebalancing strategy, it is important to take into account the following specific circumstances:

  - **Regular monitoring:** Staff has the ability to monitor portfolio positions on a daily basis and to initiate rebalancing transactions as needed
  - **Regular cash flows**: Routine cash flows to meet benefit payments or contributions received can be used to maintain asset allocation in line with targets
  - **Liquidity sources:** The addition of passive assets across the major asset classes provides access to low-cost, easy-to-transact liquidity sources
  - **Ability to use derivatives:** Overlay manager (e.g. Clifton) can be used to equitize cash positions can incorporate futures-based transactions to effect rebalancing moves

Global Asset Allocation

What does the HEK Global Asset Allocation Team do?

- Medium term views:
  - Provides real time views on global investment markets over a medium-term horizon
- Able to provide customized support for timely implementation of strategic change
- Produces Capital Market Assumptions
  - Long-term return, volatility and correlation assumptions

Advice is client-tailored

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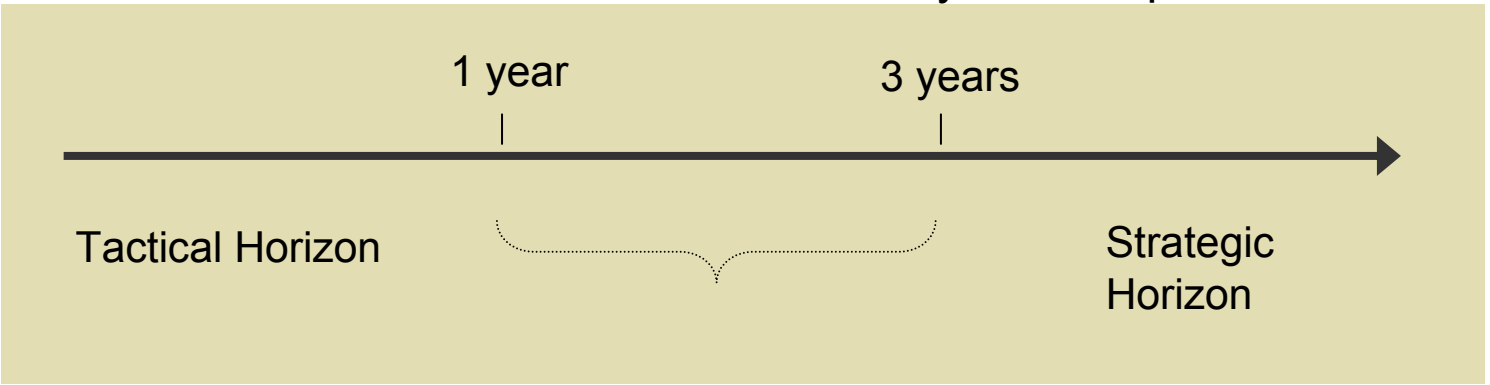
An Aon Company

Defining Medium Term Views (MTV)

Time Horizon

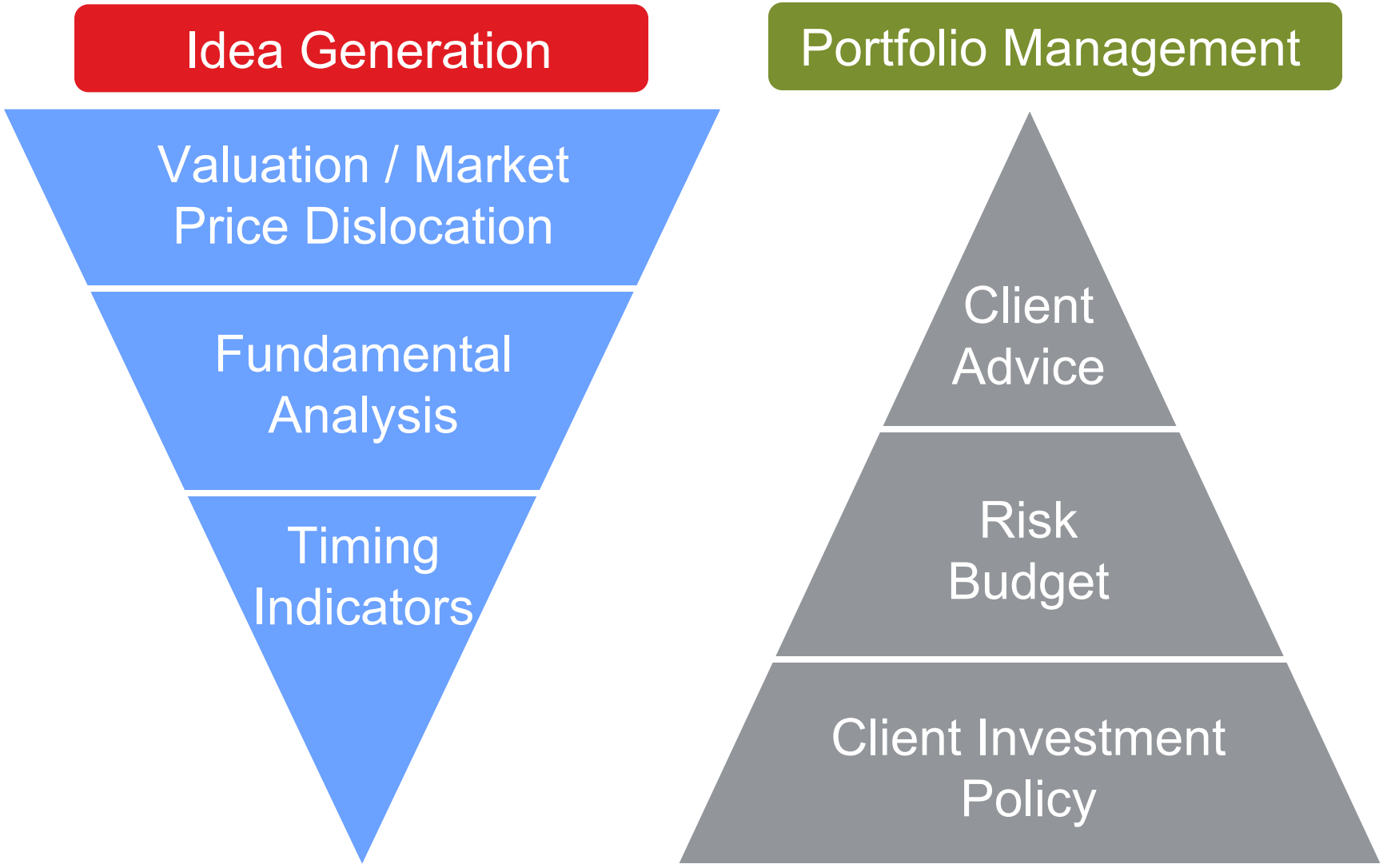
– We focus on the medium term outlook (1 to 3 years)
  - We believe over attention to the short term (tactical) and the very long term (strategic) has left the medium term largely unexploited
  - "Large block" decision-makers typically do not operate in the 1 to 3 year timeframe
    - Active investment managers tend to focus on the <1 year time period
    - Pension funds tend to focus on the >10 year time period



Medium Term Horizon

MTV – unexploited opportunities

Medium Term Views – Research Process



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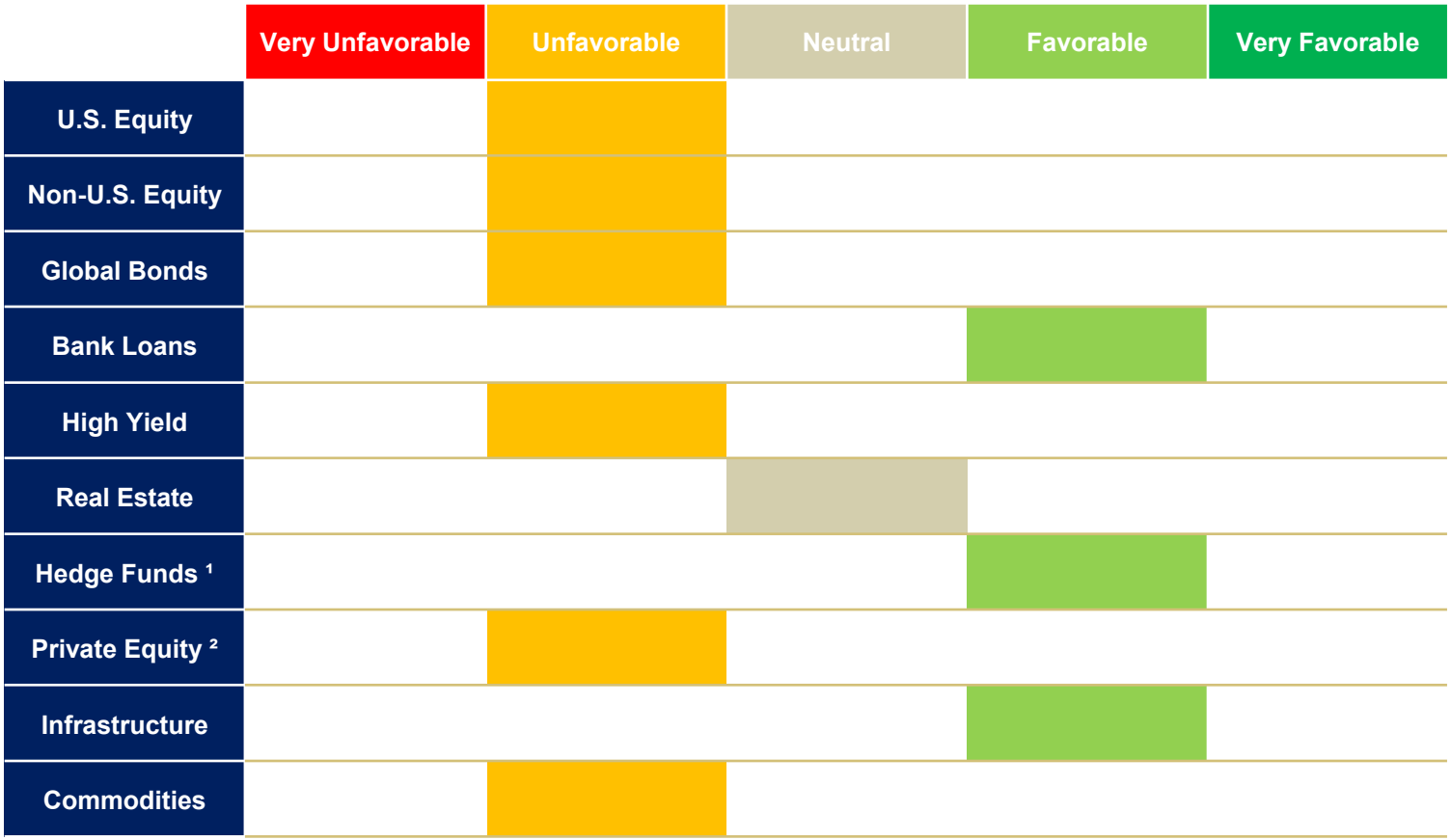
Medium Term Views – August 2012



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How MTV Can Help

Asset allocation input helps with…..

✓ **Timing of changes to strategic benchmark**

Make changes now or wait?

✓ **Investing new contributions**

Invest in line with benchmark or allocate to most attractive asset class on a medium term view?

✓ **Taking advantage of market extremes/rebalancing allocation around benchmark**

Does market pricing give the opportunity to outperform?

Asset allocation input helps with…..

✓ **Introducing new asset classes**

Is the asset class appropriate for your pension scheme and is now a good time?

✓ **Hedging risks**

When is an appropriate time to hedge against inflation, interest rates, currency movements, equities…?

✓ **Delegated management of assets**

Consider letting us manage your asset allocation for you?

Examples of advice we can give on asset classes and timing of changes

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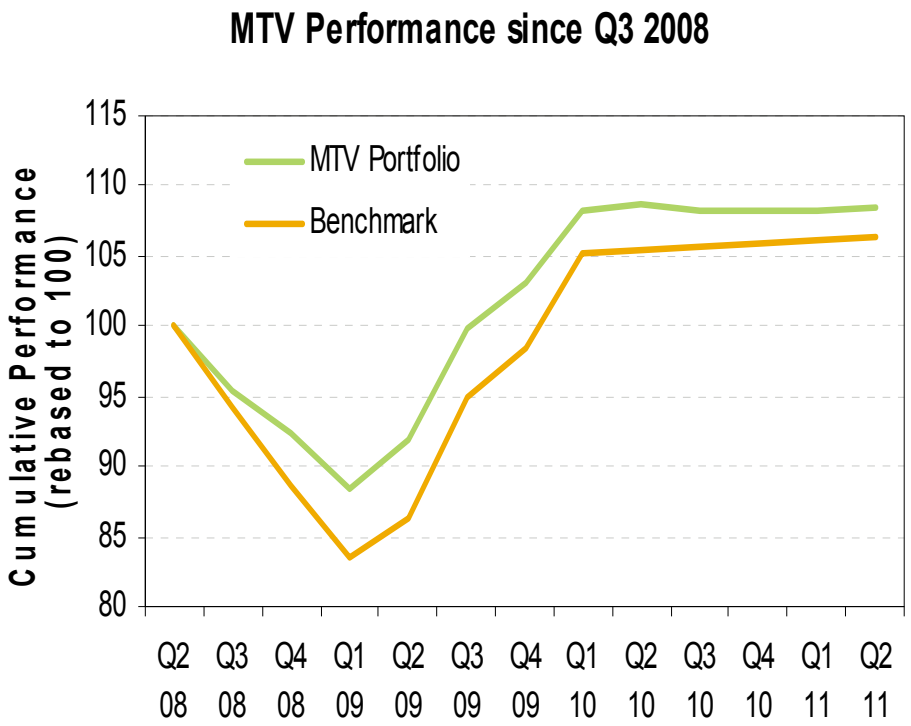
Rebalancing Implementation Options

Rebalancing Strategy	Primary Uses of Medium Term Views	Value Added
Naïve / Disciplined & Cash Flow	N/A	Rebalancing within the Board approved allocations
Tactical w/ MTVs	Timing of new strategic allocations or cash flows	Buying and selling at the "right" price impacts long-term returns.
	Improve rebalancing using *"informed tilts"*	How and to what extent to reallocate assets within policy ranges. Uses medium term views, but within the Board allowed constraints.
Discretionary / Outsourced (tactical)	Manage de-risking program	Choosing when to hedge inflation, rates, currencies and equities requires understanding markets. Uses the Board designated IPS, but with more latitude and quicker implementation.
	Opportunistic mandates using *"rotational bucket"*	Portfolio segment or overlay that is managed with a one- to three-year horizon implementing "best ideas"

MTV Track Record



- While Aon Hewitt has developed medium term views for clients over the past six years, the track record shown here encapsulates a time period where the firm had oversight of a pool of assets

- The benchmark is 35% public equity, 27% hedge funds, 15% corporate bonds, 10% real estate, 5% private equity, 5% infrastructure, and 3% active currency

Proven success in adding real value

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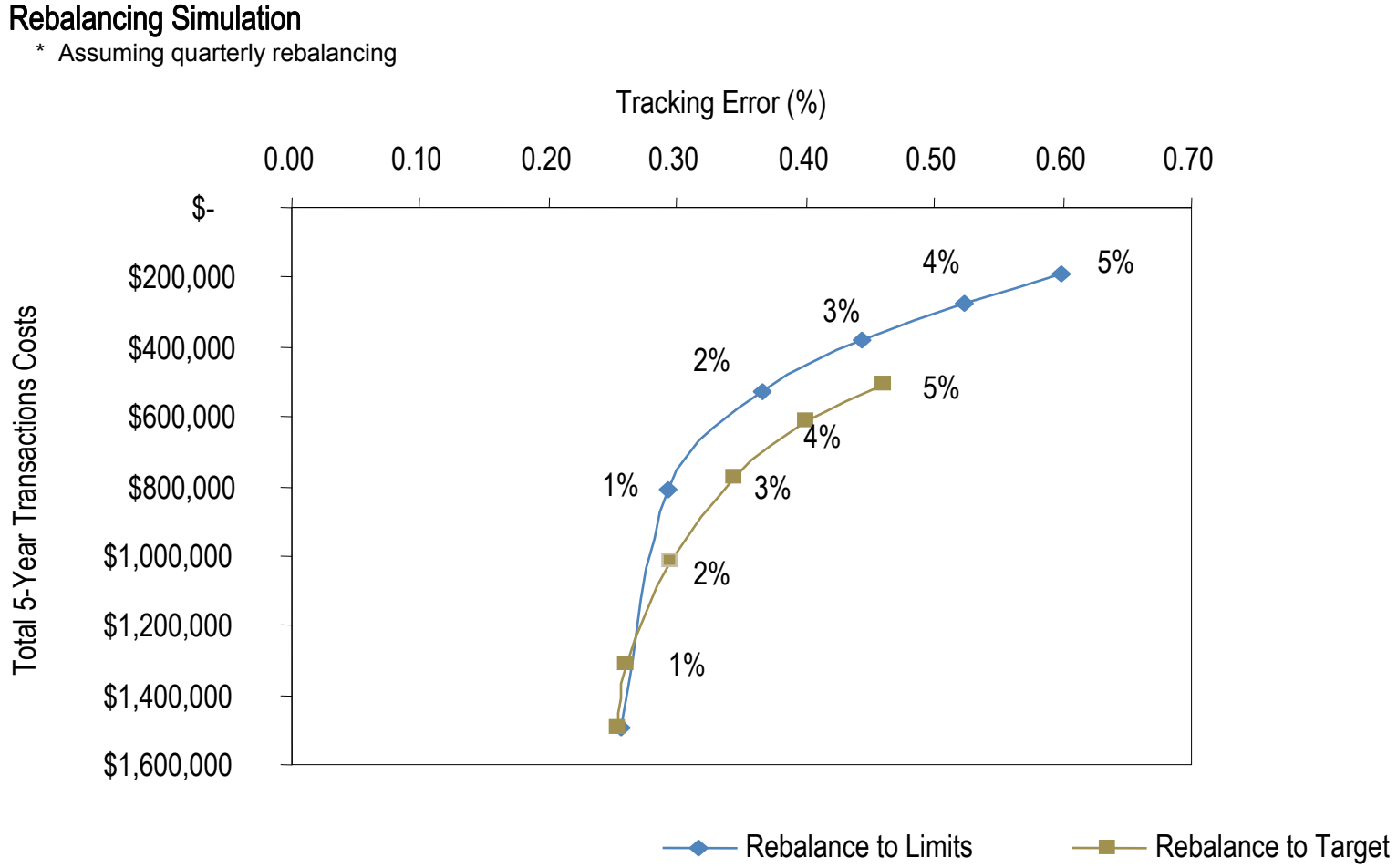
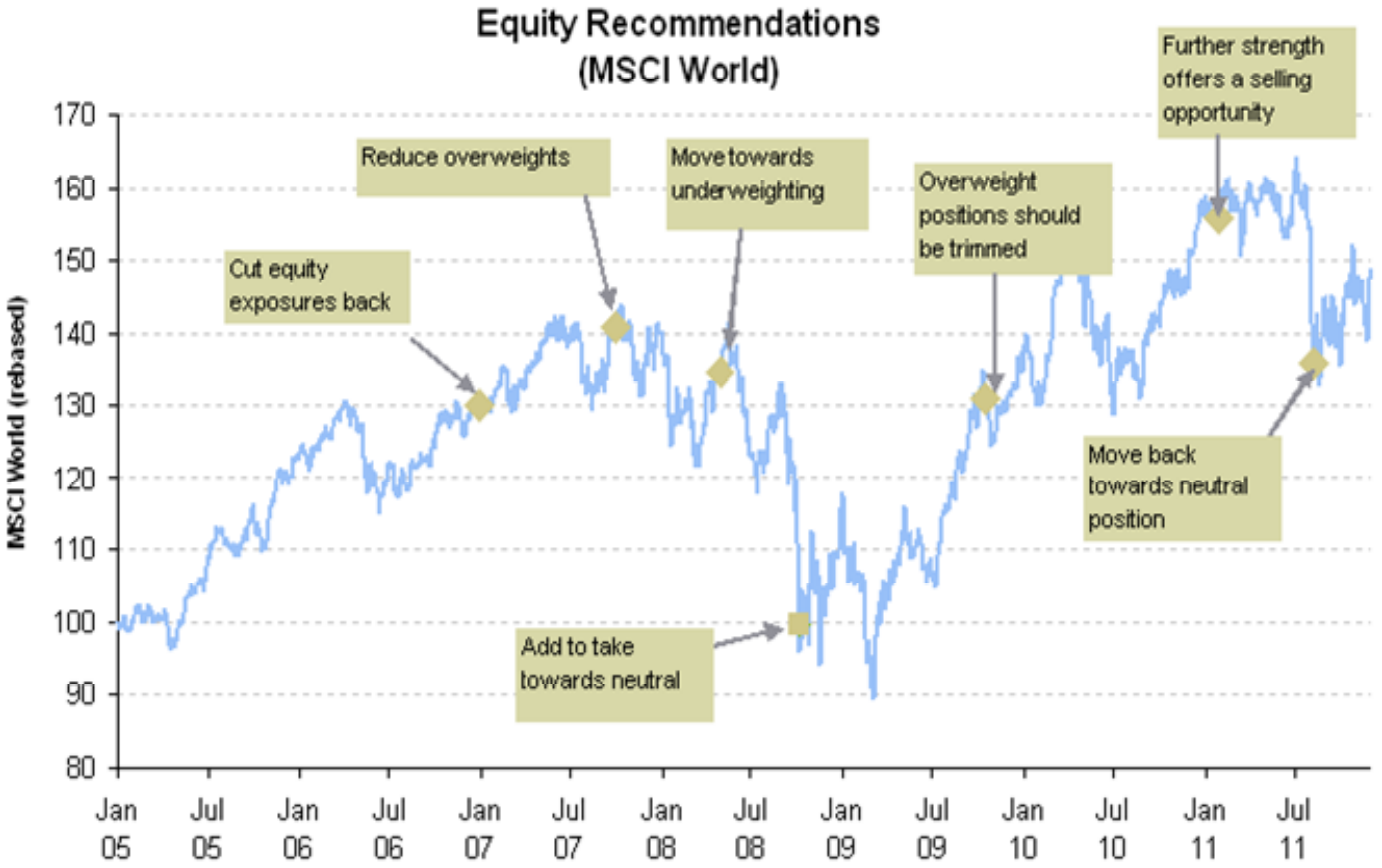
Rebalancing to Limits vs. Target



Tracking error is defined as the standard deviation of the difference between actual Fund performance and the Total Fund's benchmark performance.

Equity Views Over Time



Proven success in adding real value

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Medium Term Views
Illustrative Performance

Illustrative Performance for Major Asset Categories (1/2011 to 8/2012)

	Favored Positioning	Favored View Annualized Return	Market Benchmark Annualized Return	Benchmark
US Equity Views	Large Cap Growth	9.53%	8.35%	Russell 3000
Non US Equity Views	Developed Markets	-3.68%	-4.99%	MSCI ACWI Ex US
Intermediate Fixed-Income Views	Credit	9.64%	7.05%	Barclays Aggregate

Notes: Assumes Russell 1000 Growth Index as proxy for US Equity View; MSCI EAFE Index as proxy for Non US view; and Barclays Credit Index as proxy for intermediate fixed-income view.

Proven success in adding real value

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- Calculations may be derived from our proprietary models in use at that time. Models may be based on historical analysis of data and other methodologies and we may have incorporated their subjective judgement to complement such data as is available. It should be noted that models may change over time and they should not be relied upon to capture future uncertainty or events.

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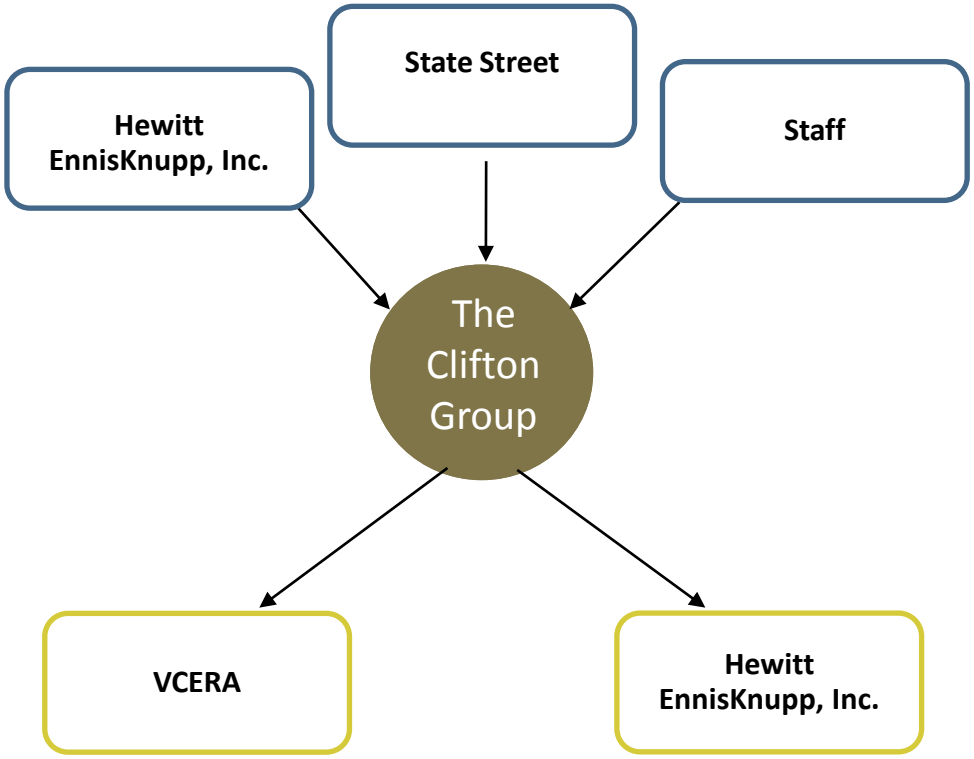

- Analysts download available data and create Daily Tracking Report*
- Report reviewed and verified by Analysts and Portfolio Managers
- All open futures positions are marked-to-market daily
- Trades are reviewed and verified by portfolio management team and trade order management system prior to execution to ensure compliance with policy guidelines VCERA/Hewitt EnnisKnupp, Inc. viewing

* In some cases, data may not be available on a daily basis or is not accessible because the balance is held by a manager who does not make information available electronically.

Clifton creates a daily tracking report containing:

- Fund cash levels
- Manager values
- Asset class exposures and imbalance
- Margin summary
- Custom portfolio metrics

All information updated through previous night's close

Profit and Loss on Futures

Rebalancing portfolio using futures captures a pure profit and loss on making the rebalance decision

Transactionally cost effective

Cash flow rebalancing using futures is not encumbered based on this method

Theoretical Physical

Monitor theoretical returns without synthetic rebalancing

Clear communication required by Staff/Third Party

Physical rebalancing may result in settlement delay and market exposure gap

Following is an estimation of transaction costs across various investment instruments[1]:

	Typical Allocation	Futures[2] Transaction Costs	Physical[3] Transaction Costs	Index Fund[4] Transaction Costs
US Equity				
Large Cap – *S&P 500*	25%	0.04%	0.19%	0.05%
Small Cap – *Russell 2000*	10%	0.06%	0.34%	0.31%
International/Emerging Markets				
International – *MSCI EAFE*	15%	0.14%	0.27%	0.20%
Emerging Markets – *MSCI Emerging Markets*	10%	0.17%	0.34%	0.18%
US Fixed Income				
Investment Grade Fixed Income – *BarCap Agg*	40%	0.04%	0.16%	0.19%
Total Cost	**100%**	**0.07%**	**0.22%**	**0.17%**

[1] Based on $100 million portfolio. Transaction costs include bid/ask spread, market impact, and commissions. Additionally, futures include an estimate of annual roll costs. Bid/Ask spread is the difference between the highest price a buyer is willing to pay for an asset and the lowest price a seller is willing to sell it. Market impact refers to the extent with which buy and sell orders move the market price in an adverse manner, based on the size of the transaction. Roll costs include expenses from selling an expiring futures contract and purchasing the next listed one.

[2] The estimated costs for futures are based on an analysis of initiation costs (commissions, spread, and market impact) and annual maintenance costs (roll costs). Initiation costs assume half-turn commission, mid-point on bid/ask spread, and market impact between 0 and 4 ticks depending on market liquidity. Annual maintenance costs assume quarterly roll cycle (4 rolls/yr), and includes commissions, mid-point on roll spread, and no market impact (except for Intl/EM contracts) due to large liquidity associated with roll market. Futures mispricing is not included in the analysis.

[3] The estimated costs for physical portfolios are based on Abel/Noser universe of measured trades totaling over $7 trillion in principal observed annually. Includes both implicit (spread and impact) and explicit (commissions).

[4] The estimated costs for Index Funds are based on data obtained from an online database (personalfund.com) and uses the following formula to calculate the appropriate share of the funds' transaction costs: Turnover Cost * Turnover * Amount Invested.

Source: *The Clifton Group, Bloomberg, Abel/Noser, personalfund.com*

Inflation Risk Re-Examined

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UBS

Asset Management

Inflation Risk Re-Examined

Ventura County Employees' Retirement Association

Louis D. Finney, PhD

October 4, 2012

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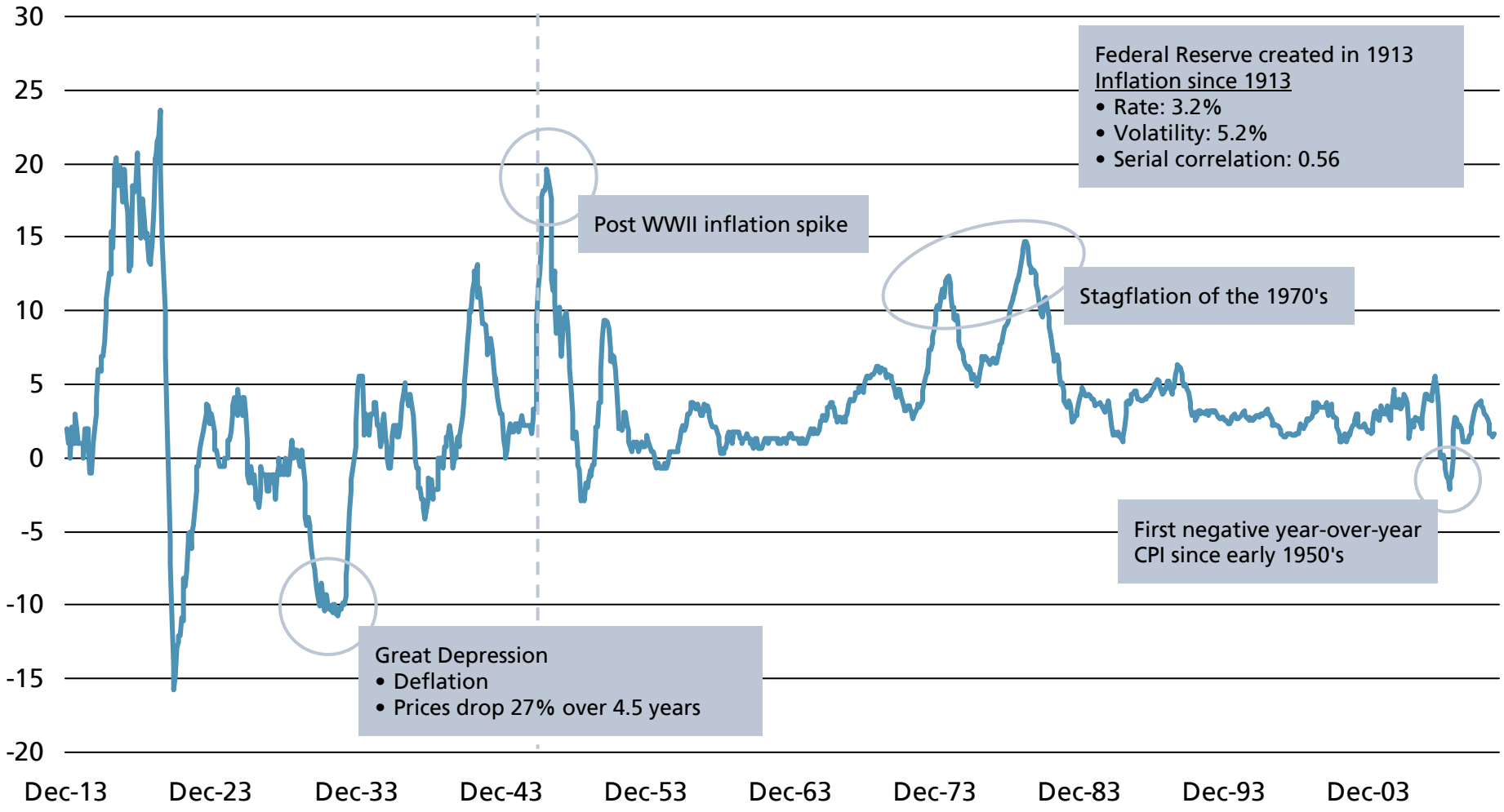
Outline

- Today's issues about inflation
  - The Fed, QE3, and low interest rates
- Types of inflation
  - Broad-based vs. sector-based inflation
  - Growth inflation, stagflation, recession, and deflation
- Market conditions
  - Low interest rates=low growth?
  - Moderate, but rising inflation
- Investment Implications

Inflation since 1913



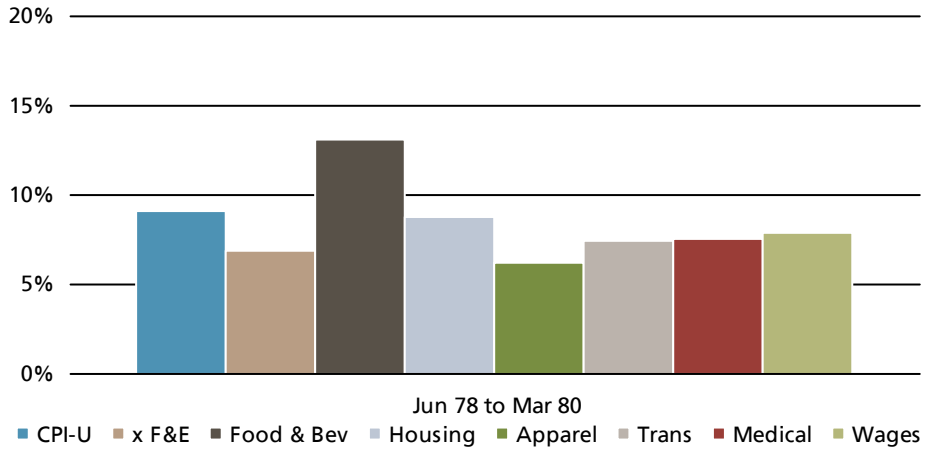
Source: Bureau of Labor Statistics

Broad-based versus sector-based inflation

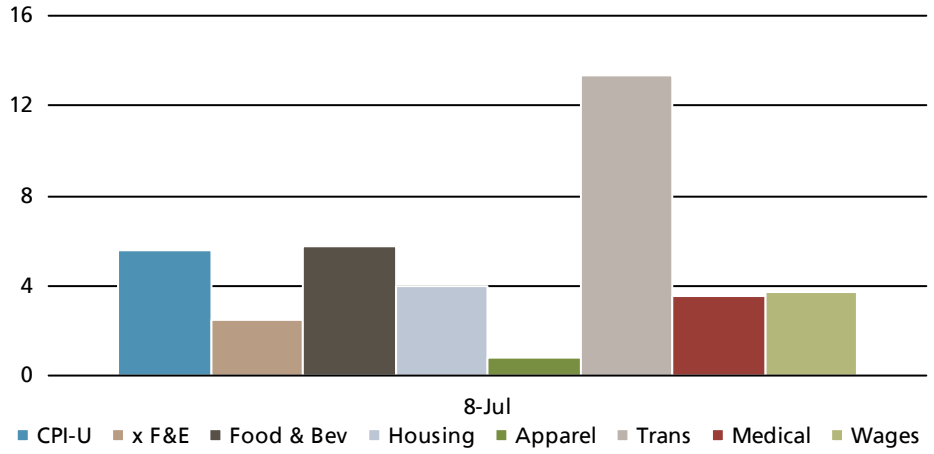
- Broad-based inflation
  - Almost all sectors experience rising prices
    - Even non-CPI prices increase, notably wages and some assets, but often don't keep up with inflation
  - Classic example:
    - June 1978 to March 1980: CPI rose 9.1%

- Sector-based inflation
  - One sector has large increase in prices that pushes up overall price level, greater dispersion in price increases
    - Typically caused by energy, food, or exchange rates
  - Classic example:
    - July 2007 to July 2008: CPI jumps from 2.4% to 5.6%

Broad-Based Inflation of the 1970s



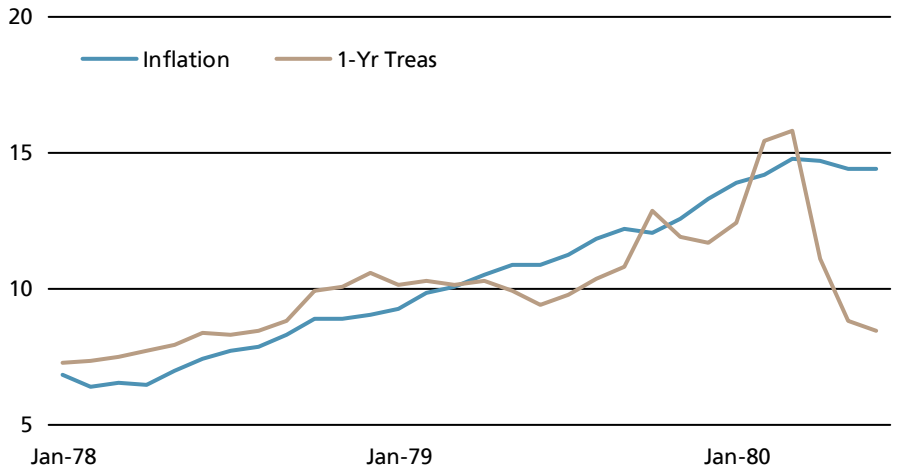
Sector-Based Inflation



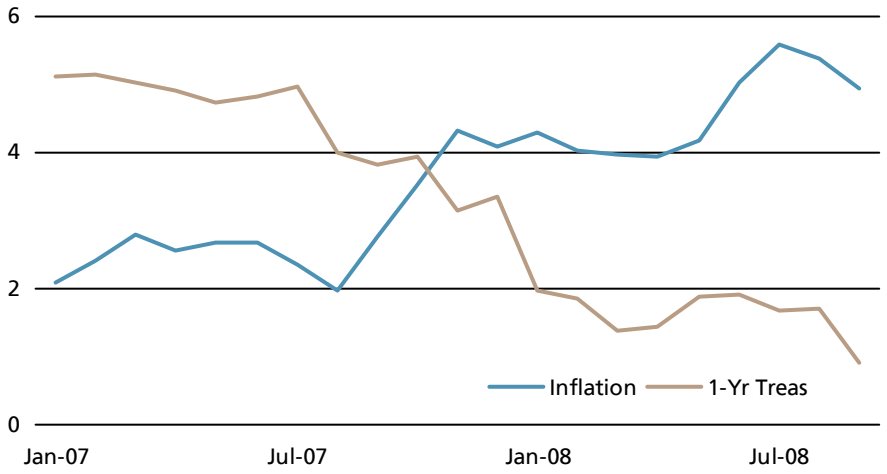
Source: Bureau of Labor Statistics

Broad-based versus sector-based inflation: interest rates

- Broad-based inflation:
  - ***Interest rates rise as inflation expectations rise in the economy.***
    - 1-year Treasury rises from 7.3% to 15.8%



- Sector-based inflation:
  - ***Interest rates can fall as shocks effect the real economy. The markets anticipate recession risks.***
    - 1-year Treasury falls from 5.0% to 1.7%



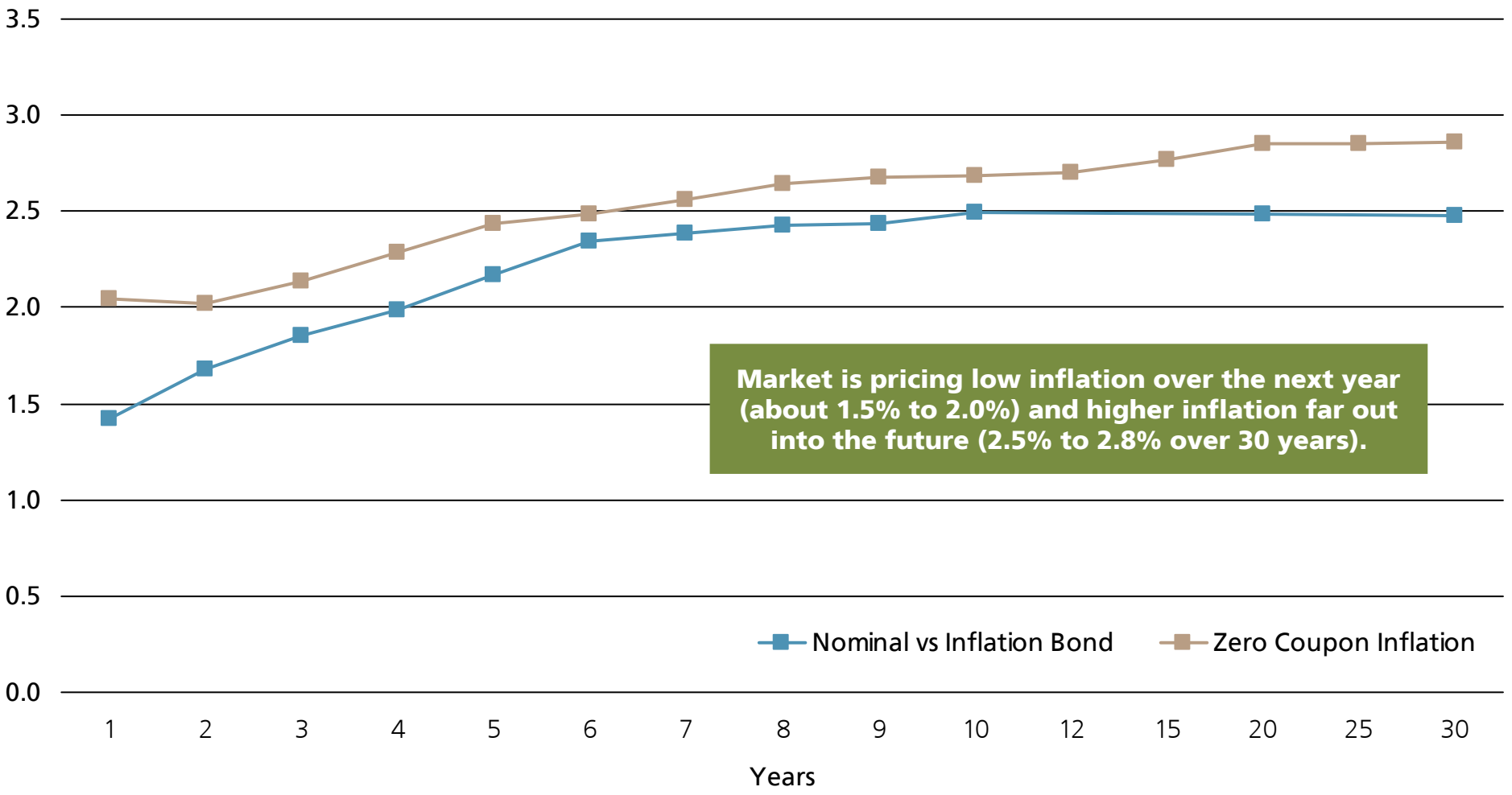
Source: Bureau of Labor Statistics, Federal Reserve

Current Conditions

- Sluggish recovery
  - Consumers still cautious, but gradually growing more optimistic
  - Housing beginning to recover
- Europe still a drag
  - Credit crisis are always deflationary
- China is slowing
- Interest rates near historic lows
- Monetary policy
  - Low interest rates to mid-2015
  - QE3: open-ended purchase of mortgage-back securities

Market conditions: Sept 2012

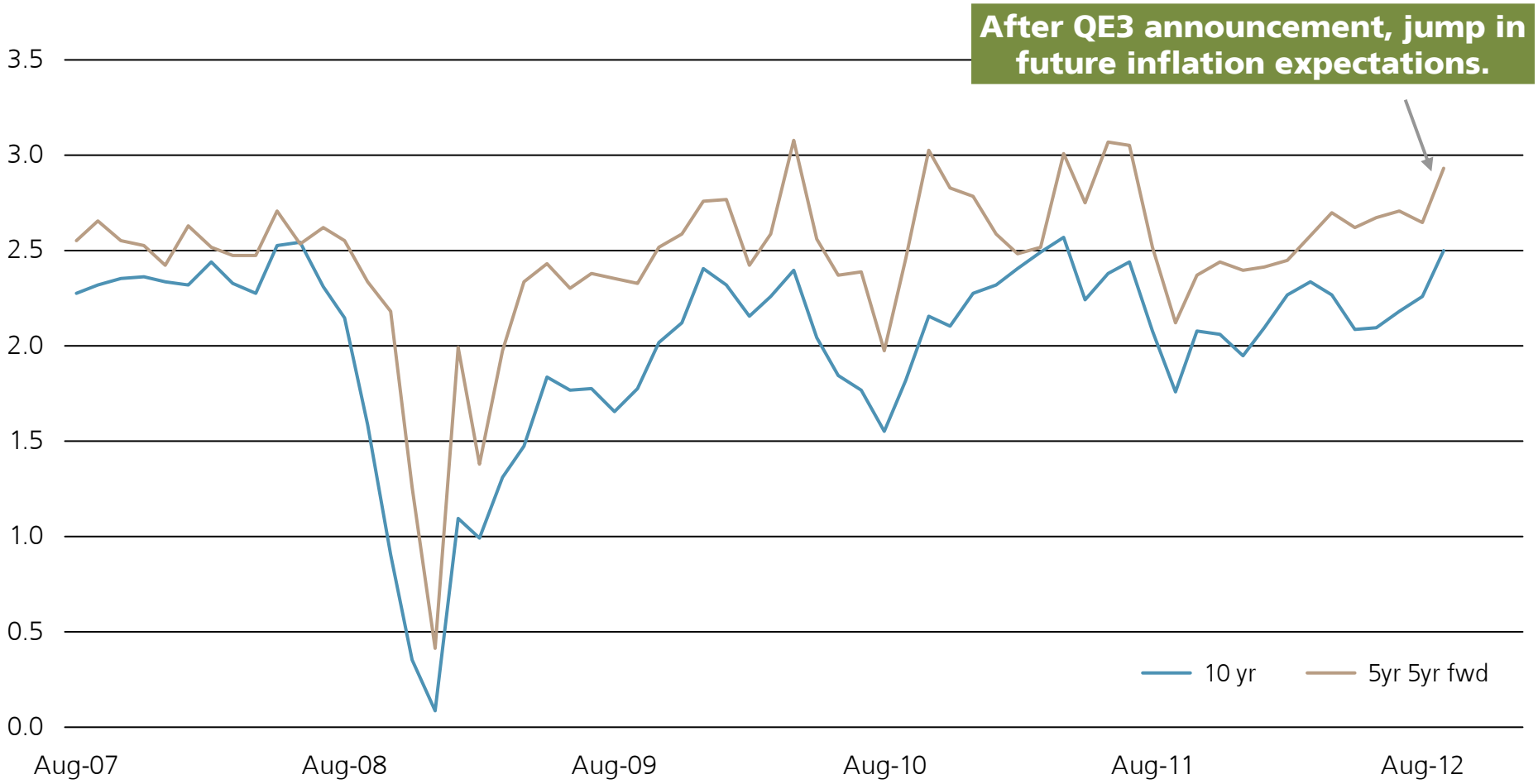
US inflation curve



Source: Bloomberg

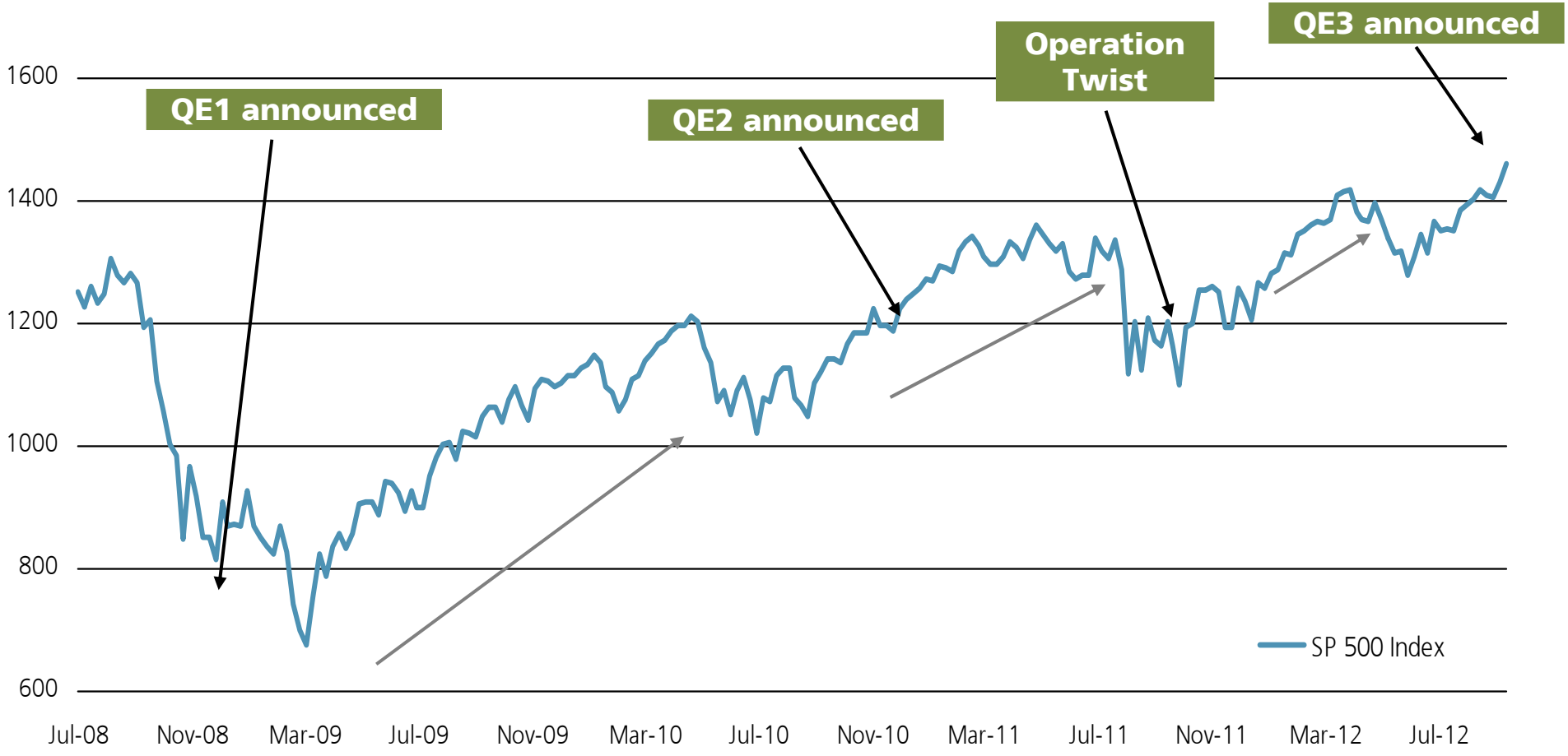
Market conditions: expected inflation

US 10 yr Breakeven inflation and 5 yr forward inflation.



Source: Bloomberg

QE and diminishing marginal returns on “risk assets”



Sources: UBS Global Asset Management, Bloomberg, St. Louis Federal Reserve
As of 15 August 2012
Past performance is no guarantee of future results.

Investment implications for real return investors

- Conservative investors in fixed income should expect negative real returns
  - Both nominal Treasuries and TIPS are locking in a negative real return
    - Shorten duration of TIPS portfolio?
- Direct real estate, timberland, and farmland will likely offer modest returns
- REITs and Natural Resource stocks should be volatile and offer highest returns
- Commodities will likely offer low-correlation to equity beta and low returns
- Long term investors seeking real return strategies should tilt away from fixed income and into moderate and higher risk assets
  - Equities should offer highest long term real return

Appendix

Louis D. Finney, PhD

Global Investment Solutions, Defined Contribution Specialist
Executive Director

Years of investment industry experience: 26

Education: University of Maryland (US), PhD (Economics); Johns Hopkins University (US), BA

- Louis supports the development and implementation of investment strategies and products for the defined contribution marketplace. He develops the strategic asset allocation for target date funds, inflation protection and real return strategies, and strategies for the transition from retirement to receiving deferred annuities.
- Before joining UBS in 2011, Louis was Chief Economist and Principal at Mercer Investment Consulting, where he focused on capital market research and strategic asset allocation. He set capital market assumptions, developed tools to model the capital markets and integrate them with asset/liability systems, and portfolio construction with multiple managers. Louis also had corporate defined benefit and defined contribution clients and assisted in special projects across the US. He sat on several national and global committees.
- Louis received his PhD in Economics from the University of Maryland in 1987. He graduated from Johns Hopkins University in 1978.

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A Range of “Alternatives”: CPI-Plus and Real & Absolute Return Strategies

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A Range of "Alternatives"
Real and Absolute Return Strategies

What Is an Alternative Investment?

An Alternative Investment…

a. Does not follow the up-and-down course of stocks and bonds

b. Goes up when the stock market does down

c. Is not subject to the risks of the business cycle or inflation

d. Has a higher expected return than stocks

e. Has less risk than stocks

f. Has a different risk profile than stocks

g. Always goes up regardless of the environment

h. Is a convenient way for managers to charge higher fees

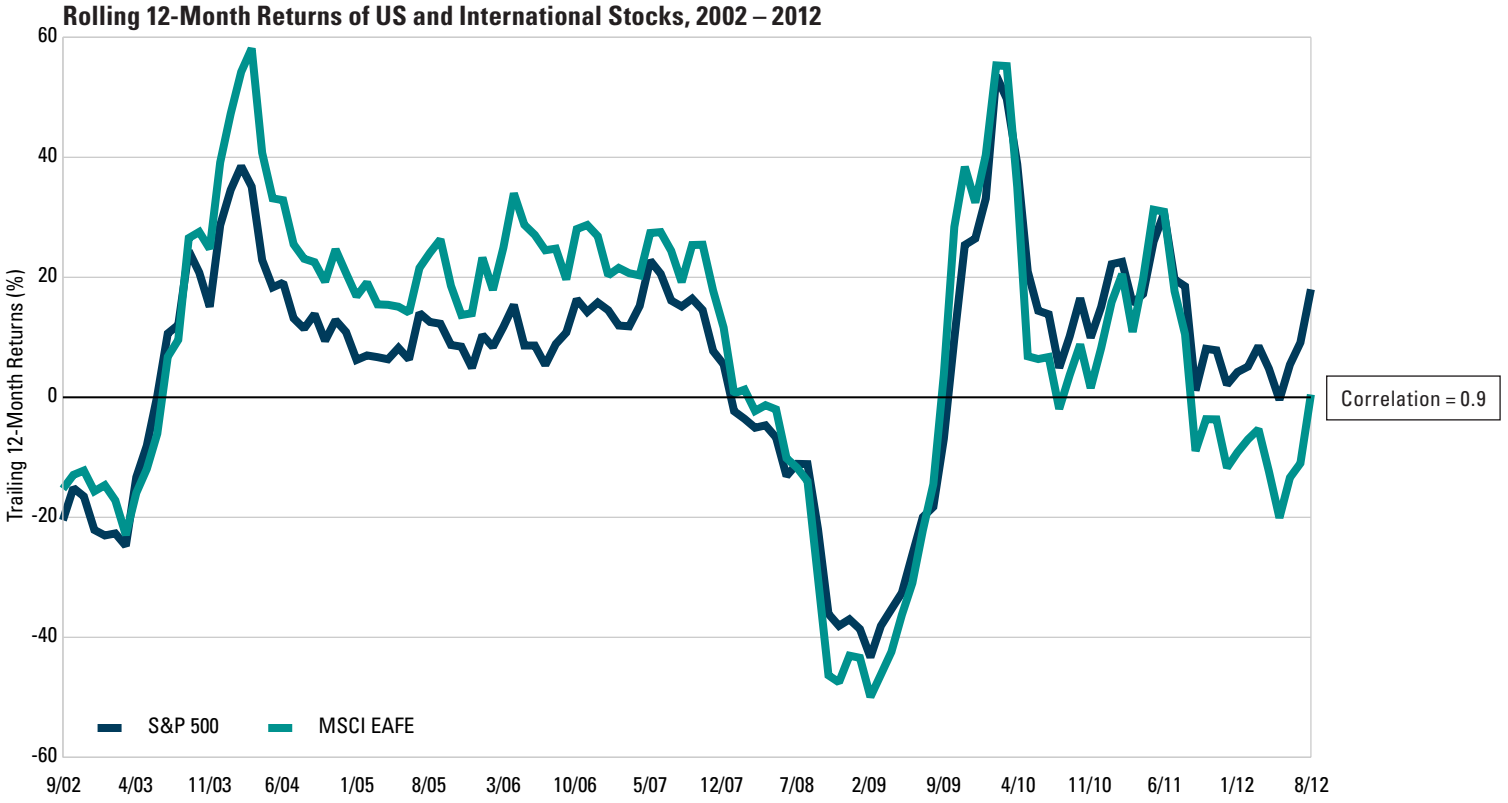
What Is an Alternative Investment?

Tentative Answer

At the most basic level, an alternative investment is one that has different exposures than the asset classes already in an investor's portfolio

So if your portfolio was 100% stocks, government bonds would be an alternative investment

How Can You Tell If an Exposure Is "Different"?



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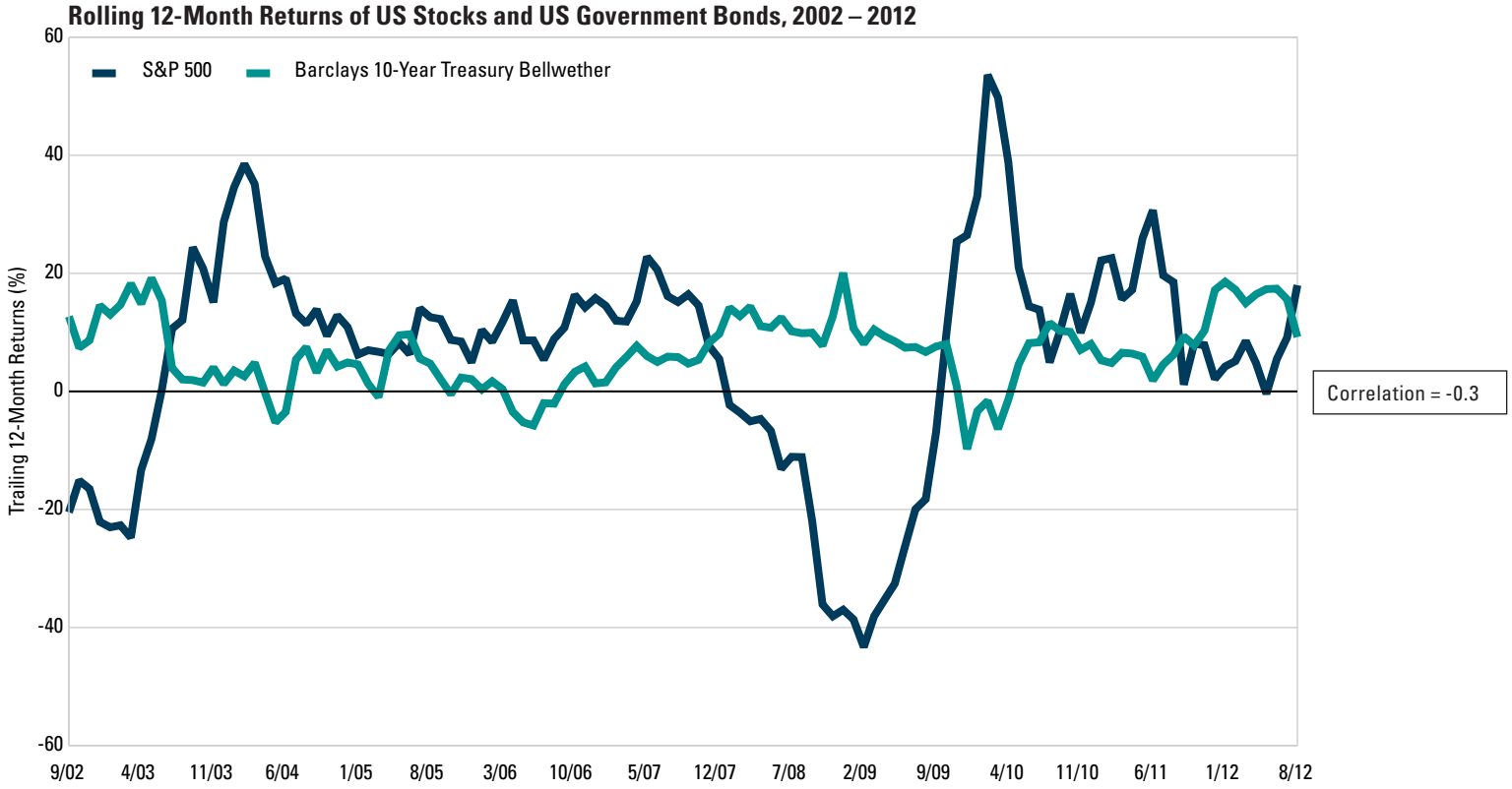
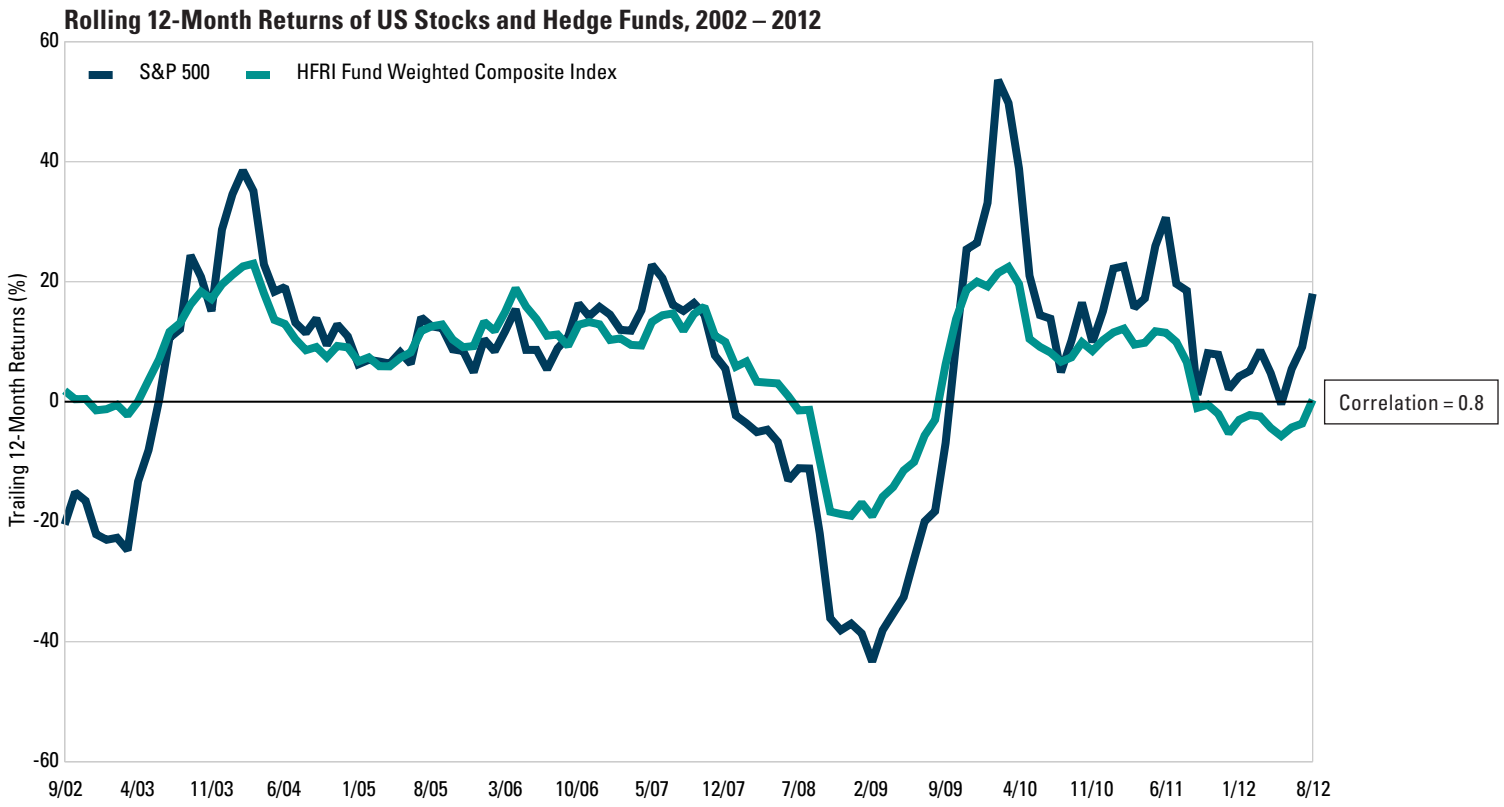
Example of a Good Diversifier



Not as Different as You Might Think



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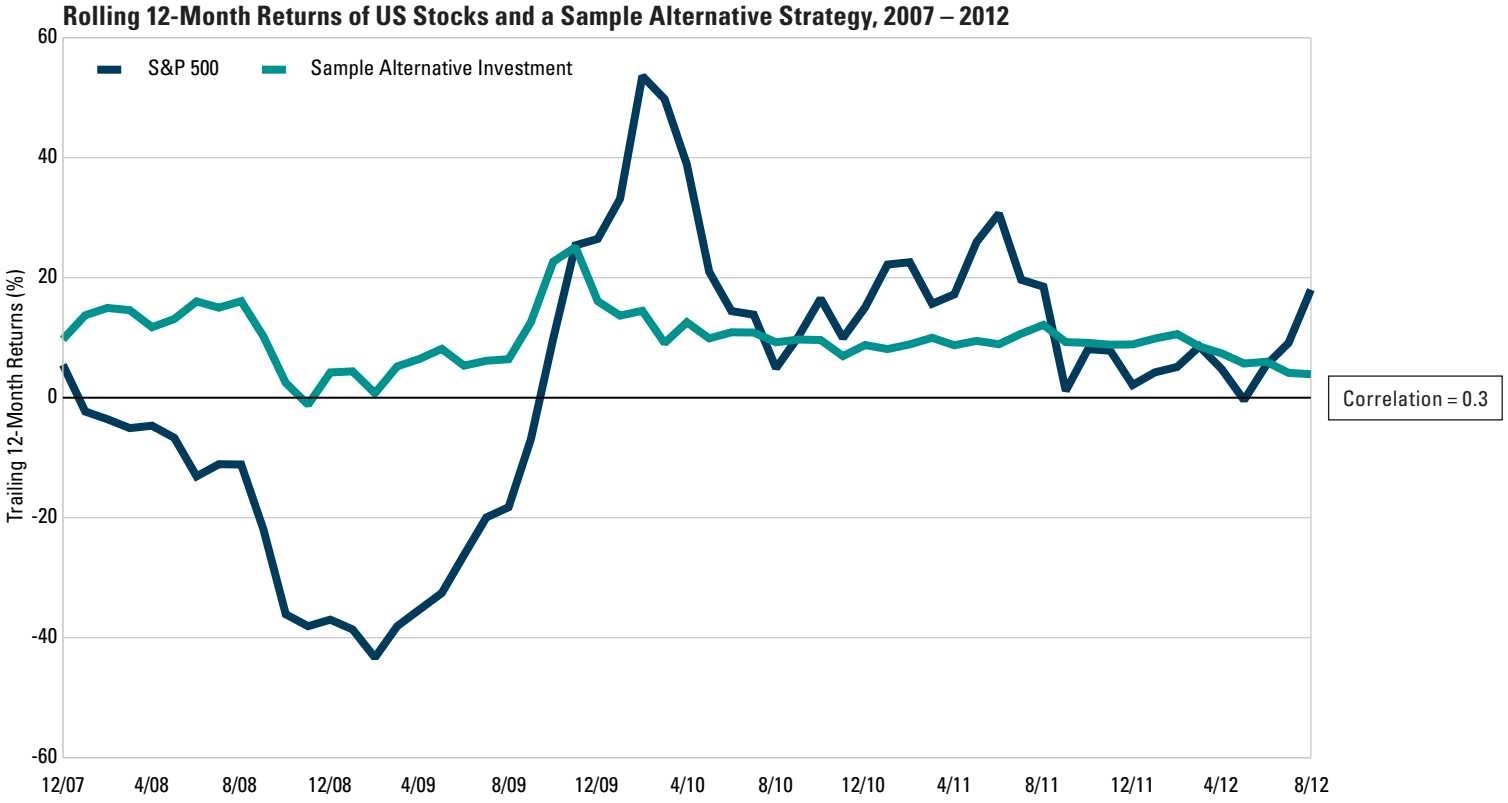
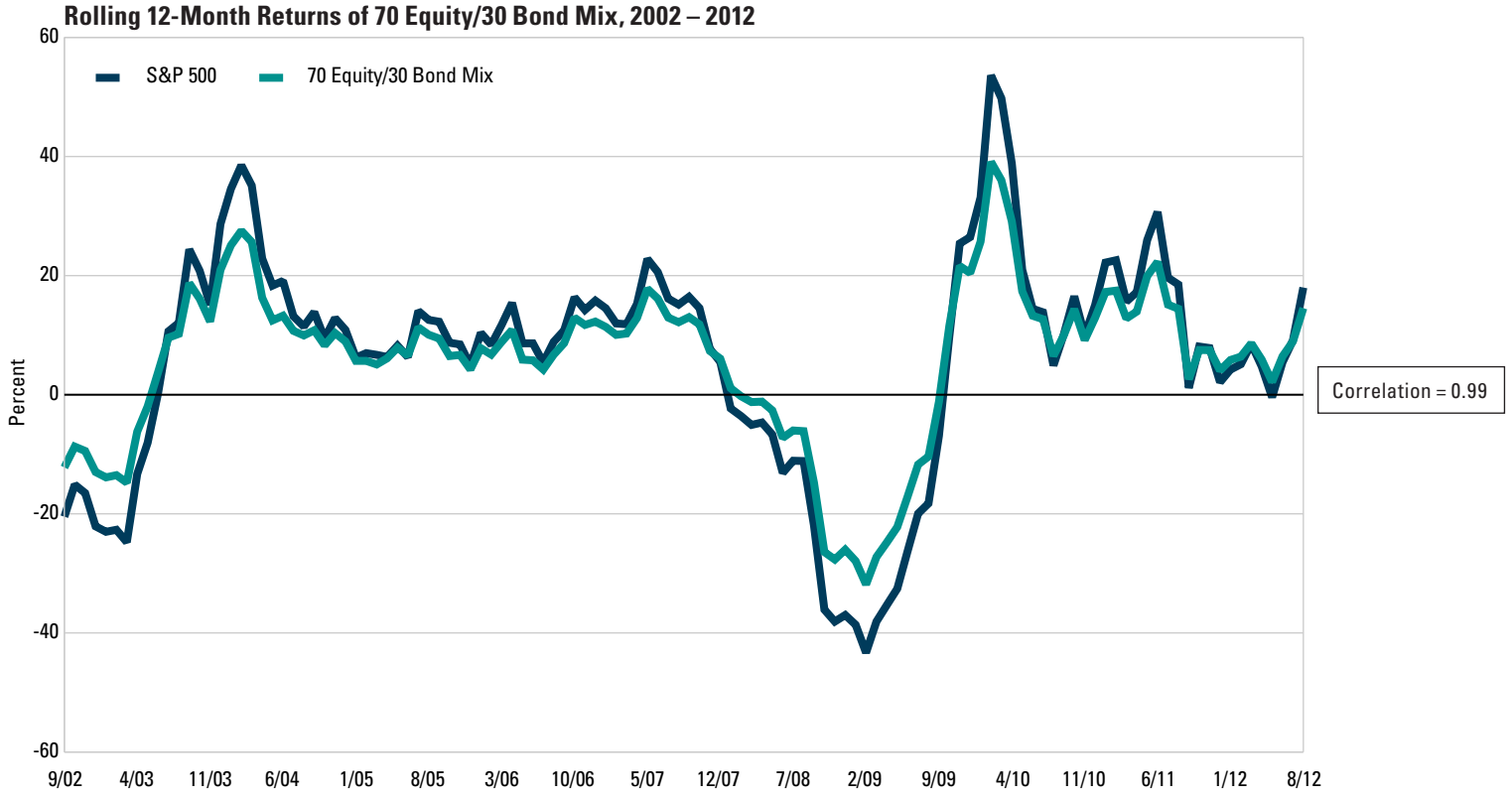
A Bit More Promising



Real Total Return Fund

But You May Not Be as Diversified as You Think



Equity/Bond mix is S&P 500 and Barclays US Aggregate

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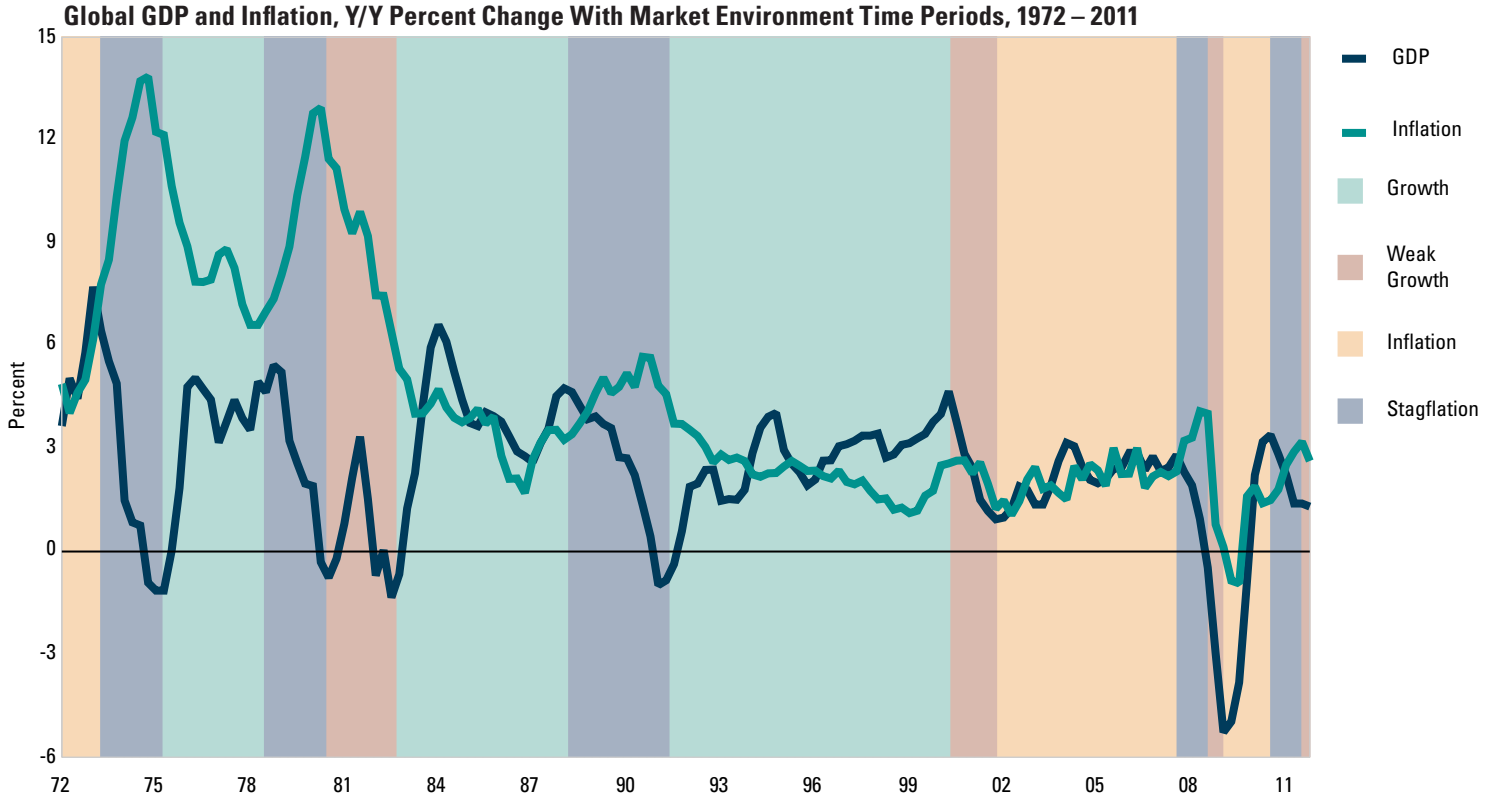
Economic Regimes Change over Time



Sources: Datastream, Wellington Management

Think Function, Not Form

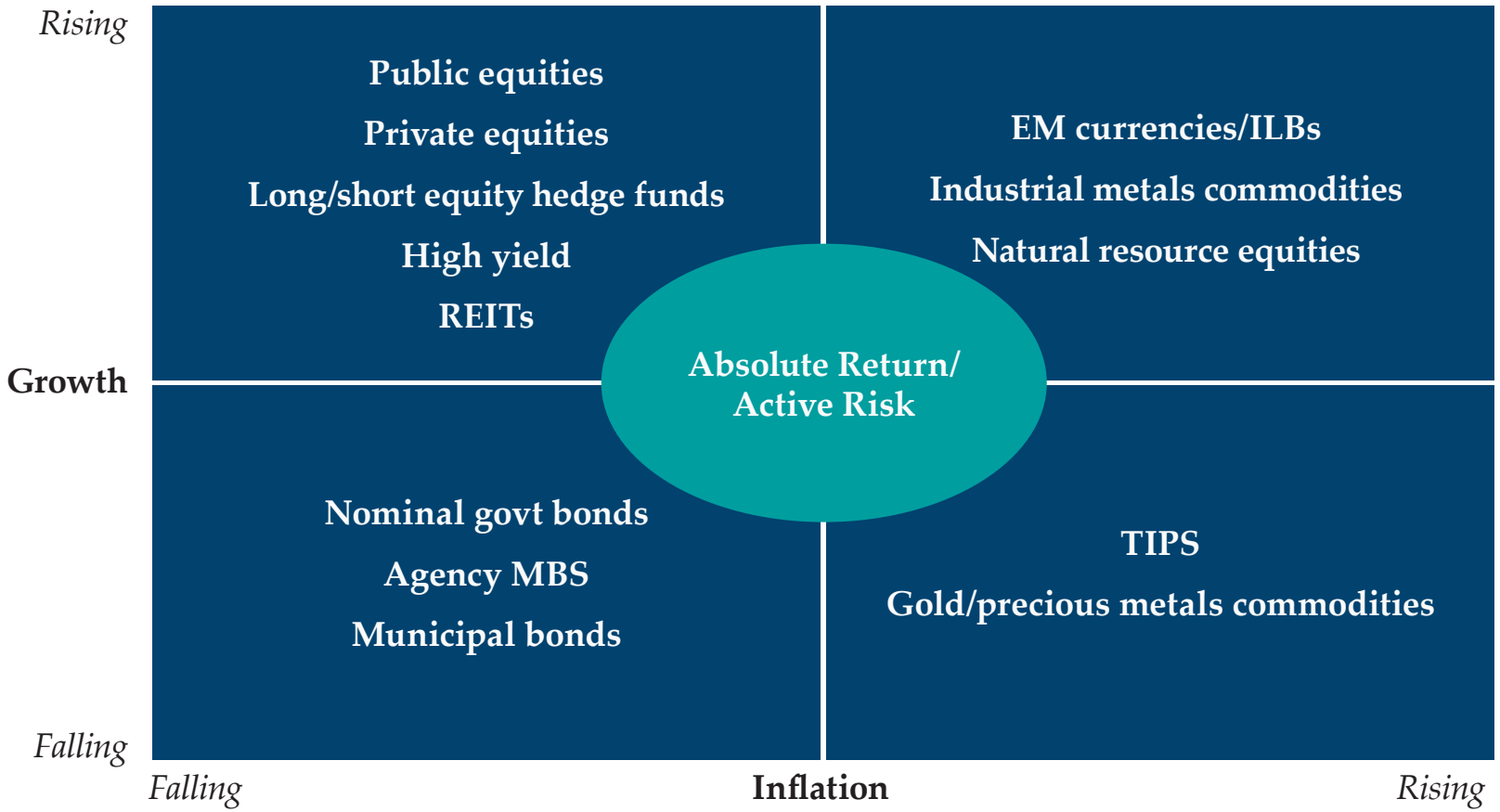
Most investors define investment policy by asset class allocations

Correlation between asset class allocations and future five-year returns have been negative

Defining policy by function of allocation may help investors to avoid ill-timed policy changes

Think Function, Not Form
Diversify Exposure Across Economic Environments

Relative Performance by Economic Environment



For illustrative purposes only

Why Alternatives?

Global Balanced Portfolio*

The typical portfolio is not diversified across economic environments

*60% MSCI All Country World/40% Citigroup World Government Bond (hedged to USD) | Contribution to risk, asset classes mapped categorically to economic environment

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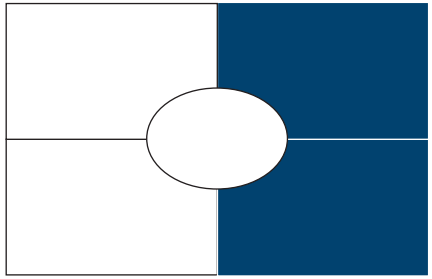
Real and Absolute Return Strategies: Three Options

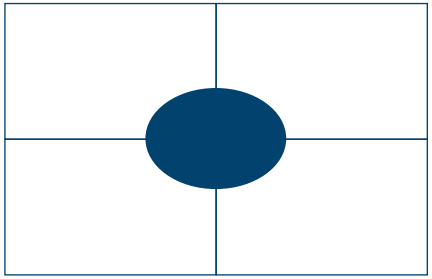
Real Return Strategies



- Return objective is CPI + x%
- Focus on hedging inflation
- Diversified portfolio of inflation- sensitive assets
- Typically long-only

Challenge: performance when inflation expectations are low

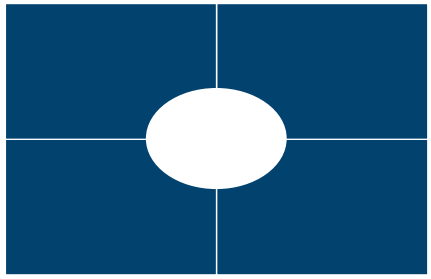
Absolute Return Strategies



- Return objective is cash + x%
- Focus on uncorrelated return
- Portfolio of relative value positions
- Typically long and short

Challenge: fees can be high; use of leverage and shorting

Go-Anywhere Strategies



- Return objective is cash + x%
- Focus on market return
- Portfolio of different asset classes, with positions sizes varying over time
- Typically long-only

Challenge: getting the timing right

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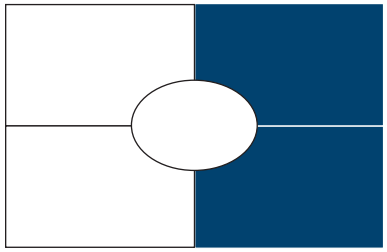
Implementation of Real and Absolute Return Strategies
Key Questions

Deciding between strategies
- Importance of Inflation: in "CPI-plus" is the focus on CPI or the plus?
- Source of returns: emphasize market or manager risk?
- Choose not to choose? Some strategies include elements of all three.

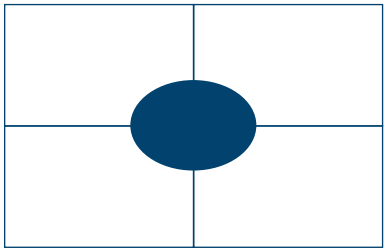
Real Return Strategies



- What asset classes are included?
- Is the portfolio levered?
- Does the portfolio adjust for different economic environments?
- How is success defined?

Sample Strategy
Real Return portfolios

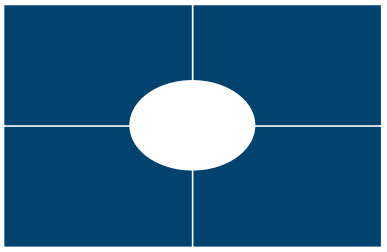
Absolute Return Strategies



- Is the strategy correlated to the stock market?
- To what extent are leverage and shorting used?
- How is risk managed?
- What is the fee?

Sample Strategy
Hedge Funds

Go-Anywhere Strategies



- How dynamic is the strategy?
- How global is the portfolio?
- What security types are used?
- How much leverage is used?

Sample Strategy
Risk Parity strategies

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An Integrated Approach

Wellington's Real Total Return strategy includes elements of Real Return Strategies, Absolute Return Strategies and Go-Anywhere approaches.

Real Return: Meaningful weight to inflation-sensitive assets such as TIPS

Absolute Return: Active manager selection includes multiple market-neutral strategies

Go-Anywhere: Active market selection across a range of asset classes and global markets

Investment process includes stress testing, correlation analysis and opportunistic hedging to help manage risk.

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Real Total Return
Key Characteristics

The Real Total Return approach will typically exhibit the following characteristics

	Strategy Objectives	*Realized Experience (> 5 Yrs)**
Target Annual Return	CPI +5%	9.0% (CPI +7%)
Expected Annual Volatility	6.0 – 10.0%	6.2%
Target Sharpe Ratio	1.0	1.2
Correlation to Equity	< 0.4	0.3
Average Leverage	3x	Range (2 – 5x)
Net Exposure	100%	

*Inception date is 31 December 2006 | The above characteristics are sought during the portfolio management process. Actual experience may not reflect all of these characteristics, or may be outside of stated ranges. | Leverage is defined as gross exposure which is the sum of the long exposure plus the absolute value of the short exposure.

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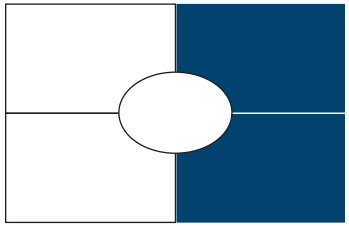
Conclusion

An alternative investment is one that has different exposures than the asset classes already in an investor's portfolio

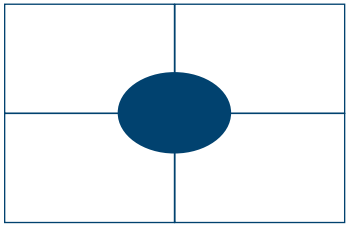
Alternative investments should not be closely tied to the stock market, which is the dominant source of returns in most portfolios

Investors seeking to add alternative exposure can consider:

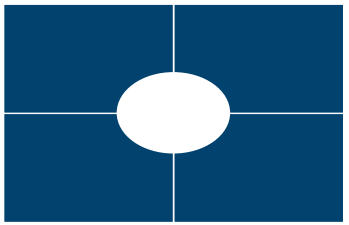
Real Return Strategies



Absolute Return Strategies



Go-Anywhere Strategies



A few key questions can help investors select the right option

- Importance of Inflation: in "CPI-plus" is the focus on CPI or the plus?
- Source of returns: emphasize market or manager risk?
- Choose not to choose? Some strategies include elements of all three.

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Ventura County Employees' Retirement Association

October 2012

Tortoise Capital Advisors

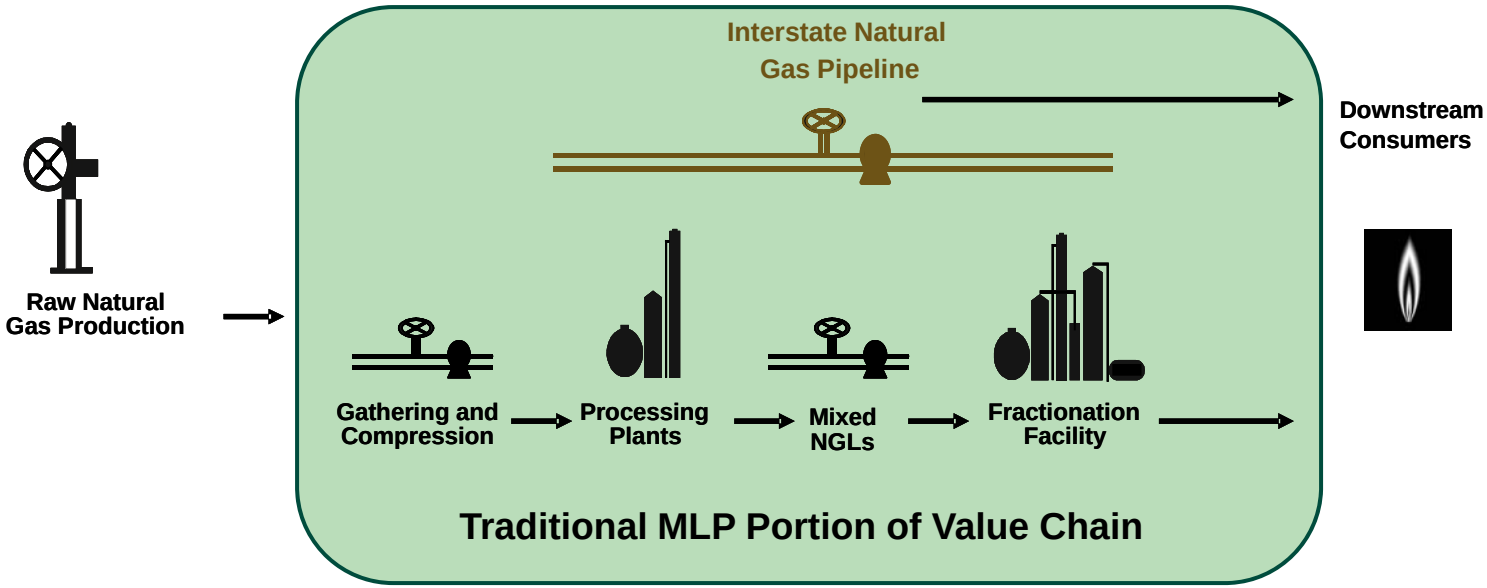
Energy infrastructure is a natural component of Real Assets

Investment characteristics include lack of correlation to equities and inflation protection

TRADITIONAL			ENERGY
REAL ESTATE	TIMBER	TIPS	OIL & GAS
			

What is an MLP?

MLPs are publicly traded companies operating essential energy toll roads



- Pipeline companies generally have steady, recurring, fee-based cash flows with limited direct commodity price exposure.
- Cash flow generally grows with the economy, population and project development and acquisitions.

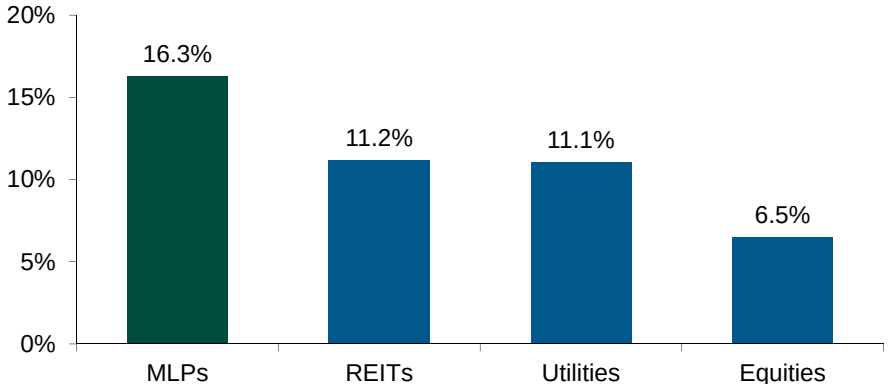
MLPs address many of the shortcomings associated with alternatives

Traditional Alternative Investments	MLPs
☒ Illiquid	☑ Liquid
☒ Opaque	☑ Transparent
☒ Lack of definition of subsequent investments	☑ Visibility of investments
☒ Political / sovereign risk	☑ Corporate clients

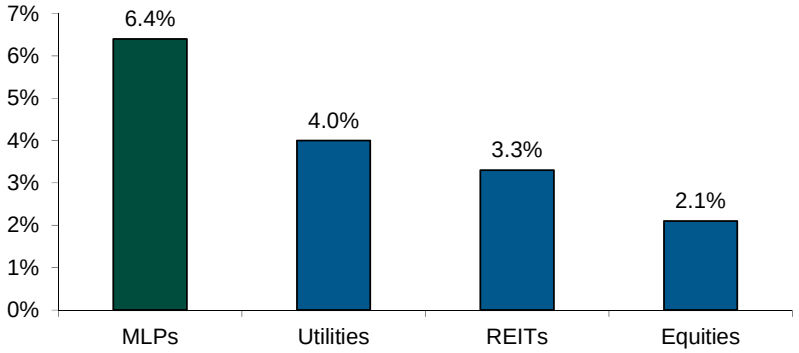
The MLP is an investor-friendly vehicle for infrastructure

Risk-adjusted returns and diversification

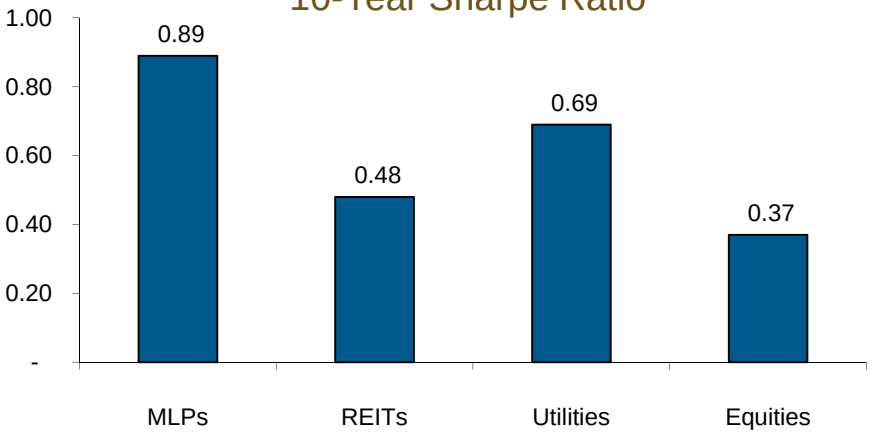
10-Year Total Return



Yield

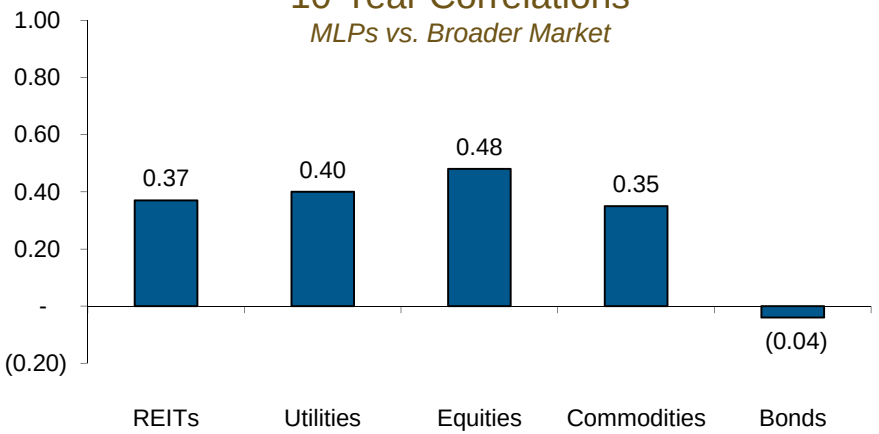


10-Year Sharpe Ratio



10-Year Correlations

MLPs vs. Broader Market

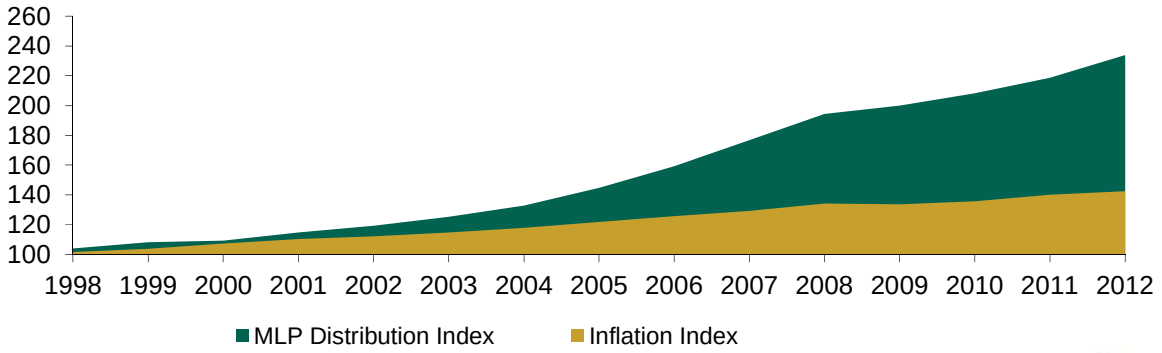


Source: Bloomberg and websites. Total return assumes reinvestment of distributions. Note: Sharpe Ratio = 10-year total return less risk-free rate, divided by 10-year standard deviation. As of Aug. 31, 2012. MLPs = Tortoise MLP Index®, Utilities = Dow Jones Utility Average Index, REITS = FTSE NAREIT Equity REIT Index, Equities = S&P 500®, Bonds = Barclays Capital Aggregate Bond Index, Commodities = S&P® GSCI Commodities Index, risk-free asset = Merrill Lynch 3-month Treasury Bill Index. Please refer to the Appendix for index descriptions. It is not possible to invest directly in an index.

Growing MLP distributions provide inflation protection

MLP distribution growth (ex GPs) has outpaced inflation in twelve of the last thirteen years.

2010 index values (1997 base year = 100)

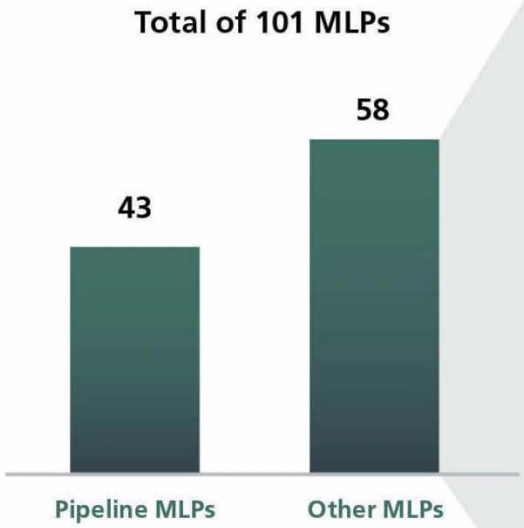


Source: Wells Fargo, Tortoise Capital internal estimate and the U.S. Department of Labor, Bureau of Labor Statistics.

Past performance is no guarantee of future results.

Not all MLP are the same

Most MLPs are not pipeline companies



E&P MLPs (Total 15)
Atlas Energy, LP
Atlas Resource Partners, LP
BreitBurn Energy Partners, LP
Constellation Energy Partners, LLC
Dorchester Minerals, LP
Eagle Rock Energy Partners, LP
EV Energy Partners, LP
Legacy Reserves, LP
Linn Energy, LLC
LRR Energy, LP
Memorial Production Partners, LP
Mid-Con Energy Partners, LP
Pioneer Southwest Energy Partners, LP
QR Energy, LP
Vanguard Natural Resources, LLC

Propane MLPs (Total 6)
AmeriGas Partners, LP
Ferrellgas Partners, LP
Inergy, LP
NGL Energy Partners, LP
Star Gas Partners, LP
Suburban Propane Partners, LP

Shipping MLPs (Total 5)
Capital Product Partners, LP
Golar Energy Partners, LP
Navios Maritime Partners, LP
Teekay LNG Partners, LP
Teekay Offshore Partners, LP

Other Natural Resources (Total 6)
Calumet Specialty Prod. Partners, LP
CVR Partners, LP
Petro Logistics, LP
Pope Resources, LP
Rentech Nitrogen Partners, LP
Terra Nitrogen Company, LP

Coal (Total 6)
Alliance Resource Partners, LP
Alliance Holdings GP, LP
Natural Resources Partners, LP
Oxford Resource Partners, LP
Penn Virginia Resource Partners, LP
Rhino Resource Partners, LP

Real Estate (Total 6)
New England Realty Associates, LP
NTS Realty, Ltd.
W. P. Carey & Co, LLC
America First Tax Exempt Investors
Ellington Financial, LLC
Municipal Mortgage and Equity, LLC

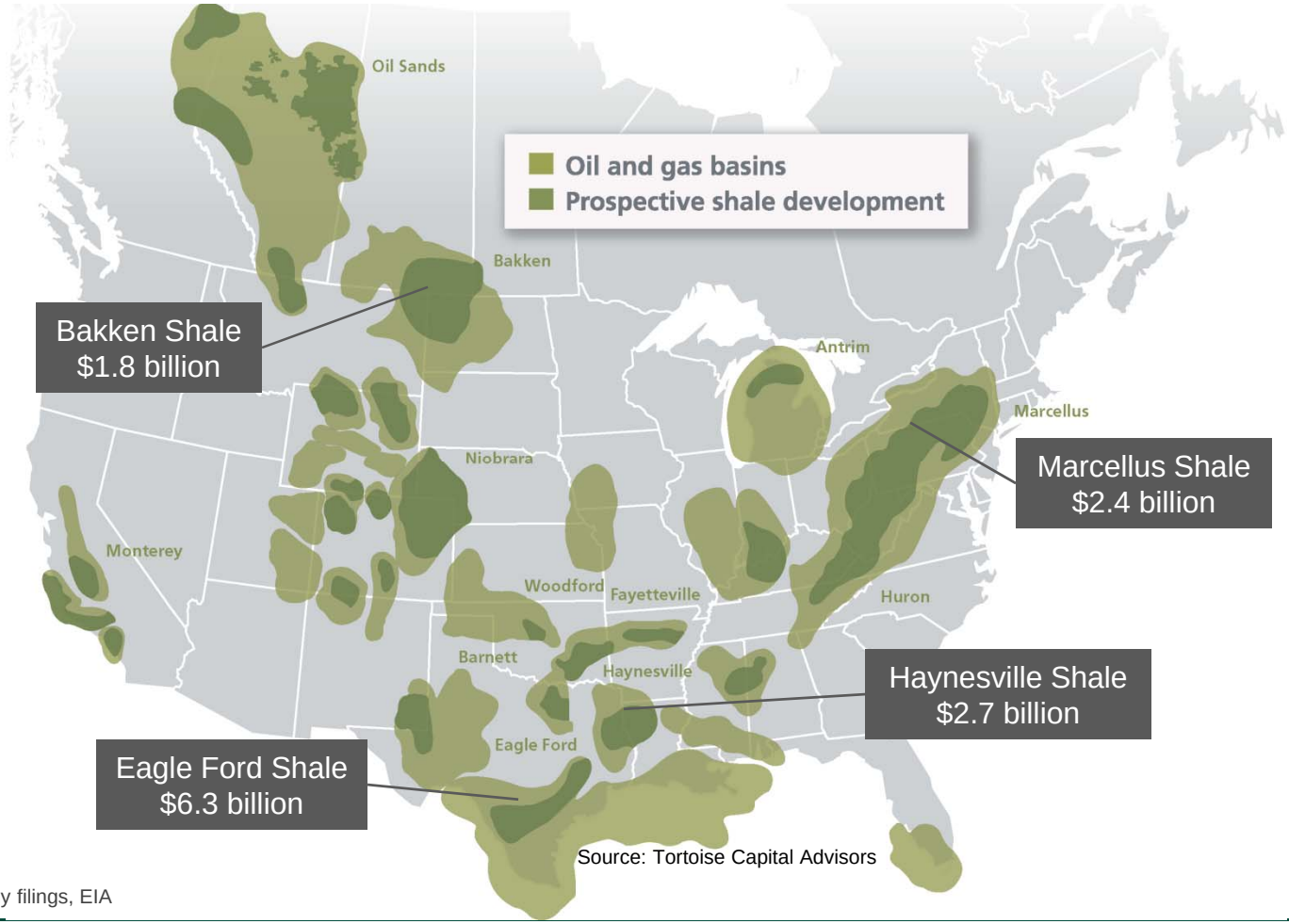
Financial Services (Total 10)
Alliance Bernstein, LP
Apollo Global Management, LLC
The Blackstone Group, LP
Compass Diversified Holdings, LLC
Fortress Investment Group
Icahn Enterprises, LP
KKR & Co., LP
KKR Financial Holdings, LLC
Lazard Ltd.
Och-Ziff Capital Management Group, LLC

Other MLPs (Total 4)
Brookfield Infrastructure Partners, LP
Cedar Fair, LP (amusement parks)
ML Macadamia Orchards, LP (agriculture)
StoneMor Partners, LP (cemetaries)

Why Now?

Clear need for additional capital for development

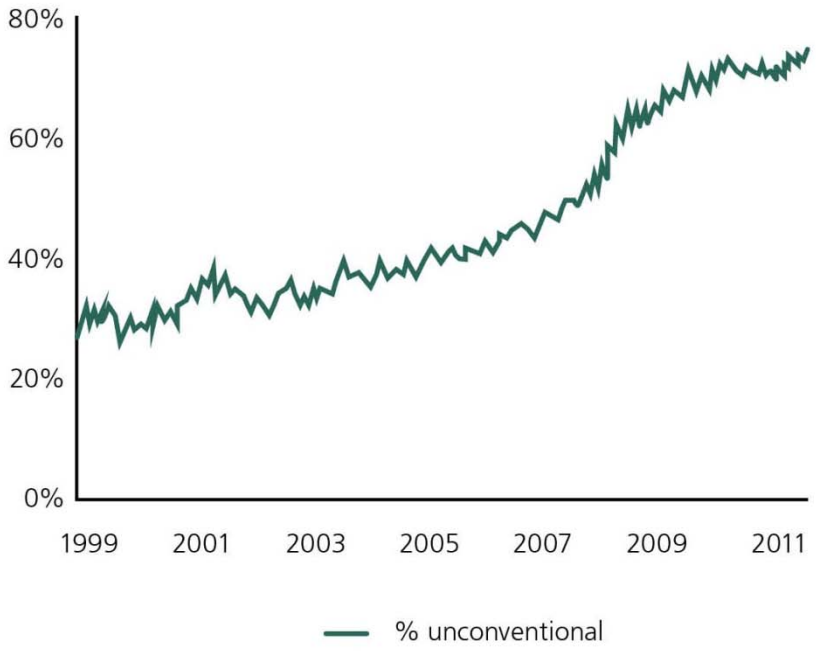
- $100 billion spent over last three years to accommodate oil sands, shale gas and Rockies gas
- An additional $100 billion expected over next three years for new production



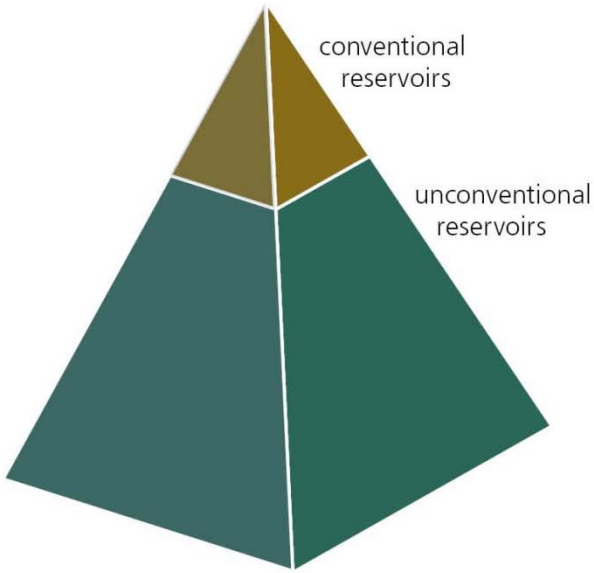
Based on: Company filings, EIA

The domestic unconventional reservoir opportunity

US drilling rigs



Resource potential



Source: Tortoise Capital.

On the road to energy independence

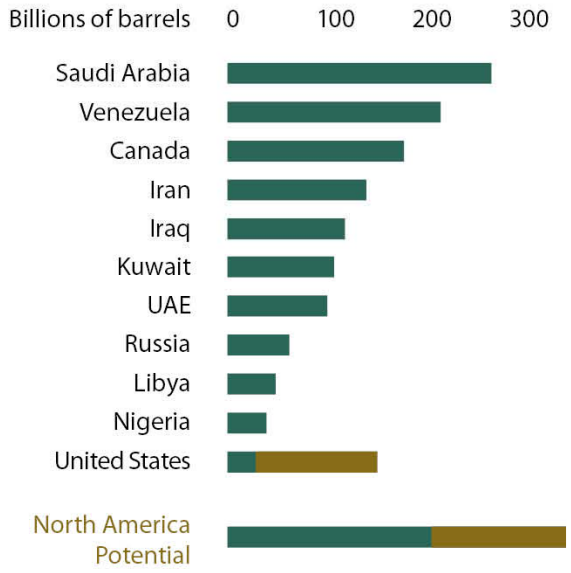
Proved Reserves

Quantities estimated with reasonable certainty to be producible from defined reservoirs under existing economic, technological, and regulatory conditions

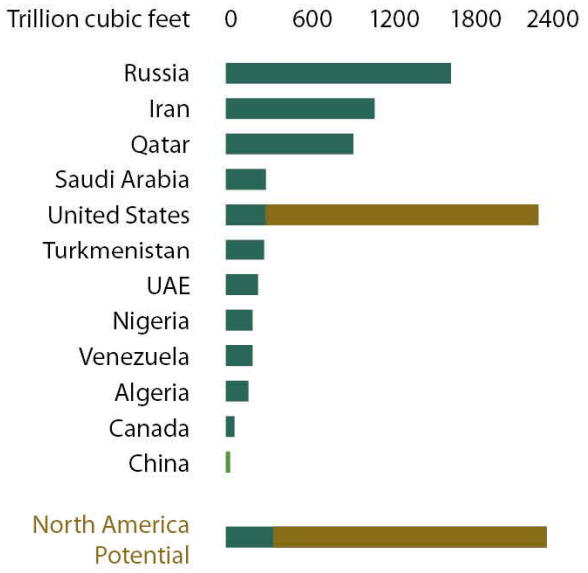
Potentially Recoverable Resources

Cumulative estimates of proved, probable, possible, currently uneconomic, and speculative reserves

Crude oil resources



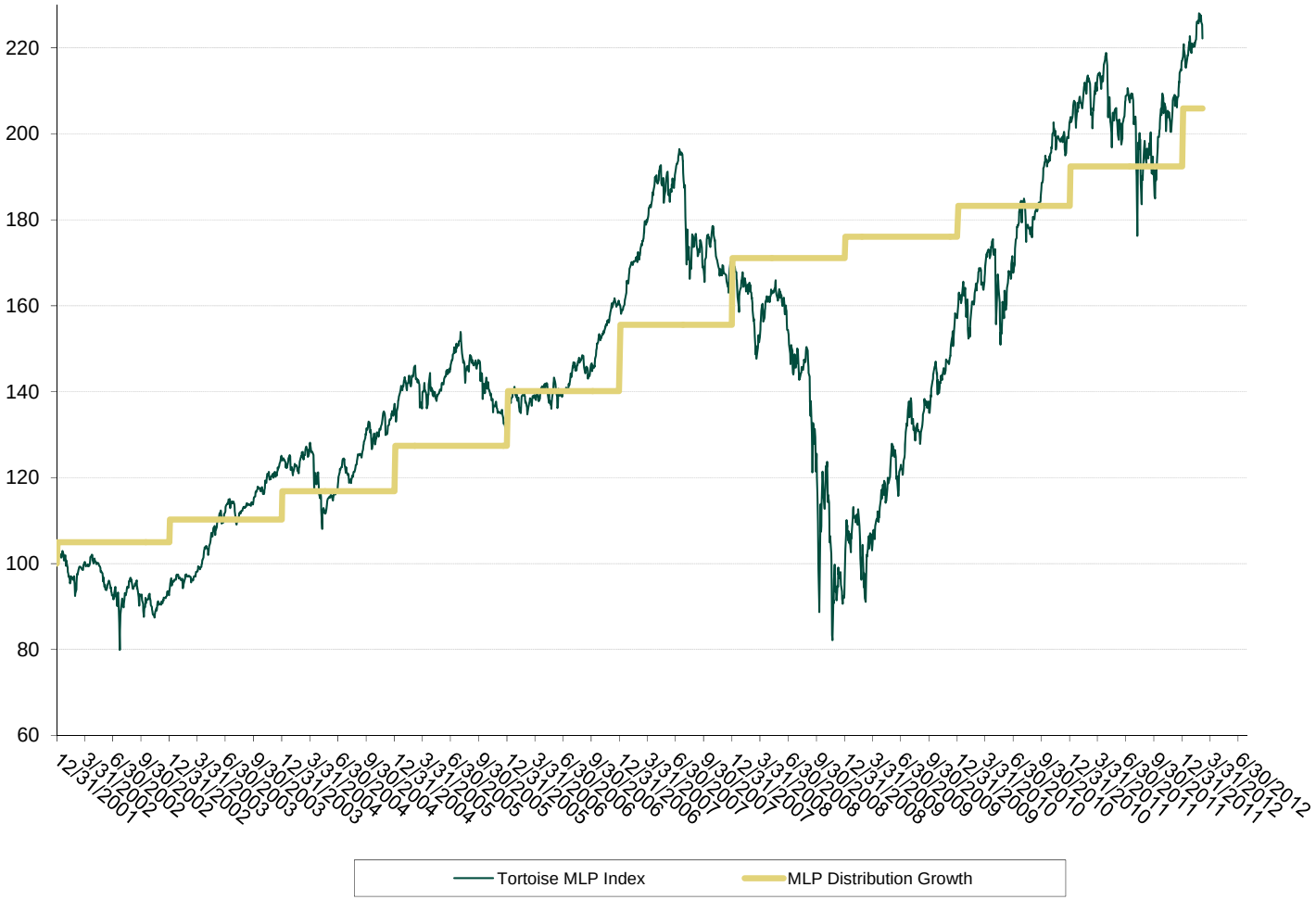
Natural gas resources



Source: Proved Reserves: CIA. Potentially recoverable resources of 2,190 trillion cubic feet of natural gas (EIA, ICF and Potential Gas Committee) and 164.6 billion barrels of crude oil (Senate Report, 2011). Assumes resource levels of other countries remain static due to lack of quantifiable data. Some sources believe there are significant potential natural gas resources in Canada and China, though no reliable data is available.

The data reflected on this page is based on industry estimates and are not a guarantee of future outcomes.

MLP distributions have increased despite market volatility

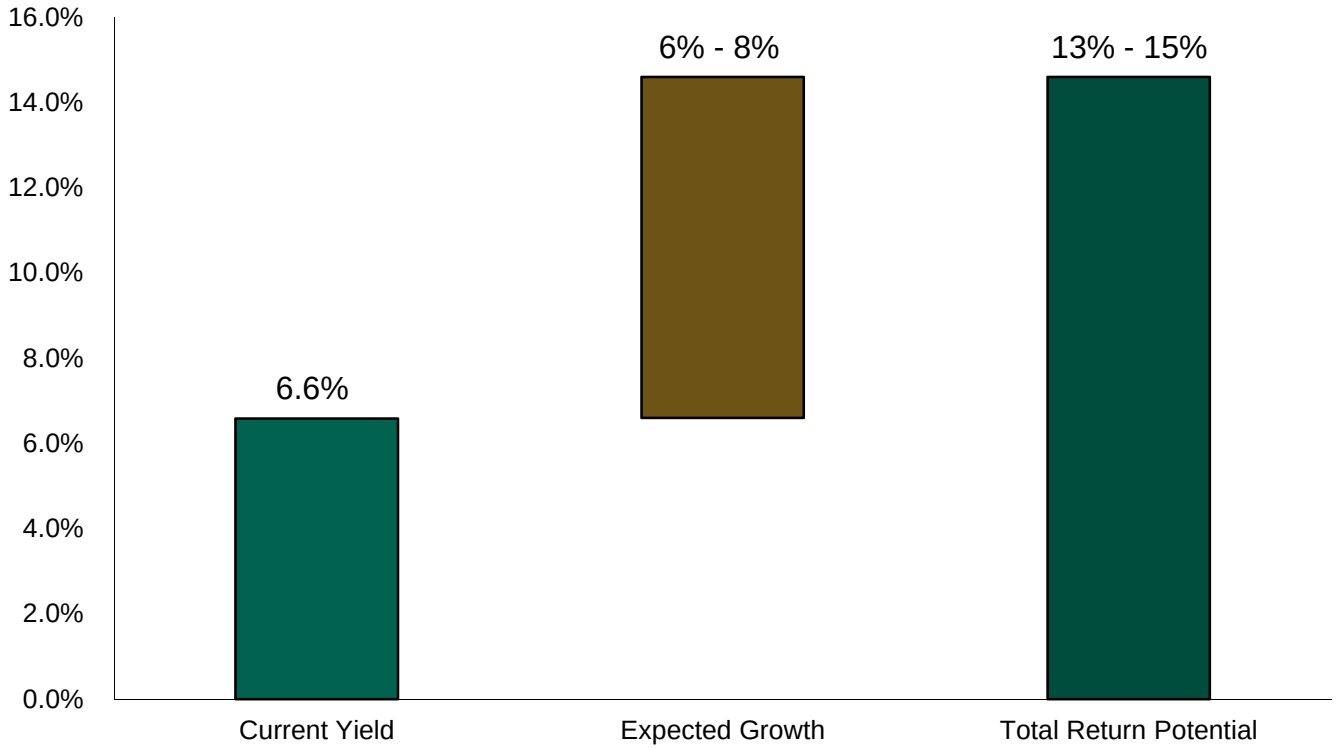


Indexed to 100 as of 12/31/01. Data through 7/31/12. Source: Bloomberg.
Please refer to the Appendix for index descriptions. It is not possible to invest directly in an index.

Past performance is no guarantee of future results

2012 MLP total return outlook

- Expect cash distribution growth of 6% to 8% in 2012
  - Distribution growth is accelerating post 2009 lows, led by long-haul pipelines
- Current yield and growth equate to total return expectations in the low double digits



As of 6/30/12. MLP category represented by the Tortoise MLP Index.

Past performance is no guarantee of future results. *There can be no guarantee that these expectations will be met*

Investing in MLPs

Tortoise Capital investment process focuses on low risk segments

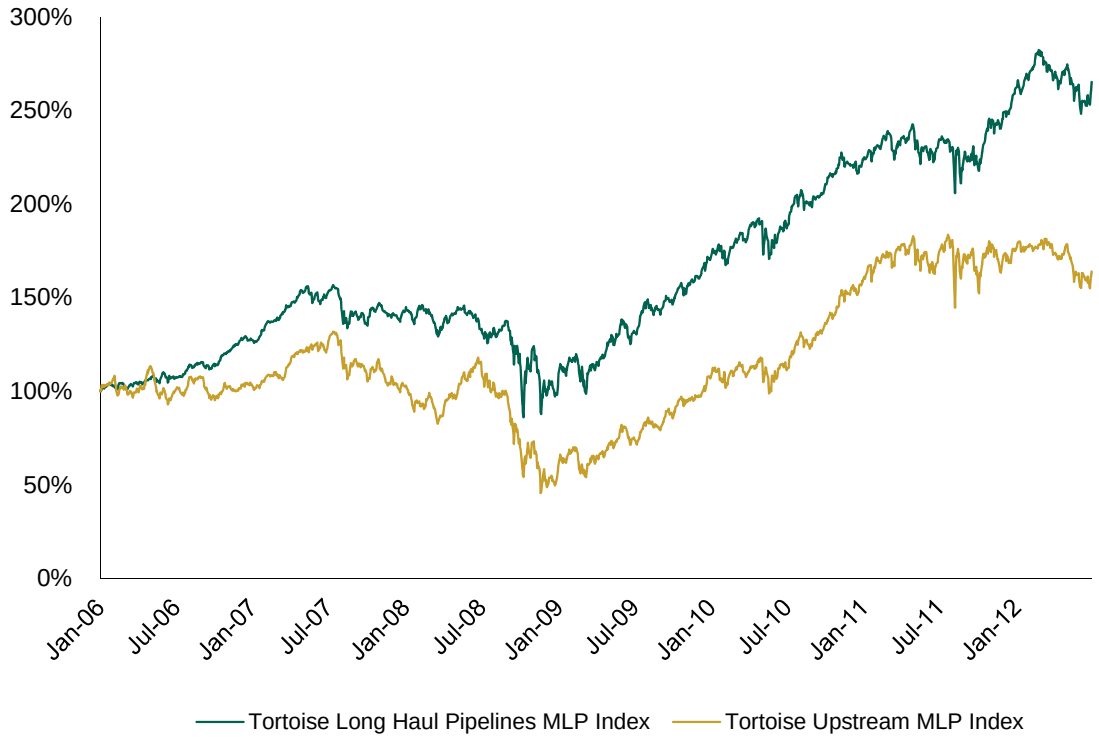
Segment	Commodity Exposure	Investment Grade	Beta	Distribution Cuts[1]
Long-Haul Natural Gas Pipelines	Low	54%	0.71	0%
Long-Haul Crude Oil & Refined Products Pipelines	Low	53%	0.68	7%
Natural Gas Gathering & Processing	Mixed	15.4%	0.91	23%
Upstream (E&P, Coal)	High	0%	0.91	46%

[1]Percent of universe with distribution cuts from 2008 forward through 6/30/12.
Source: Tortoise and Bloomberg.
Note: Betas based on 10-year historical raw beta as of 6/30/12 per Bloomberg, where available. Approximately nine years of data utilized for Upstream MLPs, due to existence of companies.

Past performance is no guarantee of future results.

Result of pursuing a high quality, low commodity risk strategy

Performance Since 2006



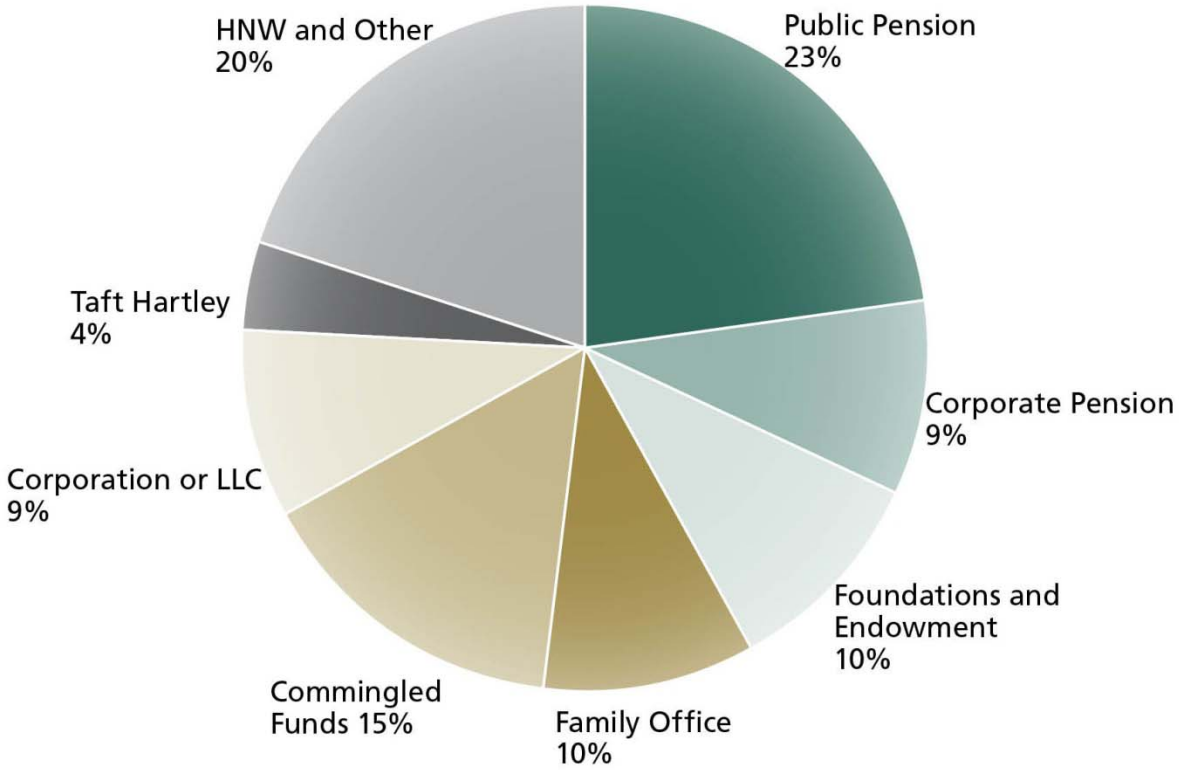
Performance Metrics

	Long Haul	Upstream
Total Return		
5 Year	11.8%	5.9%
3 Year	26.3	29.8
1 Year	13.5	(5.6)
Standard Deviation		
5 Year	18.7%	28.2%
3 Year	14.2	19.9
1 Year	15.2	18.3
Sharpe Ratio		
5 Year	0.58	0.17
3 Year	1.85	1.49
1 Year	0.87	(0.32)

Source: Bloomberg and TCA through 6/30/12. See Appendix for index descriptions. It is not possible to invest directly in an index.

MLP risks and mitigants

Breakout of institutional clients (as of 8/31/12)



Institutions make up approximately 80% of the $3.1 billion that we manage in SMAs

Public pension fund clients

CITY	Inception Date
Denver Employees Retirement Plan	Apr- 10
City of Knoxville Employees' Pension System	Nov- 10
City of Jacksonville	Feb- 11
Tacoma Employees' Retirement System	Sep-11
City of Philadelphia Board of Pensions	Feb-12
Houston Municipal Employees Pension System	Jun-12

PUBLIC SAFETY	Inception Date
Missouri DOT & Patrol Employees' Retirement System	Sep- 10
The Firemen's Retirement System of St. Louis	Oct- 10
Fire & Police ERS of the City of Baltimore	Nov- 10
Jacksonville Police & Fire Pension Fund	Mar- 11
Louisiana Clerks of the Court	Apr- 11
St. Charles Fire Pension Fund	Mar-12
St. Charles Police Pension Fund	Apr-12

STATE	
Maryland State Retirement Agency	Jul- 09
Kentucky Retirement Systems	Jul- 09

COUNTY / OTHER	
Omaha School Employee Retirement System (OSERS)	Dec- 03
Weld County Retirement Plan	Aug - 11
Adams County Retirement Plan	Jan-12
Platte River Power Authority	Jan-12
Arapahoe County Retirement Plan	Mar-12
El Paso County Retirement Plan	Jun-12

Appendix – Tortoise Capital

Tortoise Capital – a focus on Master Limited Partnerships

Committed to energy infrastructure investment

- Large team dedicated to long-only energy infrastructure
- Pioneering investment products have broadened and deepened investor base

Developed a solid investment process focused on risk and return

- Consistent strategy concentrated in low risk long haul pipelines
- Proprietary risk, financial and valuation models

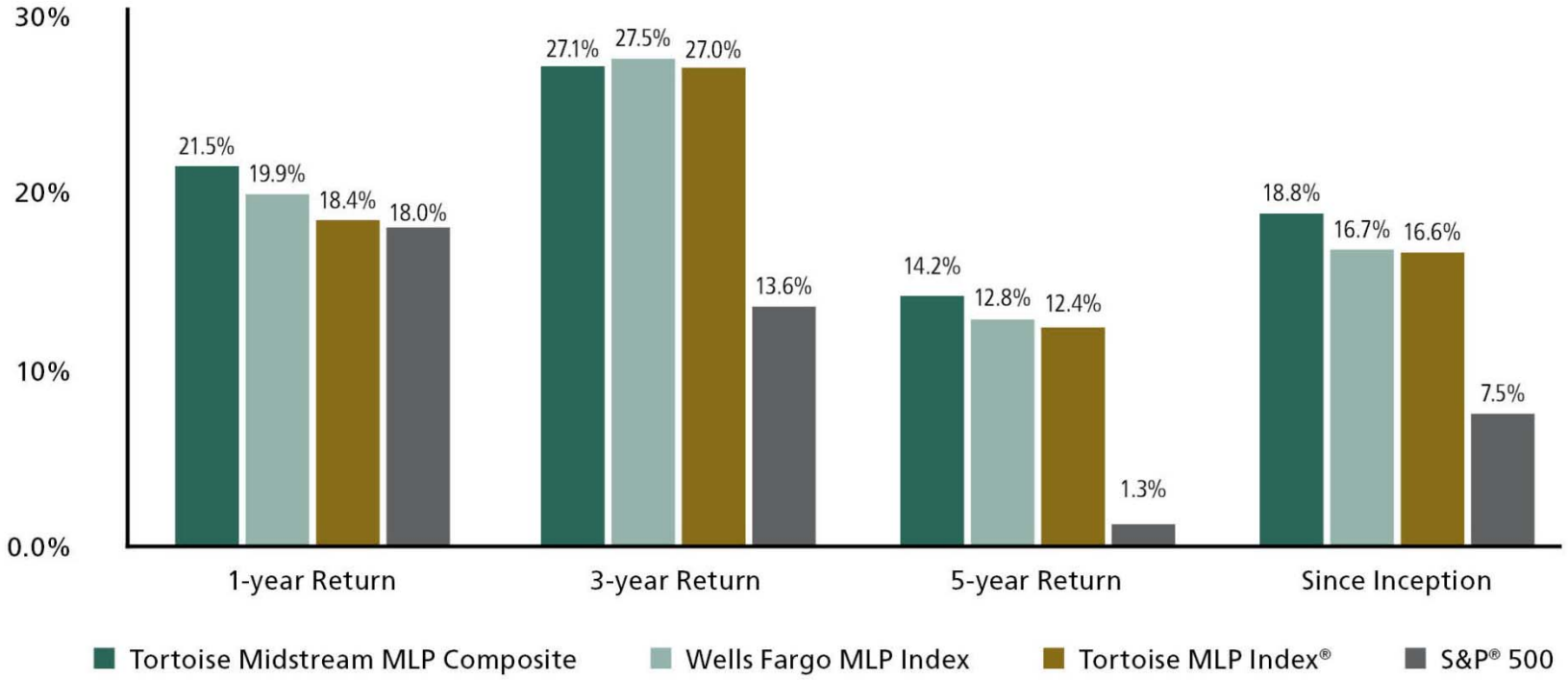
Delivered strong returns to our investors since inception

- Our separate accounts have outperformed the Tortoise MLP Index since inception by 200+ bps
- Tortoise returns compliant with GIPS®, results are verified semi-annually

Please refer to the Appendix for additional performance information. It is not possible to invest directly in an index.

Past performance is no guarantee of future results.

Performance of Tortoise Midstream MLP Composite (as of 8/31/12)



Source: Bloomberg and Tortoise Capital.
Note: All return information is before fees. Please refer to the Appendix for additional index and performance information. It is not possible to invest directly in an index.

Past performance is no guarantee of future results.

Performance record using *GIPS*® standards

Tortoise Midstream MLP Composite
February 1, 2003 through June 30, 2012

Period Ended	Total Return (Gross)	Benchmark Return	Composite 3 Year Std Dev	Benchmark 3 Year Std Dev	Composite Dispersion	Composite Ending Value (millions)	Ending Number of Portfolios	Total Firm Assets End of Period (millions)	Percentage of Firm Assets	Percentage of Bundled Fee Accounts
2/1/03-12/31/2003	39.60%	36.88%			NA	$23	69	$91	25%	4%
12/31/04	22.05%	17.71%			1.86%	$72	90	$692	10%	3%
12/31/05	6.06%	2.51%			1.11%	$127	143	$1,506	8%	2%
12/31/06	31.27%	29.42%	11.34%	11.06%	0.53%	$192	158	$2,175	9%	2%
12/31/07	12.73%	11.65%	11.35%	11.86%	0.69%	$232	176	$2,930	8%	2%
12/31/08	-37.22%	-38.61%	18.16%	19.09%	1.23%	$217	190	$1,440	15%	1%
12/31/09	84.46%	77.91%	22.91%	24.09%	2.70%	$659	245	$2,830	23%	1%
12/31/10	33.25%	37.71%	22.61%	24.05%	0.70%	$1,145	376	$6,119	19%	2%
12/31/11	16.92%	13.73%	16.34%	17.69%	0.39%	$1,602	456	$7,593	21%	3%
YTD 6/30/12	-0.42%	-0.66%	14.41%	15.45%	NA	$1,742	538	$7,745	22%	4%

Tortoise Capital Advisors, LLC claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Tortoise has been independently verified for the periods 2/1/03-12/31/11. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. The Tortoise Midstream MLP Composite has been examined for the periods 2/1/03-12/31/11. The verification and performance examination reports are available upon request.

Performance Disclosures

1. Tortoise Capital Advisors, LLC ("Tortoise") is a registered investment advisor established in 2002. Tortoise manages assets for closed-end funds and separately managed institutional and high net worth accounts primarily in energy infrastructure investments in the U.S. and Canada with a focus on Master Limited Partnerships.
2. The Tortoise Midstream MLP Composite (the "Composite") is a composite of Tortoise managed institutional and individual separate accounts focused on investments in publicly traded Master Limited Partnerships predominately comprised of U.S. energy infrastructure assets. The Composite name was previously known as the Tortoise MLP Separate Account Composite. A complete list of Tortoise performance composites is available upon request.
3. The creation and inception date for the Composite is 2/1/03; therefore, the period ended 12/31/03 includes 2/1/03 through 12/31/03 (eleven months).
4. Valuations are computed and stated in U.S. dollars.
5. The Composite includes all fee-paying, discretionary, similarly managed accounts starting with the first full month under management, including accounts no longer managed by the firm. One account totaling less than 1.5% of the composite utilizes total return swaps for all of its MLP investment exposure.
6. Performance is reported as a total rate of return, reflecting reinvested dividends and income. Performance is size weighted and is calculated using time weighted monthly returns for periods prior to 6/30/09. Periods after 6/30/09 are calculated using daily returns.
7. The ex-post risk measurement shown is the three year annualized standard deviation of monthly returns for both the Composite and the Index as of each year end if a full 36 months of trailing data is available.
8. Composite dispersion is measured by asset weighted standard deviation of returns for accounts managed for the full year.
9. Composite returns for periods prior to 12/31/04 are calculated based on dividend distribution pay dates. For periods after 12/31/04 returns are calculated using accruals for distributions based on distribution ex-dates.
10. Results are presented before management fees. Client returns will be reduced by advisory fees and other expenses incurred as a client. Tortoise's standard fee is 100 basis points of the market value of assets annually. The compounding effect of advisory fees would reduce annualized returns by approximately 110 basis points at 10% total annual return. Such impact would vary with rates of portfolio returns. Fees may be lower for older accounts with grandfathered fees or for accounts with negotiated fees based on size of account and the nature and level of services provided by Tortoise. See Part II of Tortoise's Form ADV for additional fee disclosures.
11. Bundled fees include advisory, trading, custody and other service fees.
12. The portfolio returns have been compared to the Tortoise MLP Total Return Index (the "Index") as a benchmark. The Index is a float-adjusted, capitalization weighted index of energy master limited partnerships. The Index has a 10% cap on any one constituent at the time it is rebalanced. Standard & Poor's Custom Indicies independently calculates the Index which is rebalanced quarterly. The benchmark was changed to the Index from the Atlantic Asset Management MLP Energy Index as of 1/1/10 when Atlantic discontinued publication of their index. The returns prior to 1/1/10 for the Index are not materially different from the Atlantic Index.
13. Policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request.
14. Consultants may provide Tortoise's gross performance results to prospective clients only on a "one-on-one" basis and with the above disclosures.
15. Past performance is not indicative of future results.

Index descriptions

Energy Infrastructure MLPs	**Wells Fargo MLP Index *(formerly Wachovia MLP Index)***	A float-adjusted, capitalization-weighted index of energy master limited partnerships (MLPs) with a market capitalization of at least $200 million at the time of inclusion.
	Tortoise MLP Index®	A float-adjusted, capitalization weighted index of energy master limited partnerships (MLPs). To be eligible for inclusion in the Tortoise MLP Index®, a company must be publicly traded, organized as a limited partnership or a limited liability company, and be classified as an "energy MLP" by Tortoise Capital. The Long Haul Pipelines Sub Index is comprised of all constituents included in the following subsector indices: Crude Oil Pipelines, Natural Gas Pipelines and Refined Products Pipelines. The Upstream Sub Index is comprised of all constituents included in the Coal and Oil & Gas Production subsector indices.
Utilities	**Dow Jones Utility Average Index**	An unmanaged price-weighted index composed of stocks of 15 utility companies listed on the New York Stock Exchange.
REITs	**FTSE NAREIT Equity REIT Index**	An unmanaged capitalization-weighted index of all U.S. equity real estate investment trust.
Equities	**S&P 500® Index**	An unmanaged market-value weighted index of stocks.
Bonds	**Barclays Capital Aggregate Bond Index**	An unmanaged index comprised of government securities, mortgage-backed securities, asset-backed securities and corporate securities to simulate the universe of bonds in the market. The maturity of the bonds in the index are over one year.
Commodities	**S&P® GSCI Commodities Index**	A composite index of commodity sector returns representing an unleveraged, long-only investment in commodity futures that is broadly diversified across the spectrum of commodities.

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Global Private Equity Update

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Ventura County Employees' Retirement Association
Private Equity Program Review
October, 2012
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Agenda

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Program Summary

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Program Summary

- VCERA approved a 5% policy allocation (+/- 2%) to private equity in 2009
- Hewitt EnnisKnupp, Inc. ("HEK") conducted a private equity manager search in 2009
  - The Board approved the hiring of two private equity fund of funds managers
  - Adams Street Partners ("ASP") ($85.0 million) & Pantheon ($15.0 million)
- VCERA has not yet committed additional capital subsequent to the initial funding of ASP and Pantheon.

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Portfolio Review

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Portfolio Review

As of March 31, 2012

Partnership Name	Investment Type	Commitment	Cumulative Capital Paid-In	Cumulative Distributions	Net Asset Value
Adams Street 2010 Direct Fund, L.P.	Fund of Funds	$8,500,000	$2,839,000	$0	$3,355,488
Adams Street Partnership Fund - 2010 Non-U.S. Developed Markets Fund, L.P.	Fund of Funds	25,500,000	4,921,500	0	5,140,679
Adams Street Partnership Fund - 2010 Non-U.S. Emerging Markets Fund, L.P.	Fund of Funds	8,500,000	739,500	0	579,281
Adams Street Partnership Fund - 2010 U.S. Fund, L.P.	Fund of Funds	42,500,000	8,563,750	0	10,487,229
Pantheon Global Secondary Fund IV, L.P.	Special Situations	15,000,000	3,975,000	450,000	4,607,891
Total Private Equity Portfolio		**$100,000,000**	**$21,038,750**	**$450,000**	**$24,170,568**

- VCERA has committed $100.0 million across five (5) partnerships.
- As of March 31, 2012, VCERA has received cumulative distributions of $0.5 million on $21.0 million in cumulative capital contributions.
- The Net Asset Value of $24.2 million was approximately 0.7% of the Plan's total assets as of March 31, 2012.

Portfolio Review – Performance

As of March 31, 2012

Partnership Name	Portfolio Return IRR	Portfolio Return IRR Quartile	Benchmark Return[1] VentureXpert Peer Universe	Benchmark Return[1] Universe Size	Benchmark Return[1] IRR
Adams Street 2010 Direct Fund, L.P.	13.9%	2	2010 Global All Venture Capital	9	18.1%
Adams Street Partnership Fund - 2010 Non-U.S. Developed Markets Fund, L.P.	6.3%	1	2010-2011 EMEA All Private Equity	21	-10.4%
Adams Street Partnership Fund - 2010 Non-U.S. Emerging Markets Fund, L.P.	-32.1%	3	2010-2011 EMEA All Private Equity	21	-10.4%
Adams Street Partnership Fund - 2010 U.S. Fund, L.P.	19.1%	1	2010-2011 US All Private Equity	78	3.3%
Pantheon Global Secondary Fund IV, L.P.	28.3%	1	2010-2011 Global All Private Equity	99	2.5%
Total Private Equity Portfolio	**16.7%**	**1**	**2010-2011 Global All Private Equity**	**99**	**2.5%**

- The Total PE Portfolio is tracking well ahead of the pooled average net IRR of all private equity funds in the VentureXpert database over the period from 2010 through 2011.
- Pantheon Global Secondary Fund IV and Adams Street Partnership Fund – 2010 U.S. Fund have shown significant outperformance relative to their respective peer benchmarks.
- Adams Street Partnership Fund – 2010 Non-U.S. Emerging Markets Fund has been challenged during the recent economic recession.
- The peer universe benchmark returns are based on data compiled by Thomson Reuters across primary partnership funds of a given geography, strategy and vintage year

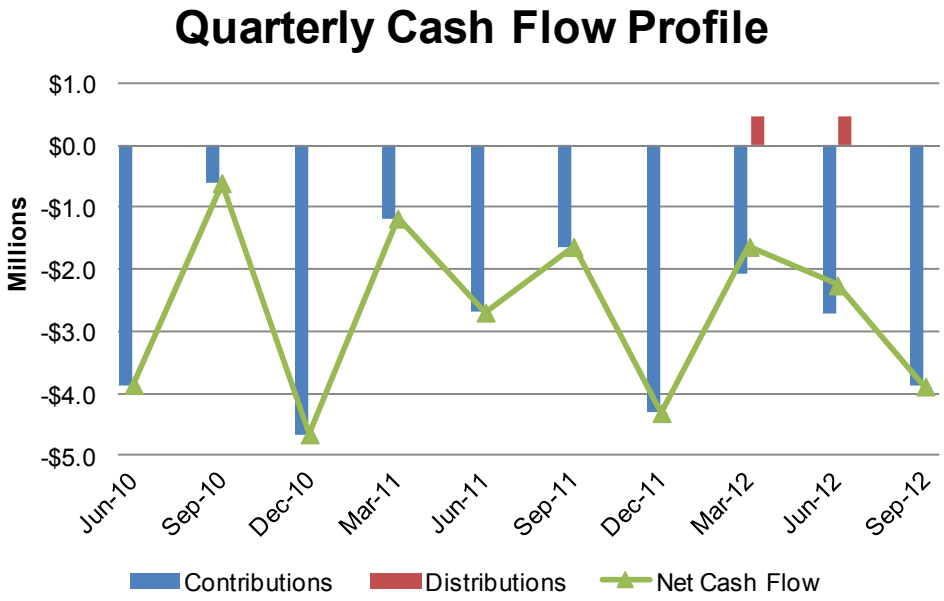
Portfolio Review – Performance

As of March 31, 2012

Vintage Year	Portfolio Return		Benchmark Return[1]		
	IRR	IRR Quartile	VentureXpert Peer Universe	Sample Size	IRR
2010	16.7%	1	2010 Global All Private Equity	42	4.4%
Total Portfolio	**16.7%**	**1**	**2010 Global All Private Equity**	**42**	**4.4%**

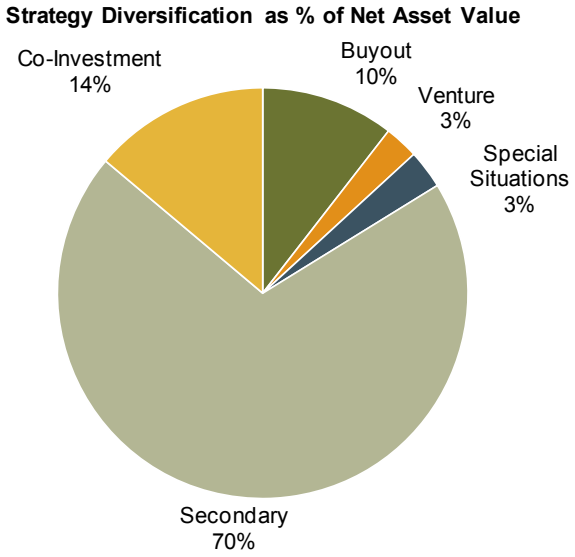
- As of March 31, 2012, the performance of the Total PE Portfolio for the 2010 vintage year is positive by a wide margin.
- The peer universe benchmark returns are based on data compiled by Thomson Reuters across primary partnership funds of a given geography, strategy and vintage year
  - DPI = Cumulative Distributions / Cumulative Contributions
  - TVPI = (Cumulative Distributions + Net Asset Value) / Cumulative Contributions
  - IRR = Internal Rate of Return

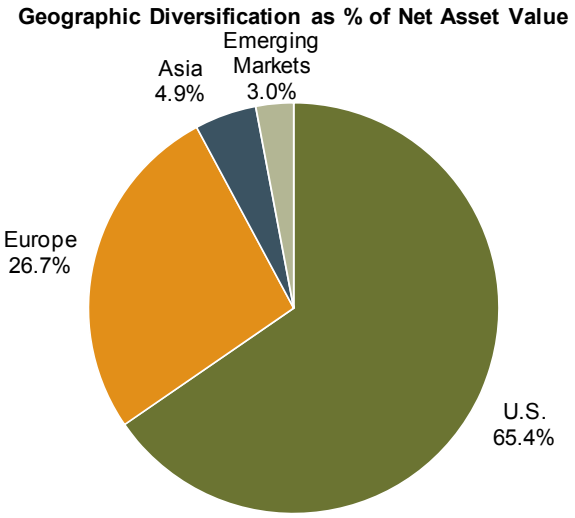
Portfolio Review – Cash Flow Profile



- The first and second quarter of 2012 marked the only quarters in the past three years in which distributions have been made to investors.
- We expect to see distributions from the funds with more regularity going forward.

Portfolio Review – Diversification





- Strategy and geographic diversification are based on the Net Asset Value of underlying investments.
- The private equity portfolio is well diversified.
- We recommend maintaining 15 – 25% Venture Capital exposure, 50 – 65% Buyout exposure, and 20 – 30% Special Situations exposure (including Secondary and Co-Investment exposure).
  - Strategy diversification currently appears to be overweight to Secondary investments, but we anticipate the exposure to Secondary investments will decrease as the funds continue through their investment periods.
- We recommend maintaining 65 – 80% United States exposure, 15 – 25% Europe exposure, and 5 – 10% Asia/Other exposure.
  - Geographic diversification is in line with our current recommendation.

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Manager Updates

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Manager Updates

- **Adams Street Partners**
  - The Adams Street Partnership Fund Program 2010 – Global Offering
    - A globally diversified portfolio of venture capital, buyout, mezzanine debt, restructuring or distressed debt, and special situations partnerships
    - The Global Offering is a feeder fund that invests in a U.S., Non-U.S. Developed Markets, Non-U.S. Emerging Markets, and Direct Fund
  - Recently announced a change to its management fee model that will decrease the fees charged in years 1 & 2 for all funds launched in 2012 and beyond.
  - Continues to exhibit an overweight allocation towards large and mega sized funds (> $1 billion fund size) while the broader fund of funds market continues to shift towards lower middle market funds (< $1 billion fund size).
  - Performance is relatively consistent across funds and in line with the median return of the respective peer universe.
  - Announced new hires, including Doris Yiyang Guo (Senior Associate – Beijing Primary and Secondary Team) and Kristof van Overloop (Associate – London Secondary Team).

Manager Updates

- **Pantheon**
  - Pantheon Global Secondary Fund IV, L.P.
    - A global secondaries fund that will make investments in interests of private equity firms, portfolios of direct company assets, and hybrid/mixed fund portfolios
    - The fund is diversified by fund strategy, deal type, vintage year and geography
  - The acquisition of Pantheon by AMG has provided senior management with a piece of the equity ownership (which it has not had since 2004) that provides for a greater alignment of interest.
  - Performance is relatively consistent across funds and in line with the median return of the respective peer universe.
  - Firm has undergone a number of leadership transitions within the makeup of both its Regional Investment Committees and International Investment Committee.
  - Announced new hires for investment team, including Andres Reibel (Senior Associate) and Nick Kavanagh (Analyst).

Pacing Update

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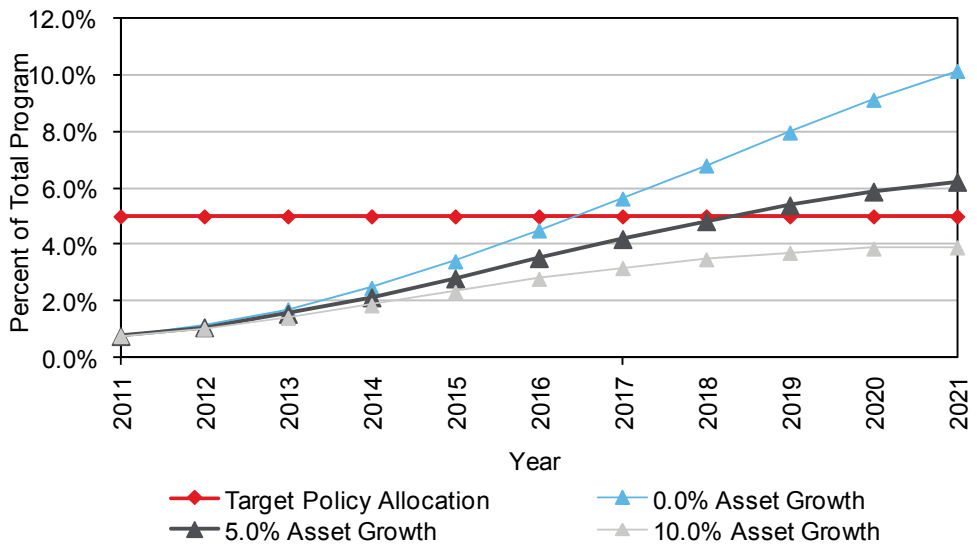
Pacing Update – Option 1 (Fund of Funds)

Projected NAV of Private Equity as a Percent of Total Program

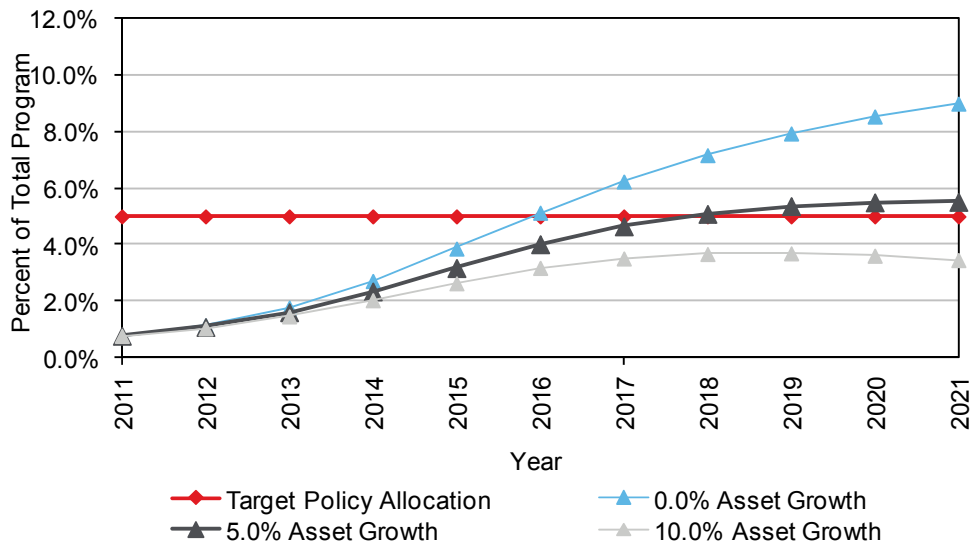


Annual Commitment Pace In $ Millions			
Year	FoF	Primary	Total
2012	$ -	$ -	$ -
2013	150.0	-	150.0
2014	-	-	-
2015	150.0	-	150.0
2016	-	-	-
2017	150.0	-	150.0
2018	-	-	-
2019	150.0	-	150.0
2020	-	-	-
2021	150.0	-	150.0
Total	**$ 750.0**	**$ -**	**$ 750.0**

- We have assumed VCERA's total plan assets will grow at a net rate of 5.0% annually as a base case.
- In order to allow the Private Equity program to reach and maintain a 5.0% policy target, we recommend committing $150.0 million across 2 – 5 fund of funds partnerships on a bi-annual pace beginning in 2013.
- Option 1 offers VCERA the ability to continue building out a broadly diversified program and limit the potential for overlapping exposures, while maintaining its existing manager relationships.

Pacing Update – Option 2 (Core / Satellite)

Projected NAV of Private Equity as a Percent of Total Program



Annual Commitment Pace In $ Millions			
Year	FoF	Primary	Total
2012	$ -	$ -	$ -
2013	15.0	45.0	60.0
2014	-	60.0	60.0
2015	15.0	45.0	60.0
2016	-	60.0	60.0
2017	15.0	45.0	60.0
2018	-	60.0	60.0
2019	15.0	45.0	60.0
2020	-	60.0	60.0
2021	15.0	45.0	60.0
Total	**$ 75.0**	**$ 465.0**	**$ 540.0**

- We have assumed VCERA's total plan assets will grow at a net rate of 5.0% annually as a base case.
- In order to allow the Private Equity program to reach and maintain a 5.0% policy target, we recommend committing $60.0 million across 2 to 4 partnerships on an annual pace beginning in 2013.
- Option 2 offers VCERA the ability to build a diversified program through a core/satellite approach that will provide greater exposure to the asset class with significantly fewer capital commitments.

Considerations

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Considerations
HEK Recommendation

- **Objective:** To reach the 5% long-term target policy within approximately 5 years.
- As of September 30, 2012, the Private Equity portfolio represents less than 1% of VCERA's total investments.
- **Background:** The original thesis in building the Private Equity portfolio was to gain broad diversification to the asset class through a fund of funds approach.
  - VCERA selected two highly respected managers in the industry, ASP and Pantheon, to diversify manager risk across the fund of funds portfolio.
- **Options:**
  - If you elect to maintain your ***current investment strategy*** (Option 1), we recommend committing $150 million across 2 to 5 Adams Street and/or Pantheon funds on a bi-annual basis to lessen the potential for overlapping investments in order to reach the 5% long-term target policy within approximately 5 years.
  - If you elect the ***core / satellite investment strategy*** (Option 2), we recommend committing $60 million across 2 to 4 investments on an annual basis.

- **We recommend considering the core / satellite approach (Option 2) through either a non-discretionary or discretionary arrangement to take advantage of opportunities to gain greater exposure to the private equity asset class, while also lowering your costs.**

Considerations
Core / Satellite Decision

- The Core / Satellite approach combines fund of funds investing with primary fund investing.
  - Designed to provide investors with a core, diversified base of private equity (fund of funds) that is supplemented with niche or sector-focused investments (primary funds).

- Core Investment
  - Typically a fund of funds commitment representing 15-50 underlying fund investments.
  - Focus on diversification across multiple vintage years, geographies, and all sub sectors of private equity.
  - Ideal for new investors into private equity seeking to gain broad exposure to the asset class or investors with limited capital resources that can commit to only 1 – 2 funds annually.

- Satellite Investment
  - Typically a primary fund focused on mainstream or niche private equity sub sectors.
  - Focus on alpha generation through the skill of a high conviction manager or belief in a macro-economic trend.
  - Ideal for investors with mature private equity programs seeking to accentuate a particular sub sector or investors capable of committing capital across a greater number of funds annually.

Considerations

Non-Discretionary and Discretionary Client Decision

Hewitt EnnisKnupp Customized Solution

- ✓ Unbiased investment advice, as we do not offer any competing investment products.
- ✓ Complete ability to customize program with global research.
- ✓ Coverage and inclusion of all sub asset classes, as appropriate.
- ✓ No canned solutions so no danger of being "boxed".
- ✓ Can look at smaller niche funds rather than poorer performing large and mega funds as not trying to deploy massive FoFs.
- ✓ New program design expertise
- ✓ Knowledge of VCERA resources allows us to quickly build program infrastructure and NAV.

Issues of Consideration for Alternate Solutions

Separate Account / Specialized PE Consultant

- × *Conflicted investment advice, since most providers offer competing investment products.*
- × *Push clients toward "boxed definitions" to drive resource efficiency but less than optimal results.*
- × *Potential exclusion of several sub-asset classes – some providers do not cover mezzanine, distressed debt, or energy.*
- × *Must provide all clients and FOF allocation to each primary fund (no preferential treatment) so generally weighted to large and mega funds as not enough allocation from smaller funds.*

Fund of Funds

- × *Double-layering of fees hinders return generation.*
- × *Capital deployment plan and fees slows NAV growth.*
- × *Excessive diversification prevents outsized return potential.*
- × *Absolutely no customization.*
- × *Flatter cash flow J curve delays return on capital.*
- × *Often weighted toward the large and mega funds.*

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Appendix

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Inflation Risk & Real Return

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Inflation Risk and Real Return

June 2012

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Inflation Risk and Real Return

Key Points

- Inflation risk is greatest in times of national or global stress; inflation risk is a form of a "tail risk"
- A traditional portfolio of stocks and bonds is exposed to inflation risk
- The specific nature of an investor's liabilities and spending determines inflation sensitivity beyond that of the asset portfolio
- Commodities and TIPS are the most effective short-term and long-term inflation hedges. Other traditionally recognized "inflation-hedging" assets offer more limited benefits.
- Clients have several recommended options for increasing inflation protection
  - Add or increase allocation to inflation-hedging assets, specifically commodities and TIPS, in the current asset allocation framework.
  - Add a Real Return asset category, with a core of commodities and TIPS, funded proportionally from return-seeking and risk-reducing assets
  - Add inflation hedging assets to an Opportunity Fund
- Investors can expect to pay about 0.15% of assets in the form of reduced expected returns for our recommended level of inflation protection, before any gains from active management
- **We recommend that clients with inflation-sensitive liabilities or spending institute an allocation to inflation hedging assets of 10% of the total fund**

Introduction

Inflation is the increase in price of a good or service, or alternatively a reduction in the purchasing power of money, and is caused by:

- An increase in money supply
- An increase in the cost of doing business
- Scarcity

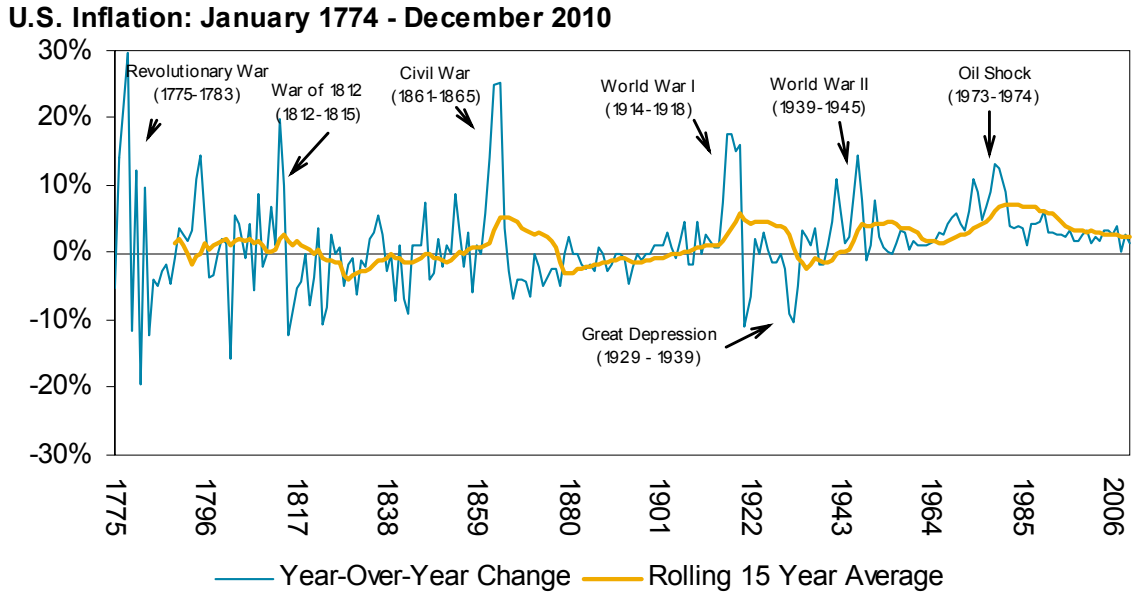
We find that the current economic situation is such that both inflationary and deflationary pressures coexist. While governments have provided massive stimulus to the global financial and economic system, this liquidity has yet to fully flow through to consumers and create an environment conducive to widespread inflation. While the current consensus inflationary outlook is stable—and our U.S. inflation expectation, which is based on consensus forecasts, is 2.1%1 for the next ten years—government policy risk remains as a central challenge to the current, benign, inflation forecast. Specifically, governments will need to attempt to time the market— to keep liquidity in the economy to instill economic stability and growth, yet remove it before inflation becomes unwieldy.

[1] Based on Hewitt EnnisKnupp's Capital Market Assumptions as of December 31, 2011.

Inflation's Greatest Risks Occur in Times of Stress

Exhibit 1 depicts a historical assessment of inflation throughout U.S. history. The U.S. has generally experienced sustained inflation averaging 2-3% per year, with few periods of deflation.2 Persistent positive inflation has been a feature of the economy mostly only since World War II. (The U.S. has not experienced a significant bout of deflation since the Great Depression.) Since the 1979 shift in U.S. monetary policy following the inflation shocks of the 1970s, the volatility of inflation has been greatly subdued.

Exhibit 1



The long-term analysis makes clear that historically large inflation spikes occurred in turbulent times. In fact, as shown in Exhibit 2, each of the 20 worst annual inflation events[3] since 1800 occurred in a period of war or other stress. Inflation risk is a type of "tail risk"—it is one symptom of a larger economic or geopolitical event, especially one that affects energy prices.

[2] Throughout this report, we examined *realized* inflation to measure the actual effect of inflation on returns, and do not distinguish between expected and unexpected inflation. See Attie and Roache [2009] for further discussion.
[3] Roughly the worst decile (10%) of annual inflation observations.

Exhibit 2

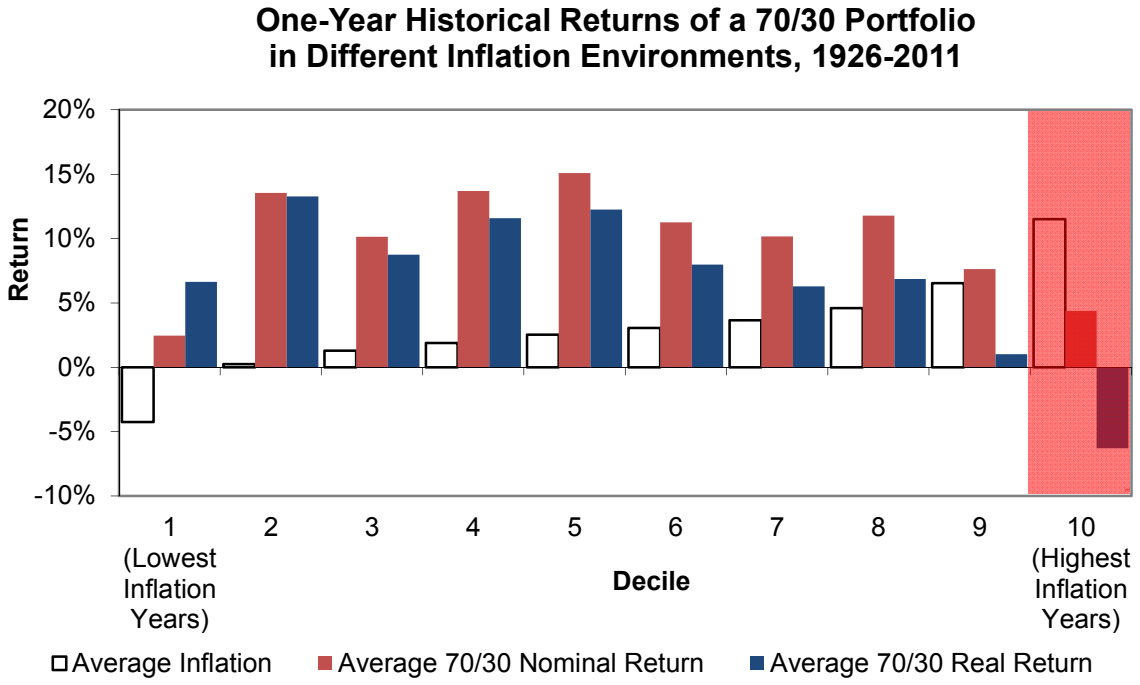
Year	Inflation	Historical Context
1864	25.2%	American Civil War
1863	24.8%	American Civil War
1813	20.0%	War of 1812
1946	18.1%	World War II
1917	17.7%	World War I
1918	17.6%	World War I
1920	15.9%	World War I
1919	15.0%	World War I
1862	14.2%	American Civil War
1979	13.3%	Iranian Revolution/1979 Energy Crisis
1980	12.5%	Iran-Iraq War
1974	12.3%	Oil Embargo
1941	9.9%	World War II
1814	9.9%	War of 1812
1942	9.0%	World War II
1978	9.0%	Unrest in Iran
1981	8.9%	Iran-Iraq War
1947	8.8%	World War II
1973	8.7%	Oil Embargo/1973 Energy Crisis
1808	8.6%	Napoleonic Wars and Embargo Act

Investors considering hedging against inflation risk should reflect on the fact that they are hedging against a significant unknown and, based on the consensus view of economists and market participants, unlikely event, such as a major armed conflict in the Persian Gulf or a serious U.S. fiscal crisis. Much like tail risk hedging, inflation hedging has characteristics similar to those of buying insurance—that is, a welcome payoff in difficult circumstances, and a (relatively modest) cost to be managed or overcome in normal times.

Inflation Affects Assets, Liabilities and Spending

Over long historical periods, periods of higher inflation have been accompanied by lower nominal asset class returns. The impact on real returns has been stronger. In the highest inflation periods, the purchasing power of assets was degraded (real returns were negative). Exhibit 2 shows nominal and real annual returns of a 60/40 portfolio in varying inflation environments, illustrated by ten groups of increasing annual inflation levels. This diversified portfolio produced positive average nominal returns in all inflation environments, and only in the most dire inflation scenarios (highlighted in red in the exhibit)—again, typically times of geopolitical crisis—did high inflation degrade earnings power on average through negative real returns. Note that it is difficult to distinguish between negative effects on nominal asset returns due to high inflation from those arising from general stress in the capital markets.

Exhibit 3



Forward-Looking Analysis of the Total Fund

In order to assess the forward looking inflation risk of client investment portfolios, we use our asset class and inflation forecasts over the next ten years.[4] Our forecasts are based on building blocks of asset returns such as inflation, real corporate earnings, interest rate and spread changes, rental yields and other relevant factors. For inflation, we use a consensus forecast of over 700 economists worldwide.

To measure the inflation risk, or hedging potential, of an asset, we introduce here the concept of *inflation beta*. Beta is a measure of the responsiveness to inflation of an asset class's *nominal (before-inflation) returns*, incorporating its directional relationship with inflation (correlation) and the magnitude of its moves relative to inflation (volatility). Put simply, when inflation rises by 1 percentage point, an asset with an inflation beta of 1.0 will see its nominal return rise by 1 percentage point as well. Such an asset would be free of inflation risk, as its returns would rise and fall with inflation. An asset with an inflation beta of less than 1.0 would not keep pace with rising inflation, and so its purchasing power would fall.

Exhibit 4 shows our expectations regarding global stocks, bonds and a typical 70/30 portfolio over the next three years. As shown, while we accept the consensus view that inflation is likely to be low in the near term, we forecast that higher-than-expected inflation would degrade both nominal and real returns of a traditional portfolio. That is, clients' assets are exposed to the risk of high inflation in the short term.

[4] This analysis is based on Hewitt EnnisKnupp's Capital Market Assumptions as of December 31, 2011.

Exhibit 4

Asset Class	Short-Term Forecasted Inflation Beta[5]	Nominal Annual Return Effect of 1% Inflation Increase	Nominal Annual Return Effect of 3% Inflation Increase	Real Annual Return Effect of 3% Inflation Increase
Global Equity	-0.18	-0.18%	-0.56%	-3.56%
Nominal Investment-Grade Fixed Income	-0.08	-0.08%	-0.24%	-3.24%
70% Equity, 30% Fixed Income	**-0.15**	**-0.15%**	**-0.45%**	**-3.45%**
Inflation	1.00	–	–	–

The analysis above reflects our capital market expectations. The historical record shows similar results; since 1926, the inflation beta of a 70/30 portfolio has been roughly zero, suggesting no resistance to inflation increases—an increase in inflation of 3% would flow through to a real return also reduced by 3%.

Liabilities and Spending

The analysis above relates to inflation's effect on assets. Investors' liabilities and spending may be affected by inflation as well, as summarized in Exhibit 5.

Exhibit 5

Investor Type	Liabilities and Spending
Corporate Defined Benefit Pension Plan	Little or no inflation sensitivity
Public Defined Benefit Pension Plan, No Cost of Living Adjustment (COLA)	Little or no inflation sensitivity
Public Defined Benefit Pension Plan, With COLA	Benefits indexed to inflation
Defined Contribution Plan Participant	Income needs increase with inflation
Endowment, Foundation or Not-For-Profit	Target of real growth after spending and inflation; spending may also be inflation-linked

The nature of liabilities and spending may cause certain investors to require more or less inflation protection than discussed in this report, which considers asset risks only. Certain investor types face little or no inflation risk, or may even benefit from modestly increased inflation, in their uses of funds. But public plans with COLAs, endowed institutions and defined contribution plan participants may face greater risk from higher-than-expected inflation.

[5] Average of first three years of simulation betas.

Asset Class Discussion and History

How will asset class returns relate to inflation? We lay out the practical case in Exhibit 6.

Exhibit 6

Asset Class	Expected Relationship with Inflation
Cash	Inflation flows into higher nominal interest rates and cash returns
Nominal Investment-Grade Bonds	Higher nominal interest rates reduce value of existing bonds, increase return on future bonds
Bank Loans	Generally floating-rate structure means rising inflation and interest rates flow into higher returns
Public Equity	Corporations pass along inflation in form of higher prices. Unhedged non-domestic equity may hedge against inflation restricted to the home currency.
Core Private Real Estate	Claim on real assets. Rents linked to inflation. Most effective for core real estate under normal market conditions
Infrastructure	Claim on real assets. Income may be linked to inflation.
Commodities	Commodity prices are a driver of inflation
Inflation-Linked Bonds	Principal increases with inflation and decreases with deflation

The case for inflation hedging properties of major asset classes based on data, rather than theory, is more complex. The geopolitical nature of inflation risks means that no two inflation shocks are the same, and it is difficult to draw conclusions about the future based on historical data. Our analysis suggests that commodities and TIPS have had a statistically strong relationship with inflation.

As evidenced in the earlier historical discussion, many inflationary shocks in the last several decades have arisen from events affecting energy supply, benefiting commodities. Over the period 1976-1982, representing a recent period of U.S. inflation driven by monetary factors rather than supply, only inflation-linked bonds provided good protection, suggesting a need for diversification in inflation-hedging assets.6

It should be noted that the only assured way of protecting against inflation with TIPS is to hold them to maturity, in which case the investor will receive a known real return above inflation. The more common institutional method of investing in TIPS, in a portfolio referencing a TIPS index, often the broad index of all outstanding TIPS, diminishes inflation protection by introducing other risk factors, including exposure to changes in real interest rates. This is particularly true when the duration of the TIPS portfolio differs from the investor's time horizon—an investor with a short time horizon who holds a TIPS index investment, with a real rate duration of roughly 8 years, will see substantial mismatch. It is wise for an investor to consider matching the duration of the TIPS investment with time horizon.

[6] See discussion of this in Attie and Roache [2009], citing Graham [1996]. Inflation linked-bond data prior to first TIPS issuance in 1997 is synthetic data created by Bridgewater Associates.

The smoothed return patterns of private real estate make it less suited for data-driven historical analysis. Like equities, real estate has generated real returns over sufficiently long periods, and its essential characteristics—claim on a real asset, potentially inflation-linked income—lead some to argue for its classification as an inflation hedge. We view real estate, however, as a sufficiently core asset that it should be part, along with stocks and bonds, of any client portfolio that can tolerate somewhat increased cost and illiquidity.

It should be noted that certain asset categories, among them real estate and infrastructure, are heterogeneous in nature, and properties such as inflation hedging may be highly dependent on the specific investments involved. Some investments in these asset classes may offer strong inflation hedging potential while others may offer little protection.

Lastly, certain assets, such as bank loans, may have some properties that lend well to inflation hedging (such as floating rate interest payments that should reflect rising inflation) and other properties that cloud that relationship (such as the influence of changes in credit spreads.)

Inflation and Time Horizon

Asset classes respond differently to inflation over different time periods. It is often noted that equities offer inflation protection in the long term. Simply put, equities offer a risk premium over cash, and inflation, and so over sufficiently long time periods the relatively high expected returns of equities mean investors can expect to grow assets after inflation. Over short time horizons, though, equities may suffer from inflation shocks. Over long horizons, we expect that *most, but not all,* of an inflation increase will find its way through to nominal equity returns.

The risk of inflation to nominal fixed income investments is well understood. Inflation shocks damage returns in the short term. Over time, however, higher nominal interest rates mean increased income on newly issued or floating rate bonds, and fixed income returns benefit. TIPS, as noted above, protect against inflation best when their maturity is linked to the investor's time horizon.

Commodities, finally, may respond well to inflation shocks, generating strong nominal and real returns in the short term. But the modest real return offered by commodities in the long term (in our view) means that they will generate a return above inflation but not much more, lagging equities and other risky assets.

The potential response of commodities investments to inflation over the long term is not clear-cut given the unique inflation pattern of the U.S. economy over the past several decades—strong supply-related shocks followed by a long period of muted inflation. Commodities may do well in the event of an inflation shock, then underperform as pricing returns to normal. Our expectations are that commodities will respond well to short-term inflation increases, and also provide a good long-term inflation hedge, though less pronounced than over the short term.

There are (Almost) No Free Lunches: Inflation Protection Involves Tradeoffs

Investing offers very few free lunches. Diversification, for one, reduces risk without necessarily reducing returns. But reducing a risk generally comes with a cost, in dollars or in increased exposure to another risk. Inflation hedging has the limitation of being indirect; the investor can't be certain she is protected from risk. But furthermore, most asset classes that insulate most effectively from inflation shocks lack full exposure to the equity risk premium and so can be reasonably expected to underperform. In particular, the strongest inflation hedges—commodities and TIPS—are among the lowest expected return return-seeking and risk-reducing assets, respectively.

Investors who fund new allocations to inflation hedging assets from their return-seeking portfolios should expect a reduction in total fund expected return—the soft cost of inflation hedging. Allocating to TIPS from a Barclays Aggregate-oriented fixed income portfolio will have a similar effect. At the same time, such assets typically are diversifiers to traditional stock and bond assets, so allocations to them have the additional benefit of lowered volatility and increased portfolio efficiency (Sharpe ratio).

Exhibit 7 illustrates the effectiveness of various asset categories as inflation hedges, as implemented by incrementally shifting assets from global equity (in the case of riskier inflation-hedging asset classes) or investment grade fixed income (in the case of TIPS), illustrated by total fund long-term (ten-year) and short-term inflation beta.

The cost of hedging is also shown, in the form of total fund expected return for increasing allocations to inflation-hedging assets. While not directly shown, the diversification benefit of additional assets is reflected in higher returns than would otherwise be expected from allocating away from stocks and bonds, due to the reduced drag on returns resulting from lower volatility.

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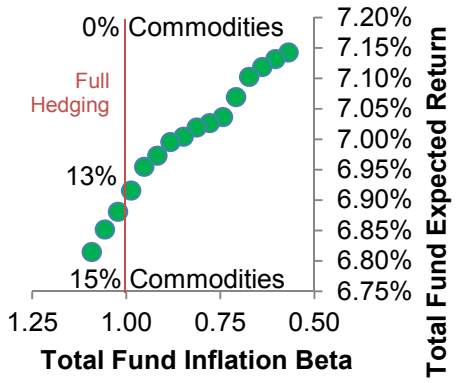
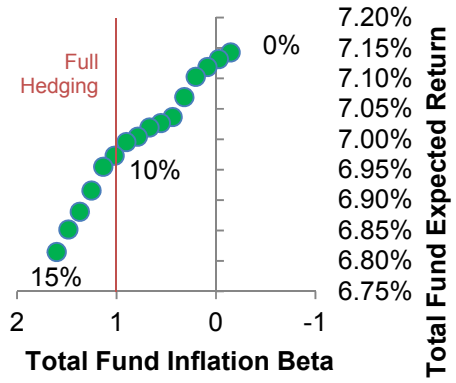
Exhibit 7
Commodities and TIPS Strategies

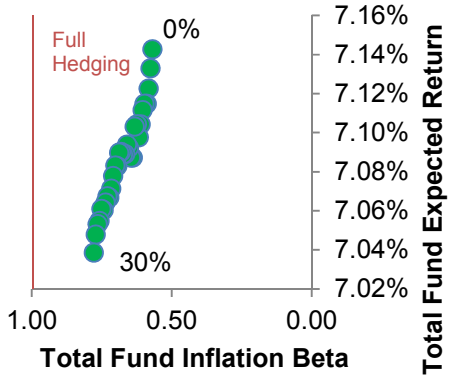
Global Equity to Commodities Long Term



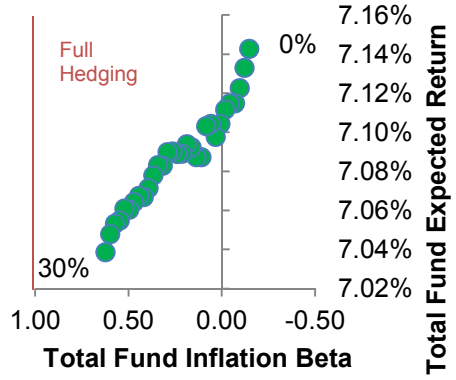
Global Equity to Commodities Short Term



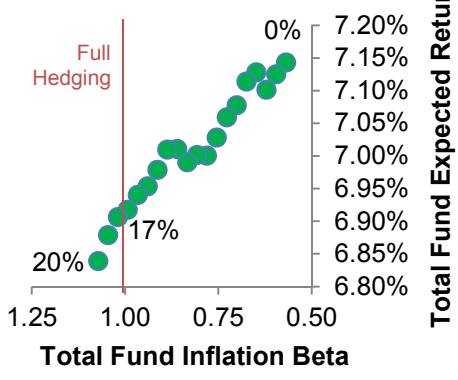
Nominal Fixed Income to TIPS Long Term



Nominal Fixed Income to TIPS Short Term



Global Equity and Fixed Income to Commodities and TIPS Long Term



Global Equity and Fixed Income to Commodities and TIPS Short Term

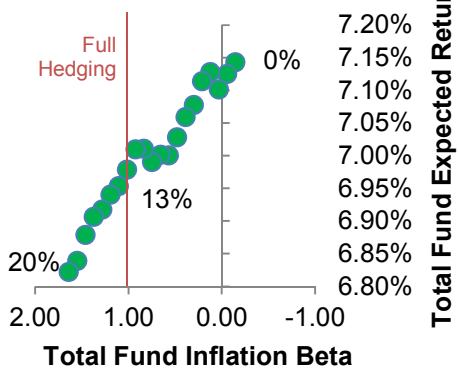


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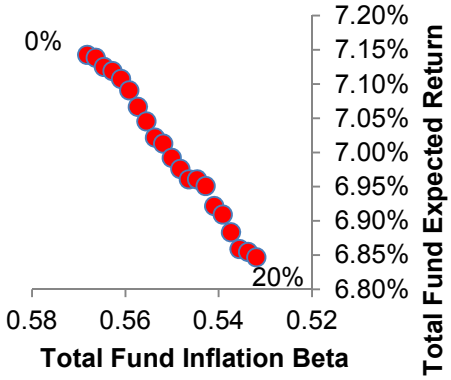
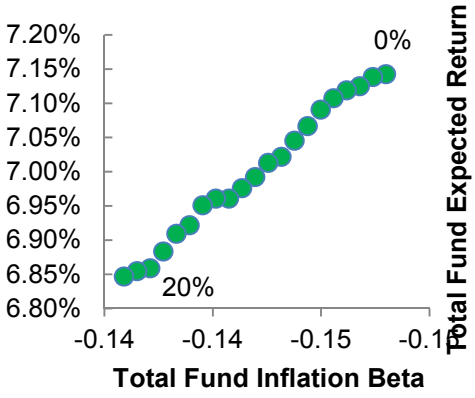
Exhibit 9 (continued)
Additional Asset Classes

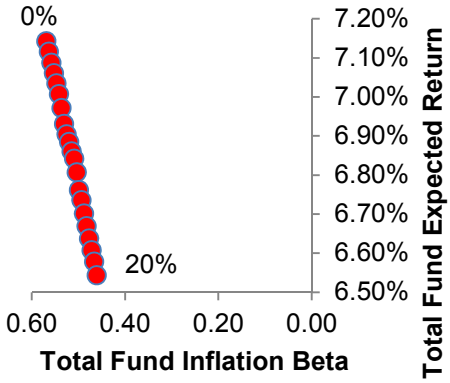
Global Equity to Core Real Estate Long Term



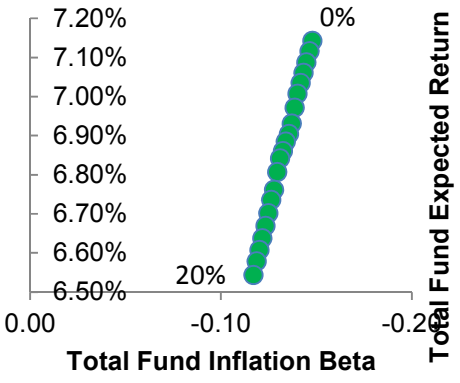
Global Equity to Core Real Estate Short Term



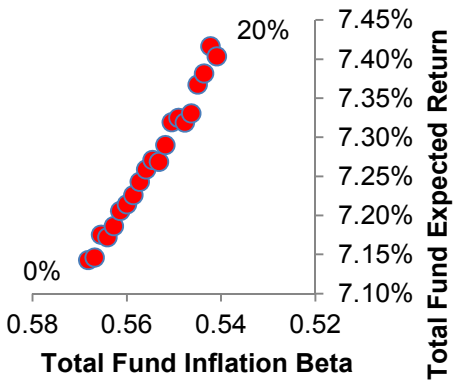
Global Equity to Bank Loans Long Term



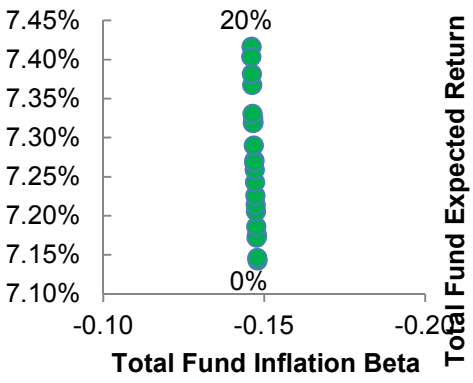
Global Equity to Bank Loans Short Term



Global Equity to Infrastructure Long Term



Global Equity to Infrastructure Short Term



As expected, commodities and TIPS are the most effective hedges of inflation risk of traditional stocks and bonds. Other asset classes considered have limited inflation hedging properties, or even inverted ones—core real estate, bank loans and infrastructure allocations modestly increase long-term inflation risk when sourced from equities. Each of these asset classes has a small positive impact on inflation hedging over a short time horizon. We believe that core real estate, bank loans and infrastructure deserve a significant place in portfolios for their inherent investment characteristics—diversification and favorable risk-return tradeoffs.

How much inflation hedging assets does an investor need? Recall that an asset with an inflation beta of 1.0 will rise and fall in nominal return with inflation, exhibiting no gain or loss in purchasing power as inflation changes. Such expected inflation neutrality can be achieved at the total fund level with an allocation of approximately 10-15% of assets to commodities. Sourced from equities to maintain the overall risk posture (allocation to return-seeking or risky assets), the investor can expect to give up 0.15-0.35% of annual total fund return.

Shifting risk-reducing, or investment grade fixed income, assets from nominal bonds to TIPS hedges some inflation risk, but owing to the lower volatility and inflation beta of TIPS, even moving the entire 30% traditional fixed income allocation to inflation-linked bonds leaves some inflation risk unhedged. TIPS will be only one component of a larger inflation hedging strategy for most investors.

Inflation hedging is an important measure of risk control for inflation-sensitive investors. *We recommend that clients with inflation sensitivity in their liabilities or spending allocate 10% of their total assets to an inflation-hedging strategy as described below.* This inflation hedging allocation is at the low end of the range described above, recognizing that clients' existing portfolio are typically diversified beyond traditional stocks and bonds into real estate and other assets that may increase their baseline inflation protection.

Putting It All Together

Clients have several options to increase the inflation protection in their portfolios.

Add a Real Return asset category. The most important investment policy decision in most portfolios is the allocation between return-seeking (public equity, return-seeking fixed income and alternative investments) and risk-reducing (investment grade fixed income) assets. As discussed, inflation hedging assets may have a home in either or both. But an asset category that focuses on inflation protection without strict constraints to volatility and liquidity of the underlying strategies—real return—can serve as a third category. Here, risky-asset inflation hedging strategies such as commodities, real estate, infrastructure, and other assets may mix with TIPS and global inflation-linked securities, depending on the specific characteristics of the investments chosen within these heterogeneous asset categories.

We view the optimal core of a real return allocation to be commodities and TIPS, allocated in the proportion of return-seeking and risk-reducing assets already in the program. That is, a 70/30 portfolio would have a real return asset classes centered on a 70% commodities, 30% TIPS allocation strategy. Other inflation hedging assets would then be added around this core.

Add or increase allocation to inflation-hedging assets in the current framework. A shift from global equities to commodities in the return-seeking portfolio can accomplish most or all of an investor's inflation-hedging needs. Additionally, diversifying total risk away from equities is a desirable goal. A shift from nominal bonds to TIPS may serve as one element of a real return strategy. Besides contributing to inflation protection in general, TIPS may serve in a specific role of guarding against inflation driven by monetary as opposed to supply factors.

This is our preferred solution for clients who wish to minimize cost and complexity.

Add inflation hedging assets to an Opportunity Fund. Lastly, some clients have instituted Opportunity Funds for strategies that either don't fit neatly in the traditional asset allocation framework or are more opportunistic in nature. This is our preferred solution for an investor who wishes to approach inflation risk more opportunistically. Clients willing to employ medium-term views in their portfolios should consider instituting an inflation hedge when the risks of short-term inflation are particularly great. Such a solution would need to be put in place *before* significant inflation became a reality, and inflation-hedging assets became prohibitively expensive. In the tactical inflation hedging framework, real assets are not a permanent part of the portfolio.

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Capital Market Assumptions

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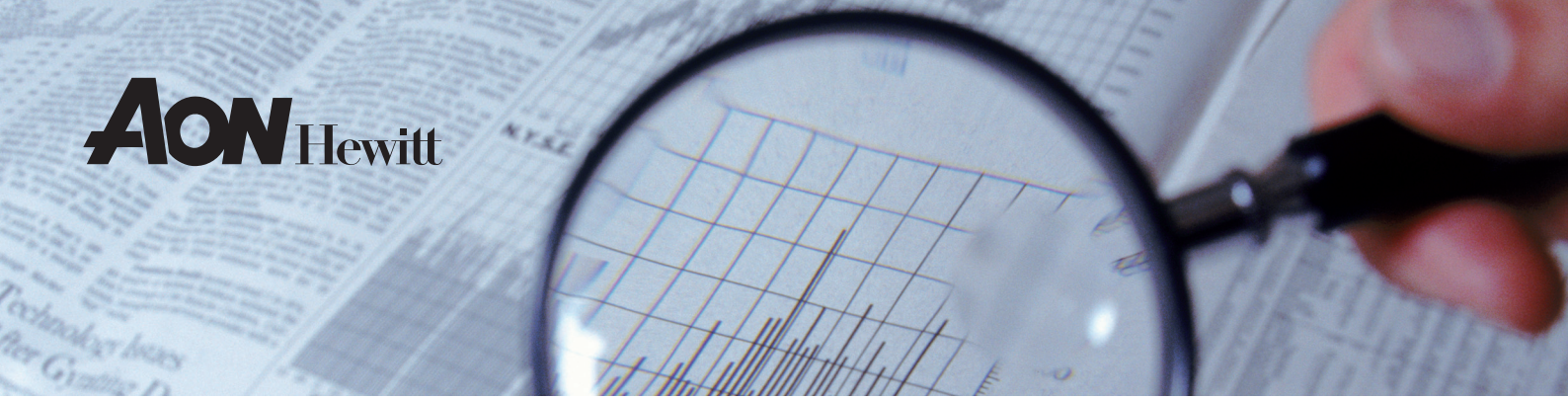


Capital Market Assumptions

As of June 30 2012

Inflation Risk and Real Return

Protecting Against Inflation Risk with Real Assets

In today's market environment, both inflationary and deflationary pressures coexist. While governments have provided massive stimulus to the global financial system, this liquidity has yet to fully flow through to consumers and create an environment conducive to widespread inflation. However, there is a significant risk that central bank policy makers will fail to remove liquidity in a timely manner to avoid excessive inflation.

The implications of high inflation on fixed income assets are to reduce the purchasing power of the income stream, thus reducing their value. Inflation shocks have been shown to also negatively impact equity returns, in the short-term. Over long horizons, we expect most, but not all, of an inflation increase will find its way through to nominal equity returns so long as inflation does not reach extreme levels.

The chart shows nominal and real annual returns of a 70% equity, 30% bond U.S. investor in varying inflation environments illustrated by ten increasing groups of annual inflation (CPI) levels. This diversified portfolio produced positive average nominal returns in all inflation environments but in the worst inflation scenarios — typically times of geopolitical crisis — high inflation did degrade earnings power on average through negative real returns. It is important to bear in mind that it is difficult to distinguish between negative effects on nominal asset returns due to high inflation from those arising from general stress in the capital markets.

Certain investors will require more or less inflation protection depending on the nature of their liabilities or spending policy and this may influence how inflation protection is most appropriately obtained. In the US, endowments and foundations with real growth requirements (after spending) are more sensitive to increases in inflation, as are public retirement systems with cost of living adjustments (COLAs) in benefits. UK corporate defined benefit schemes typically are sensitive to inflation, certainly more so than their counterparts in North America. Participants in defined contribution plans worldwide have income needs in retirement that increase with inflation, so inflation hedging assets are a natural part of the toolkit for those investors.

Contents

Of course, inflation protection involves trade-offs. Reducing inflation risk generally comes with a cost, be it in hard currency or in increased exposure to another risk. Asset classes that insulate most effectively from inflation shocks generally lack full exposure to the equity risk premium and so can reasonably be expected to underperform equity investments over the long-run. In particular, the strongest inflation hedges when derivatives are not being employed —commodities and inflation-linked bonds—are among the lowest expected return assets. Investors who fund new allocations to these types of inflation hedging assets should expect a reduction in total fund expected return—the soft cost of hedging.

At the same time, such assets typically are diversifiers to traditional stock and bond assets, so allocations to them have the additional benefit of lowered volatility and increased portfolio efficiency (higher Sharpe ratio). They may also offer opportunities for skilled active management and the capture of a liquidity premium for some assets.

The case for the inflation hedging properties of major asset classes based on historical data, rather than theory, is more complex. The geopolitical nature of inflation risks mean that no two inflation shocks are the same, making it difficult to draw conclusions about the future based on historical data. Our analysis suggests that inflation-linked bonds and, in particular for large moves in inflation, commodities are the most effective hedges of inflation risk. Other asset classes such as real estate and infrastructure have more limited inflation hedging properties. Nevertheless, we believe these asset classes deserve a significant place in portfolios for their inherent investment characteristics—diversification and favorable risk-return trade-offs.

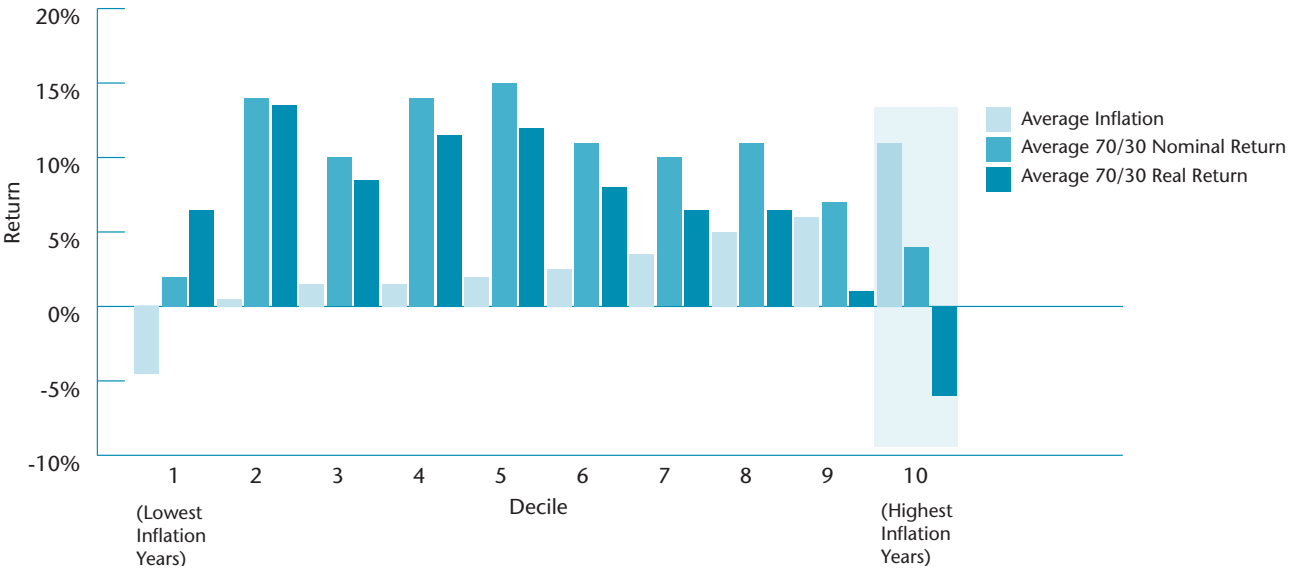
It is also possible to obtain protection against inflation in derivatives markets by using inflation swaps. These have the advantage that they do not require the investor to lock into the current level of low interest rates, do not tie up capital and can be tailored to meet a precise inflation profile. They are most useful when investors have a significant exposure to inflation that they wish to hedge.

There are several practical issues in increasing inflation protection in portfolios:

- The only assured way of protecting against inflation with inflation-linked bonds is to hold them to maturity, in which case the investor will receive a known real return above inflation. Investing in an inflation-linked bonds index diminishes inflation protection by introducing other risk factors, including exposure to changes in real interest rates. This is particularly true when the duration of the inflation-linked bonds portfolio differs from the investor's time horizon.
- Implementing inflation protection can be costly and complex. Sometimes shifting from equities to commodities can accomplish most of an investor's inflation hedging needs. In other cases inflation swaps might be used to minimize the disruption to the existing portfolio.
- The timing of implementing inflation protection is important. Such a solution should be put in place before significant inflation becomes a reality, and inflation-hedging assets became prohibitively expensive.
- As with all derivatives, it is important that an investor fully understands the nature and risks of inflation swaps and how they can be integrated into the overall portfolio.

Inflation is a potential risk to the assets of all investors, and inflation hedging is an important measure of risk control, particularly for investors with inflation-sensitive liabilities or spending.

One-Year Historical returns of a 70/30 Portfolio in different Inflation Environments, 1926-2011



Inflation

	USD	GBP	EUR	CHF	CAD	JPY
CPI Inflation (10yr assumption)	2.2%	2.4%	1.9%	1.3%	2.0%	1.0%
RPI Inflation (10yr assumption)	–	3.1%	–	–	–	–

Over the next 10 years, inflation is expected to be close to central bank targets in the US, Europe, Canada and Japan (Japan has an inflation target of only 1%, lower than elsewhere) but inflation in the UK is expected to settle at a slightly higher level, above the Bank of England's 2% target.

Near term inflation expectations for most regions remain somewhat below expectations for inflation in later years. Reasons for this include the fact that growth is expected to remain fairly weak in the near term and that it is estimated that slack remains in economies globally (in technical terms, there is an output gap), which will lessen upward pressure on prices in the near term.

Japan is an unusual and special case and though inflation is assumed to pick up in later years, in the near term the expectation is that it will struggle to return to positive territory.

Government Bonds

		10yr Annualized Nominal Return Assumptions					
	Duration	**USD**	**GBP**	**EUR**	**CHF**	**CAD**	**JPY**
US	5yr	1.7%	1.8%	1.4%	0.8%	1.5%	0.5%
	15yr	2.4%	2.5%	2.1%	1.5%	2.1%	1.2%
UK	5yr	1.7%	1.9%	1.4%	0.8%	1.5%	0.5%
	15yr	2.4%	2.5%	2.0%	1.5%	2.1%	1.1%
Eurozone	5yr	3.2%	3.3%	2.9%	2.3%	2.9%	1.9%
	15yr	3.5%	3.6%	3.2%	2.6%	3.2%	2.3%
Switzerland	5yr	1.5%	1.6%	1.2%	0.6%	1.3%	0.3%
	15yr	2.0%	2.1%	1.7%	1.1%	1.8%	0.8%
Canada	5yr	1.9%	2.1%	1.6%	1.0%	1.7%	0.7%
	15yr	2.5%	2.7%	2.2%	1.6%	2.3%	1.3%
Japan	5yr	2.0%	2.2%	1.7%	1.1%	1.8%	0.8%
	15yr	2.6%	2.7%	2.3%	1.7%	2.4%	1.4%

We take French bonds to represent Eurozone bonds, as there is a reasonably liquid market in French inflation-linked bonds and we want to ensure consistency between the nominal and inflation-linked government bond returns. Our calculation of a weighted average Eurozone government bond yield leads to a figure which is slightly higher than the yield on French government bonds. Our analysis therefore supports the use of French bonds as a proxy for Eurozone bond portfolios, where these portfolios do not have a large exposure to the higher yielding periphery.

The somewhat erratic downward trend in government bond yields that has been in force for some time now continued during the second quarter of 2012. Concerns over the pace of global growth and continued troubles in the Eurozone contributed to increased demand for bonds issued by perceived safe haven countries such as the US, Canada, UK and Switzerland. Combined with additional monetary easing by central banks, this put renewed downward pressure on bond yields. These low bond yields lead to depressed return assumptions for government bonds at both short and long durations.

However, our return assumptions for government bonds over the next 10 years differ from the current yields to maturity on these bonds, because the assumptions relate to bond portfolios which are rebalanced on an annual basis to maintain duration and hence the future path of yields also has an impact.

Yield curves price in bond yields rising after a period of time at low levels. This impacts our bond return assumptions in a number of ways. Two of the major impacts are that increasing yields lead to capital losses on bond investments (with longer duration bonds suffering larger losses than shorter duration bonds) but this also allows bond investors to benefit from re-investment at higher yields throughout the projection period. This is why the return assumptions for 5 year duration bonds are higher than the corresponding yields to maturity, as future reinvestment is projected to be at higher yields than currently available.

The troubles facing the Eurozone have led to a divergence between Eurozone government bond yields and those in the other major markets. While German yields have moved to exceptionally low levels, following a similar pattern to other perceived safe haven bond markets, elsewhere in the Eurozone, bond yields are at elevated levels. Overall Eurozone bond yields are therefore higher than all of the other markets covered in our CMAs, contributing to the Eurozone government bond return assumptions being the highest.

Inflation-Linked Government Bonds

	10yr Annualized Nominal Return Assumptions						
	Duration	**USD**	**GBP**	**EUR**	**CHF**	**CAD**	**JPY**
US	5yr	2.0%	2.1%	1.7%	1.1%	1.7%	0.8%
	10yr	2.0%	2.1%	1.7%	1.1%	1.8%	0.8%
UK	5yr	2.4%	2.5%	2.1%	1.5%	2.2%	1.2%
	15yr	2.1%	2.2%	1.7%	1.2%	1.8%	0.8%
Eurozone	5yr	3.3%	3.4%	3.0%	2.4%	3.0%	2.0%
	10yr	3.3%	3.4%	3.0%	2.4%	3.0%	2.0%
Canada	5yr	-	-	-	-	-	-
	15yr	2.0%	2.1%	1.7%	1.1%	1.8%	0.8%

We have taken French bonds to represent Eurozone bonds, partly because there is a reasonably liquid market in French inflation-linked bonds. Our analysis of nominal government bonds also suggests that French bonds are a reasonable proxy for Eurozone government bonds so we make the same assumption here for consistency. The bonds represented are linked to Eurozone inflation.

We formulate return assumptions for 10 year US and Eurozone inflation-linked government bonds rather than 15 year bonds. This is because we think that the absence of inflation-linked bonds at the longest durations in these markets can lead to misleading 15 year bond return assumptions. We also no longer publish a 5 year duration Canadian inflation-linked government bond assumption due to the lack of short duration bonds in this market.

A similar story overall holds for inflation-linked as for nominal government bonds, with low yields driving low return assumptions in the US, Canada and the UK. As with nominal government bonds, Eurozone (French) bond yields remain higher than elsewhere and this market has the highest return assumption at both short and long durations.

A second factor influencing inflation-linked bond return assumptions is inflation expectations. In this respect, returns from UK index-linked gilts benefit in relative terms compared with the other markets by virtue of the fact that returns on these bonds are linked to UK RPI inflation. This has an impact because other regional inflation-linked bond returns are linked to CPI inflation and this is assumed to be much lower than UK RPI inflation.

Investment Grade Corporate Bonds

	10yr Annualized Nominal Return Assumptions (AA-rated bonds)						
	Duration	USD	GBP	EUR	CHF	CAD	JPY
US	5yr	2.6%	2.7%	2.3%	1.7%	2.4%	1.4%
	10yr	3.3%	3.4%	3.0%	2.4%	3.1%	2.1%
UK	5yr	3.2%	3.3%	2.9%	2.3%	2.9%	1.9%
	10yr	3.8%	3.9%	3.5%	2.9%	3.5%	2.6%
Eurozone	5yr	3.4%	3.5%	3.1%	2.5%	3.2%	2.2%
	10yr	3.7%	3.8%	3.4%	2.8%	3.4%	2.4%
Switzerland	5yr	2.1%	2.2%	1.8%	1.2%	1.9%	0.9%
	10yr	2.4%	2.5%	2.1%	1.5%	2.1%	1.1%
Canada	5yr	3.0%	3.2%	2.7%	2.1%	2.8%	1.8%
	10yr	3.7%	3.9%	3.4%	2.8%	3.5%	2.5%
Japan	5yr	2.1%	2.2%	1.7%	1.2%	1.8%	0.8%
	10yr	2.4%	2.5%	2.1%	1.5%	2.2%	1.2%

Corporate bond returns depend on both a government yield component and a credit spread component but also take account of losses arising from defaults and bonds being downgraded.

At the end of June, corporate bond credit spreads stood at elevated levels relative to history, after having being on the rise as risk aversion increased during the second quarter. However, while credit spreads have risen, government bond yields have continued to tumble. The net effect is that corporate bond yields and corporate bond return assumptions are at depressed levels relative to what investors will have experienced historically.

Overall, UK corporate bonds continue to offer a higher return assumption in local currency terms than the other markets as a result of the higher credit spread available in the UK. Low yielding government bonds and narrow credit spreads result in Japanese corporate bonds continuing to offer the lowest assumed returns.

US High Yield Debt and Emerging Market Debt

US high yield debt is assumed to return 4.6% per year over the next 10 years. In common with many 'risky' asset classes, high yield credit spreads have been through a tumultuous period, more than doubling between February 2011 and their peak last October before contracting significantly since then to stand at close to the historic average level at the end of June. However, low underlying government bond yields and an expectation that default rates will increase from their current depressed levels hold back our high yield debt return assumption over the next 10 years.

We assume that US dollar denominated emerging market debt will return 4.2% per year over the next 10 years. As with US corporate bonds and high yield debt, the return assumption for emerging market debt is typically expressed as a 'spread' over US Treasury bonds. These spreads have moved directionally in line with high yield spreads over the past year, though with a greater degree of stability. As with other bond assets, low US government yields are a drag on return expectations for US dollar denominated emerging market debt.

Equities

	10yr Annualized Nominal Return Assumptions					
	USD	GBP	EUR	CHF	CAD	JPY
US	7.5%	7.6%	7.2%	6.5%	7.2%	6.2%
UK	8.7%	8.8%	8.4%	7.7%	8.4%	7.4%
Europe ex UK	8.4%	8.5%	8.0%	7.4%	8.1%	7.1%
Switzerland	8.0%	8.2%	7.7%	7.1%	7.8%	6.7%
Canada	8.1%	8.2%	7.8%	7.1%	7.8%	6.8%
Japan	8.2%	8.3%	7.8%	7.2%	7.9%	6.9%
Emerging Markets	9.8%	9.9%	9.4%	8.8%	9.5%	8.4%

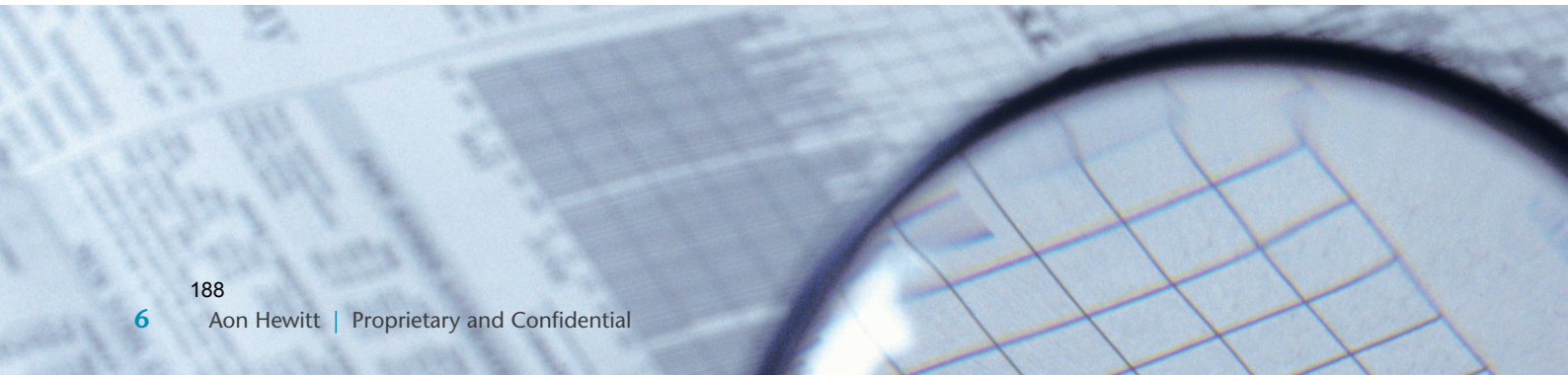
The earnings growth component of our equity return assumptions comprises both near term and longer term elements. While our Capital Market Assumptions process typically involves using consensus inputs, for some time we have believed that the consensus of analysts' forecasts has been unrealistically optimistic regarding near term earnings growth prospects. Unlike analysts, against a backdrop of weak global growth we do not expect company profit margins to increase from their already elevated levels. For this reason, we have developed our own in-house corporate earnings paths which have led to lower growth assumptions than forecast by the consensus. For the major developed markets, we assume negative or barely positive real (after inflation) earnings growth in the 2012 to 2015 period. Not being influenced by short-term market sentiment, our near term earnings growth assumptions have been relatively stable overall during recent quarters, in contrast to consensus expectations which have varied far more.

In the long term, we assume that companies' earnings growth is related to GDP growth. Crucially, as described in detail in the lead article to the March 31 2011 Capital Market Assumptions, we do not assume a one-to-one relationship between a country's growth rate and the long term earnings growth potential of companies listed on the stock market within that country. We do this because many companies are international in nature and derive earnings from regions outside of where they have a stock market listing. An implication is that European company earnings have only about a 50% direct exposure to the unraveling Eurozone crisis and similarly, investors in non-European equity markets should not consider themselves insulated from the crisis either. It is also notable that emerging markets are an important driver of profits earned in the developed world.

UK equities have a noticeably higher return assumption than the other developed markets in local currency terms. The main reason for this is that this equity market is currently the 'cheapest' of the developed markets in valuation terms (see lead article to December 31 2011 Capital Market Assumptions for further information on our approach to setting equity return assumptions). As of June 30, UK equities were trading on a multiple of around 10 times our 2012 earnings assumption. In contrast, US equities were valued at nearer 15 times our 2012 earnings assumption. Investors in UK equities are therefore paying less for expected future earnings, which raises the return assumption for the UK market relative to elsewhere.

While Japanese equities have a much lower return assumption than the other markets in local currency terms, it is of a similar level to the others when considered in a common currency. This is because we assume that currency movements are related to inflation differentials and Japan is assumed to have a lower rate of inflation than elsewhere.

Emerging market equities have a higher return assumption than the developed markets, reflecting the greater long term growth potential of this sector of the market. Of course, emerging market companies also depend on the growth of the developed world so this assumption is not decoupled from the developed world assumptions.



Private Equity

We assume that global private equity will return 9.7% per year over the next 10 years in US dollar terms. The assumption represents a diversified private equity portfolio with allocations to leveraged buyouts (LBOs), venture capital, mezzanine and distressed investments. Return expectations for these different strategies depend on different market factors. For example, distressed investments are influenced by the outlook for high yield debt. Similarly, LBO returns are influenced by the outlook for equity markets as well as the cost of the debt used to finance these LBOs. The current low interest rate environment is therefore beneficial for LBO investors. Notwithstanding this, whereas in the past leverage has been a big driver of private equity returns, particularly for LBOs, in future the ability of managers to add value through operational improvements will become more important.

On our analysis, the median private equity fund manager has historically performed in line with the median public equity manager, but high performing private equity managers have performed significantly better. Our assumption incorporates the level of manager skill ('alpha') associated with such a high performing manager. This contrasts with our other equity return assumptions where no manager alpha is assumed.

Real Estate

	10yr Annualized Nominal Return Assumptions					
	USD	**GBP**	**EUR**	**CHF**	**CAD**	**JPY**
US	7.2%	7.4%	6.9%	6.3%	7.0%	6.0%
UK	7.6%	7.7%	7.3%	6.6%	7.3%	6.3%
Europe ex UK	6.2%	6.3%	5.9%	5.3%	5.9%	4.9%
Canada	6.9%	7.1%	6.6%	6.0%	6.7%	5.7%

Over the past two years, we have seen real estate capital values rebound and in some cases this rebound has been strong. More recently this growth in capital values has faltered in Europe and the UK although capital values/ prices have been much more stable than movements in other 'risky' asset classes. This is true even for the Europe ex UK market. Within this market, the northern European market is the largest and capital values here have held up much better than in southern Europe. The lower weight placed on southern European real estate means falls in capital values here have had only a limited impact so far on Europe ex UK overall. Of course, stability in valuations will reflect the fact that real estate is an illiquid asset class and revaluations can be infrequent. We incorporate this feature in our analysis.

Unsurprisingly, as concerns have mounted over the economic outlook for Europe and the UK, we have also witnessed a paring back in near term rental growth expectations for these markets. Unlike equity markets, which benefit from their international exposure, real estate is much more closely tied to the fortunes of the region in question. This weaker rental outlook has therefore had a negative influence on the return assumptions for these markets.

The UK real estate market continues to have the highest return assumption in local currency terms, partly because we assume that rental growth is related to inflation in the long run and UK inflation is assumed to be higher than elsewhere. In addition, there are also lower costs associated with investing in the UK real estate market than elsewhere. While our real estate assumptions do not include any allowance for active management alpha or active management fees, there is an allowance for the unavoidable costs associated with investing in a real estate portfolio. These include real estate management costs, trading costs and investment management expenses.

Our assumptions here are in respect of a large fund which is capable of investing directly in real estate. The assumptions relate to the broad real estate market in each region rather than any particular market segment.

Hedge Funds

Our fund of hedge funds return assumption is 5.4% per year in US dollar terms. We formulate this by combining the return assumptions for a number of representative hedge fund strategies. As with private equity, this assumption includes allowances for manager skill and related fees (including the extra layer of fees at the fund of funds level), but unlike private equity, this is for the average fund of funds in the hedge fund universe rather than for a high performing manager.

The individual hedge fund strategies we model as components of our fund of hedge funds' assumption are equity long/short, equity market neutral, fixed income arbitrage, event driven, distressed debt, global macro and managed futures. Our modeling of these strategies includes an analysis of the underlying building blocks of these strategies. For example, we take into account the fact that equity long/short funds are sensitive to equity market movements. In practice the sensitivity of equity long/short funds to equity markets can vary substantially by fund with some behaving almost like substitutes for long only equity managers, while others retain a much lower exposure. Our assumptions are based on our assessment of the average sensitivity across the entire universe of equity long/short managers.

Given the nature of the asset class, our hedge fund return assumptions are more stable than, for example, our US equity return assumption. Nonetheless, the strategies are impacted by changes to the other asset class assumptions. For example, most hedge funds are 'cash+' type investments to a greater or lesser extent. Therefore, the fact that the return that can be assumed for cash has fallen to very low levels has had a negative impact on hedge fund return assumptions. In contrast, the fact that our equity return assumptions have increased since last quarter has had a positive impact on the return outlook for equity long/short managers. A lower high yield debt return assumption has had a corresponding impact on the return assumption for distressed debt focused strategies.

Volatility

15yr Inflation-Linked Government Bonds	9.0%
15yr Government Bonds	11.0%
10yr Investment Grade Corporate Bonds	9.0%
Real Estate	16.0%
US High Yield	14.0%
Emerging Market Debt (USD denominated)	14.0%
UK Equities	22.5%
US Equities	21.0%
Europe ex UK Equities	22.5%
Japan Equities	22.5%
Canada Equities	22.5%
Switzerland Equities	22.5%
Emerging Market Equities	31.5%
Global Private Equity	29.0%
Global Fund of Hedge Funds	8.0%

Our volatility assumptions are forward looking (while also having regard to history) and the volatilities in the table above are representative for each asset class over the projection period. In practice, we have a more complex set of volatility assumptions with, for example, volatilities varying over time. For illiquid asset classes, such as real estate, de-smoothing techniques are employed. All volatilities shown above are in local currency terms. For emerging market equities, global private equity and global fund of hedge funds the local currency is taken to be USD.

As a result of continued global imbalances and uncertainty over the economic outlook, including inflation, we believe that volatility is likely to remain at elevated levels relative to history. This is reflected in the assumptions above. While we assume that the volatility of 'risky' assets, such as equities, will be at historically high levels over the next few years, we also assume that it will decline over time.

High assumed volatility is also consistent with implied volatilities priced into option contracts (a measure of the market's expectations for volatility over the life of the option) which remain at elevated levels. Implied option volatilities can be influenced by many factors unrelated to volatility, for example the supply/demand dynamics of the option market. Nonetheless we believe that they do provide useful forward looking information which we take account of when setting our assumptions.

Please note that due to the level of yields and shape of the yield curve in Canada, Japan and Switzerland, lower volatility assumptions apply to bond investments in these markets.

Correlations

	IL	FI	CB	RE	UK Eq	US Eq	Eur Eq	Jap Eq	Can Eq	CHF Eq	EM Eq	Gbl PE	Gbl FoHF
IL	1	0.5	0.4	0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0
FI		1	0.8	0.1	-0.2	-0.2	-0.2	-0.1	-0.2	-0.2	-0.1	0	0
CB			1	0.1	0.1	0.1	0.1	0	0.1	0.1	0	0.1	0
RE				1	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.3	0.3
UK Eq					1	0.8	0.8	0.6	0.8	0.8	0.7	0.6	0.6
US Eq						1	0.8	0.6	0.8	0.8	0.7	0.7	0.6
Eur Eq							1	0.6	0.8	0.8	0.7	0.6	0.6
Jap Eq								1	0.6	0.6	0.5	0.4	0.5
Can Eq									1	0.8	0.7	0.6	0.6
CHF Eq										1	0.7	0.6	0.6
EM Eq											1	0.6	0.5
Gbl PE												1	0.4
Gbl FoHF													1

- **IL** Domestic Inflation-Linked Government Bonds
- **FI** Domestic Government Bonds
- **CB** Domestic Investment Grade Corporate Bonds
- **RE** Domestic Real Estate
- **UK Eq** UK Equities
- **US Eq** US Equities
- **Eur Eq** Eurozone Equities
- **Jap Eq** Japan Equities
- **Can Eq** Canada Equities
- **CHF Eq** Switzerland Equities
- **EM Eq** Emerging Market Equities
- **Gbl PE** Global Private Equity
- **Gbl FoHF** Global Fund of Hedge Funds

The matrix above sets out representative correlations assumed in our modeling work. All correlations shown above are in local currency terms and can be used by UK, US, European, Canadian and Swiss investors for the asset classes where return and volatility assumptions exist (e.g. Swiss real estate is not modeled). A different set of correlations apply for Japanese investors.

Correlations are highly unstable, varying greatly over time, and this feature is captured in our modeling where we employ a more complex set of correlations involving different scenarios.

Our correlations are forward looking and not just historical averages. In particular, we think that in many ways the last decade has been quite different from the previous 20 years, being more cyclical in nature with less strong secular trends. This has many implications. For example, the equity/government bond correlation in the table above is negative which also incorporates the feature that this correlation is negative in stressed environments.

Capital Market Assumptions Methodology

Overview

Aon Hewitt's Capital Market Assumptions are our asset class return, volatility and correlation assumptions. The return assumptions are 'best estimates' of annualized returns. By this we mean median annualized returns – that is, there is a 50/50 chance that actual returns will be above or below the assumptions. The assumptions are long term assumptions, based on a 10 year projection period and are updated on a quarterly basis.

Material Uncertainty

Given that the future is uncertain, there is material uncertainty in all aspects of the Capital Market Assumptions and the use of judgment is required at all stages in both their formulation and application.

Allowance For Active Management

The asset class assumptions are assumptions for market returns, that is we make no allowance for managers outperforming the market. The exceptions to this are the private equity and hedge fund assumptions where, due to the nature of the asset classes, manager performance needs to be incorporated in our Capital Market Assumptions. In the case of hedge funds we assume average manager performance and for private equity we assume a high performing manager.

Inflation

When formulating assumptions for inflation, we consider consensus forecasts as well as the inflation risk premium implied by market break-even inflation rates.

Government Bonds

The government bond assumptions are for portfolios of bonds which are annually rebalanced (to maintain constant duration). This is formulated by stochastic modeling of future yield curves.

Inflation-Linked Government Bonds

We follow a similar process to that for government bonds, but with projected real (after inflation) yields. We incorporate our inflation profiles to construct nominal returns for inflation-linked government bonds.

Corporate Bonds

Corporate bonds are modeled in a similar manner to government bonds but with additional modeling of credit spreads and projected losses from defaults and downgrades.

Other Fixed Income

Emerging market debt and high yield debt are modeled in a similar fashion to corporate bonds by considering expected returns after allowing for losses from defaults and downgrades.

Equities

Equity return assumptions are built using a discounted cashflow analysis. Forecast real (after inflation) cashflows payable to investors are discounted and their aggregated value is equated to the current level of each equity market to give forecast real (after inflation) returns. These returns are then converted to nominal returns using our 10 year inflation assumptions.

Private Equity

We model a diversified private equity portfolio with allocations to leveraged buyouts, venture capital, mezzanine and distressed investments. Return assumptions are formulated for each strategy based on an analysis of the exposure of each strategy to various market factors with associated risk premia.

Real Estate

Real estate returns are constructed using a discounted cashflow analysis similar to that used for equities, but allowing for the specific features of these investments such as rental growth.

Hedge Funds

We construct assumptions for a range of hedge fund strategies (e.g. equity long/short, equity market neutral, fixed income arbitrage, event driven, distressed debt, global macro, managed futures) based on an analysis of the underlying building blocks of these strategies.

We use these individual strategies to formulate a fund of hedge funds' assumption which is quoted in the Capital Market Assumptions.

Currency Movements

Assumptions regarding currency movements are related to inflation differentials.

Volatility

Assumed volatilities are formulated with reference to implied volatilities priced into option contracts of various terms, historical volatility levels and expected volatility trends in future.

Correlations

Our correlation assumptions are forward looking and result from in-house research which looks at historical correlations over different time periods and during differing economic/investment conditions, including periods of market stress. Correlations are highly unstable, varying greatly over time. This feature is captured in our modeling.

Disclaimer

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Aon Hewitt is the global leader in human capital consulting and outsourcing solutions. The company partners with organisations to solve their most complex benefits, talent and related financial challenges, and improve business performance. Aon Hewitt designs, implements, communicates and administers a wide range of human capital, retirement, investment management, health care, compensation and talent management strategies. With more than 29,000 professionals in 90 countries, Aon Hewitt makes the world a better place to work for clients and their employees.

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Go Big or Go Home:

The Case for an Evolution in Risk Taking

June 2012

Hewitt EnnisKnupp, An Aon Company

Hewitt ennisknupp

An Aon Company

The Case for an Evolution in Risk Taking

Key Points

- Alternative investments—private equity, real estate and hedge funds—have natural advantages in risk and return over traditional stock and bond investments
- A large allocation to alternatives relative to current institutional practice is needed for a material contribution an institutional investor's bottom line
- Clients should consider whether moving toward an Efficiency portfolio with an emphasis on low-cost passive management, or an Opportunity portfolio with heavy reliance on value added through active management—especially alternative investments—is most appropriate for them
- **Clients who can tolerate the cost, complexity and illiquidity should consider Opportunity-type allocations of 40% of their return-seeking assets to private equity, non-core real estate, and hedge funds**
- Success with traditional active investments is best found through conviction—rejection of "closet indexing" in its various forms

Introduction

Institutional investors have seen what their portfolios have delivered over the past decade and been left wanting more. Global equity markets have produced disappointing returns with wild swings of volatility. Active management has had a mixed record. Looking forward, capital market expectations warn of a challenging environment for meeting portfolio objectives, while expectations of risk and uncertainty remain high. Many investors express concern with the concentration of portfolio risk they have in the public equity markets.

In this paper, we make the case for a shift in risk-taking from traditional assets to "alternative" investments—private equity, real estate, hedge funds, and strategies that blur the line between the three principal categories. We discuss a framework for considering total fund investment policy that ranges from cost-effective simplicity to active opportunity-seeking, and argue that investors should begin to move toward one model or another. We discuss the future of traditional active investment management, and provide some thoughts on how best to succeed in the traditional world we currently inhabit.

The Case for Alternative Investments

It may be time for a different name for “alternative” investments. The private equity industry, representing a $1.4 trillion global asset class, accounted at its peak for a quarter of global mergers and acquisitions activity, half of leveraged loan volume, a third of the high yield bond market, and a third of the initial public offering (IPO) market.[1] Hedge funds weigh in at $2 trillion, having moved beyond an investment for wealthy individuals and university endowments only into a mainstream asset category for pensions and other institutional investors. Estimates of global investable private real estate run as high as $26 trillion, considerably larger than the capitalization of the U.S. stock market.[2] Alternatives have become mainstream.

By most estimates, including ours, private equity investments offer the highest expected returns of any broad asset class. Investors who need growth in their portfolios have the potential to achieve it here. Private equity is the one broad asset class that offers a return above the 8% rate of return many public funds are actuarially projected to earn on their total funds. The higher-risk, higher expected return value added and opportunistic segments of real estate offer similar rewards for the most successful investors.

Hedge funds, on the other hand, typically do not offer returns in aggregate that compete with equity investments, owing to their general lack of persistent market exposures and lower volatility. However, they inhabit a space between stocks and bonds, with hedge fund managers who can generate consistent alpha offering high *risk-adjusted* returns relative to market alternatives.

Alternatives are characterized by underlying drivers of performance that, in some cases, offer diversification benefits without the corresponding reduction in long-term expected returns of fixed income. Alternatives are risky, or return-driven, assets, but allocations to them can reduce risk. They are driven by different factors than stocks and bonds.

Alternatives are part of a complete set of diversified market exposures. Public equity offers growth through participation in the public ownership of established companies, but private equity diversifies across the spectrum of ownership and maturity of businesses. Real estate returns are driven by supply and demand in the real estate market, not solely by economic growth and interest rate factors that drive stocks and bonds. Hedge funds offer access to “exotic beta” market factors like the value premium, currency, and volatility that are not readily available (or not conveniently packaged) in traditional markets.

The Case for Alternatives as *Superior* Investments

Investors have increasingly embraced the concept of *breadth* in investment strategies over the past decade. Alternative investments can offer the ultimate in breadth in the sense that hedge fund strategies are free of many traditional constraints; and certain alternative investments may cross lines between asset classes, or not adhere to them at all. In addition, some alternative investment areas may be characterized by greater market inefficiency than public markets, potentially giving a tailwind to active management. How has traditional active management stacked up to alternatives?

[1] Market share data from Jensen [2007], citing Morgan Stanley.
[2] See Pramerica [2012]

Average Performance

For a decade, Standard and Poor's has maintained the S&P Indices Versus Active Funds (SPIVA) Scorecard, which provides an analysis of traditional active manager performance after adjusting for common database issues, including the survivorship bias that typically inflates returns.[3] The most recent five-year results are shown in Exhibit 1. As in past studies, the average active manager underperformed a style-specific benchmark in most investment categories. (Global equity, which benefits from maximum breadth of active equity strategies, is the value-added outlier.) Traditional active managers in aggregate have consistently failed to add value.

Exhibit 1

Traditional Fund Category	5-Year Value Added As of December 2011
U.S. Large Cap Equity	-0.10%
U.S. Mid Cap Equity	-1.79
U.S. Small Cap Equity	-1.30
U.S. All Cap Equity	-0.62
Non-U.S. Equity	-1.23
Global Equity	+0.30
Investment Grade Intermediate Fixed Income	-0.61

Source: Standard & Poor's S&P Indices Versus Active Funds (SPIVA) Scorecard Year-End 2011

Research continues on the historical *average* performance of the private equity asset class relative to the public market alternative. Conventional wisdom is that the median private equity manager produces a return similar to or below that of the market, after fees, while successful and unsuccessful managers' returns are dispersed widely around the midpoint.

More recent evidence from the business schools of Virginia, Oxford and Chicago—conventional wisdom notwithstanding—suggests that buyout managers have outperformed over the long term by 3% per year *on average*, with mixed average performance over time from venture capital.[4] Another study found outperformance of the public equity markets for a large, broad sample of private equity funds over the period 1984-2010.[5] In the area of hedge funds, an analysis of performance from a major database, after adjusting for survivorship, back-fill and other biases, finds a statistically significant positive alpha.[6]

[3] Survivorship bias is introduced when databases include only the returns of investment product that are still in existence. Because poor-performing funds are more likely to be closed down or merged into other funds, including only "survivors" tends to bias average performance upward in typical databases. The SPIVA data corrects for survivorship bias by including the returns of closed and merged funds.
[4] See Harris, Jenkinson and Kaplan [2012].
[5] See Robinson and Sensoy [2011]
[6] See Ibbotson, Chen and Zhu [2011]

Performance Persistence

Performance persistence refers to the extent to which past outperforming funds continue to do so in the future. While it is well understood that past performance is an imperfect guide to the future, and manager selection decisions should be made based on a variety of factors, evidence of persistence in performance suggests continuing rewards to skill.

There is a rich collection of literature on performance persistence in the mutual fund industry, with mixed results but little strong evidence of strong-performing funds continuing to do so in the future.[7] A recent study finds little to no evidence of performance persistence in active domestic equity funds (as well as no evidence of aggregate or average alpha).[8] What evidence there is of persistence often arises from consistent *poor* performers, who languish in the bottom of peer groups as a result of high fees or insufficient skill at identifying superior investments to overcome trading costs.

Within alternatives, the story may be different. Anecdotal evidence suggests that superior private equity managers continue to be superior in the future. An analysis of a robust set of Venture Economics data finds strong persistence of performance across private equity funds consecutively raised by the same firm.[9]

Among hedge funds, Jagannathan [2010] finds significant performance persistence among superior funds.[10] And a broad study of private real estate performance finds strong evidence of a relation between fund performance and that of the manager's previous funds, as with private equity.[11]

The Impact of Management Fees

In traditional asset classes, it's well understood that fees have a negative impact on net performance earned by the investor. Index fund management giant Vanguard finds a negative relationship between fees and net-of-fee returns in each of nine sub-classes of U.S. equity mutual funds, and five sub-classes of fixed income mutual funds, over a ten year period ending December 31, 2010.[12]

The relationship between fees and performance may not, however, be a completely straightforward one. Recent research suggests that the most active traditional managers—that is, those who take the largest active positions relative to the benchmark and avoid "closet indexing"—tend to charge higher fees, but also generate higher net-of-fee performance.[13][14]

In alternatives, there is evidence that the relationship is not so clear. Highly successful individuals in alternative investment management can earn very large compensation packages; this compensation tends to attract gifted and skilled people who would otherwise likely pursue other high-status professions, including traditional money management. A study of mutual fund and hedge fund employment and

[7] See Allen, Brailsford, Bird and Faff [2003] for a good summary of the performance persistence literature.
[8] See Busse, Goyal and Wahal [2010]
[9] See Kaplan and Schoar [2005]
[10] See Jagannathan, Malakhov and Novikov [2010]
[11] See Tomperi [2010]
[12] See Vanguard [2011]
[13] "Closet indexing" refers to paying active management fees for index fund-like (before-fee) performance.
[14] See Cremers, Ferreira, Matos and Starks [2011]

compensation practices finds evidence of highly successful mutual fund managers being offered side-by-side hedge fund management arrangements by their employers as a retention strategy.[15]

Recent research indicates that private equity managers earn at least their management fees back in returns.[16] High alternatives compensation is driven by high fees, in particular a combination of a base fee and an incentive fee that can be very large when performance goals are met. Empirical evidence suggests that there is no, or even a positive, relationship between fees paid to private equity and hedge fund managers, and net of fee performance. The incentive compensation element of alternatives fee schedules appears to have a positive effect on performance, more so than actual fee levels. Agarwal [2009] finds that funds with greater managerial incentives have superior future performance.[17]

This is not to say that high fees do not detract from returns—a dollar of fees paid is a dollar out of the investor's pocket. But in an area of the market in which high active fees are the price of admission, evidence suggests that the fees are at least earned.

Management Discretion and Flexibility

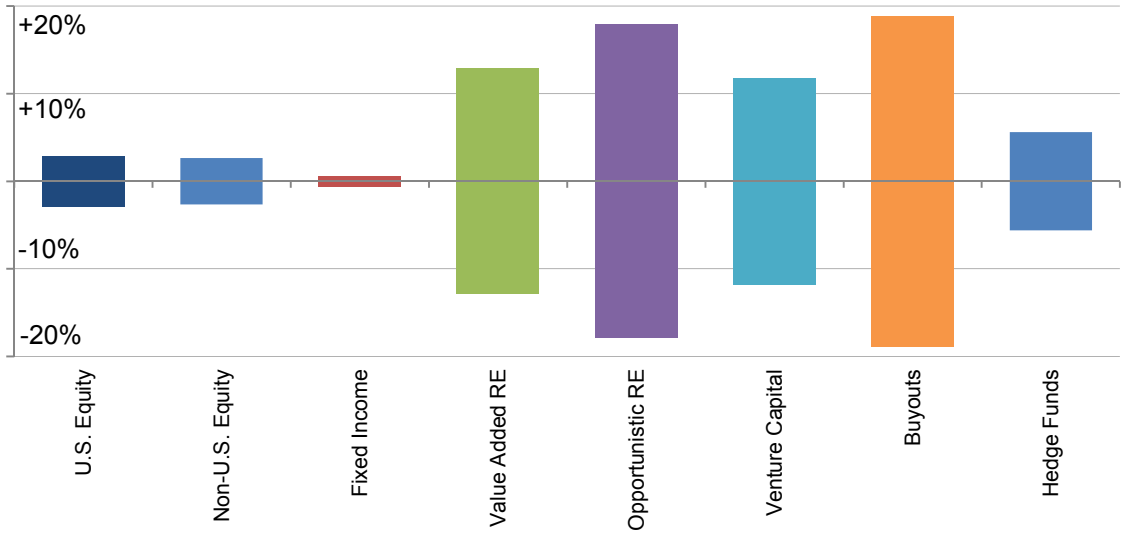
Likewise, management discretion plays a role in superior performance. Lockups of capital allow managers to pursue longer-term investment strategies without disruptive withdrawals. Agarwal [2009] also finds that management discretion (longer lockup, notice and redemption periods) is related to superior hedge fund performance.[18]

Alternative strategies are far less benchmark-bound than traditional investments. This is illustrated in dispersion among traditional and alternative active manager returns. Exhibit 2 shows the long-term spread between top- and bottom-quartile managers in traditional and alternative asset classes, re-centered around zero to focus on dispersion rather than average returns.

[15] See Deuskar, Pollet, Wang and Zheng [2011]. The authors do not find evidence of the mutual fund industry losing their best performers to hedge funds. However, the strongest talent may join the hedge fund industry directly.
[16] See Robinson and Sensoy [2012]
[17] See Agarwal, Daniel and Naik [2009]
[18] See Agarwal, Daniel and Naik [2009]

Exhibit 2

10-Year Manager Performance Dispersion



Source: eVestment Alliance, Thomson Reuters, NCREIF, The Townsend Group, Hedge Fund Research, Inc.
Data as of September 30, 2011, except hedge fund data which is through March 31, 2012

While adept manager selection is critically important in traditional investments as well, typically the rewards of success and costs of failure are small relative to those experienced in alternatives. When finite resources (staff, Investment Committee and Board time) must be applied to overseeing investments—and manager selection and oversight is only one of many competing priorities—there is a clear advantage to focusing those resources on an area where the impact is greater. When seeking success beyond the average, shouldn't you look the hardest where your efforts make the most difference?

Asset Class Roles

Lastly, the market exposures of alternative investments are available only through actively managed vehicles. Active risk is inseparable from the asset class. Conversely, active management in traditional asset classes, especially low-risk fixed income, can muddy the role of the asset class, such as "growth" or "safety". When examining asset allocation through a functional lens, the role of equity assets in the portfolio is to generate growth over time to achieve objectives and reduce costs; the role of fixed income is to reduce volatility and/or downside risk. (And flexible, value-added strategies might be part of a separate "active" or "skill" allocation".) Particularly in fixed income, active management that strays far from the benchmark may introduce unnecessary risks for an investor who allocates assets by their role in the program.

The Case for High Conviction

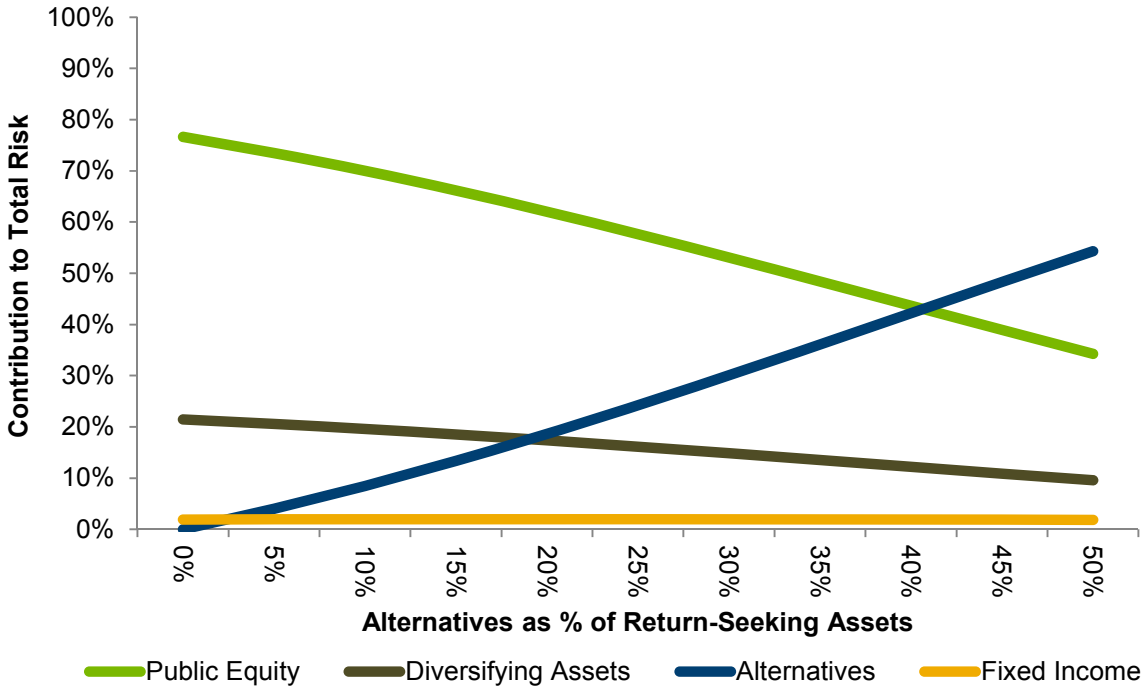
Alternative investments contribute meaningfully to the fund's bottom line (risk and return) only when they are a significant portion of the fund—demonstrating the investor's high *conviction* in them and their role in the total portfolio.

Many would like to reduce their total fund's risk concentration in equity. Our recent research makes the case that risk concentration is acceptable in the long run when it is sufficiently compensated.[19] But reduction in concentration is desirable if it can be done without reduction in expected return. Some alternative investments fit the bill, but only in sufficient amounts.

Exhibit 3 shows contribution to risk (total fund volatility) using our ten-year capital market expectations, for an investor with a 70% allocation to return-seeking assets. Return-seeking assets consist of global public equity, diversifying assets (high yield bonds, bank loans, emerging market debt, commodities and core real estate), and alternative investments (private equity, hedge funds, and non-core real estate).[20]

Equity risk dominates fixed income in all cases; only when alternatives are about 40% of return-seeking assets do they equal the contribution to results of public equity.

Exhibit 3



[19] See Sebastian [2012]

[20] The diversifying and alternative asset classes are diversified within their subcomponents based on our view of efficient portfolio construction.

The costs of alternative investing, on the other hand, have fixed elements that cause small allocations to be nearly as consuming of resources as large ones. Most importantly, we refer to the time that Boards and staff spend overseeing alternative programs, but some hard dollar costs such as consulting and legal fees are relatively insensitive to allocation size as well. Investors with alternatives allocations that crowd out consideration of other investment policy and management initiatives while not contributing much to the bottom line should consider increasing them to a meaningful level, or eliminating them.

In the course of investment policy setting, investors should consider the characteristics that drive portfolio choice. These are described in Exhibit 4.

Exhibit 4

Governance	▪ Oversight resources ▪ Speed of action ▪ (Freedom from) scrutiny
Time Horizon	▪ Life span ▪ Net cash flow position ▪ Ability to access less liquid opportunities ▪ Ability to capture liquidity premium
Portfolio Size	▪ Ability to diversify ▪ Market impact ▪ Potential for closet indexing

These characteristics, and the investor's preferences, help determine where a fund might lie on a spectrum of investment complexity. Funds with more robust and nimble governance, longer time horizons and greater portfolio size have greater room for more complex, opportunistic portfolios. We describe the low and high end of complexity as follows:

- An *Efficiency* portfolio is characterized by simplicity, with a focus on achieving market returns at minimum cost. These portfolios will have little or no allocation to alternatives and heavy use of indexing in traditional asset classes.
- An *Opportunity* portfolio is characterized by a heavy reliance on skill over market returns, with increased cost and complexity an accepted part of seeking above-market returns. These portfolios will have large allocations to alternatives, and may or may not choose to take substantial additional active risk in traditional areas.

We suggest that investors take stock of their circumstances to see whether Efficiency or Opportunity better represents a desirable direction for their fund. Those choosing Opportunity might consider ramping up alternatives allocations. Those choosing Efficiency might retain or move toward investment structures with reduced cost.

How much is the right allocation to alternatives for those who are willing to tolerate risk and complexity? We suggest that clients who wish to pursue an Opportunity-type portfolio consider allocations of *40% of return-seeking assets to alternative investments including private equity, hedge funds and non-core real estate*—or approximately 30% of total assets at a 75% return-seeking asset allocation.[21] These investors must be willing to accept significantly higher fees and costs, need for oversight resources, program complexity, illiquidity and other issues, in return for the opportunity to seek the most value added and highest long-term returns through perhaps the most efficient way of allocating risk.

Risks

Let us briefly review risks in alternative investments. Investors must have "skill at finding skill" among managers, or access to it through their advisors, to succeed with alternatives. While some evidence indicates that alternatives managers add value on average, as shown earlier, wide dispersion in results means that *manager selection* is of critical importance. Results differ not only among investments but among investors; research has shown significant dispersion among institutional investor types in terms of their performance in the private equity asset class; endowments have realized substantially higher returns than public and corporate pension funds in private equity, pointing to a need for industry improvement in manager selection procedures among pensions.[22] Average or median results in alternatives will likely produce disappointment at best.

Outside of the endowment community, modest allocations to alternatives are still the norm. Corporate and public plan sponsors who "go big" in these asset classes must be prepared to *differ from peer practices* in a visible way. Given the inherent risks of many of these investments, short-term volatility may have a particularly notable effect on peer rankings.

The *costs* of alternative investing are a multiple of those experienced in traditional investments. Lastly, alternatives are as a rule *less liquid* than traditional investments and investors may be along for the ride for ten years or more.

The Future of Traditional Active Investing

Over time, we believe that institutional investors will allocate an increasingly large portion of their overall risk budgets to alternative asset classes, at the expense of public equity and fixed income, and especially traditional active management. More traditional mandates will be filled with passively managed alternatives, and publicly traded active management mandates will decline as managers shift, where their skill set allows, to less constrained and less traditional investments—what are called "alternatives" now. Traditional active investment will not disappear soon, but we believe that *passive* and *alternative* asset management will take its place as the most popular methods of implementing an investment policy.

[21] We view core real estate as a diversifying asset rather than an alternative investment in the vein of private equity and hedge funds.
[22] See Lerner, Schoar and Wongsunwai [2007]

Succeeding With the Traditional

How can investors maximize their probability of success with the *traditional* investments that most likely currently make up the majority of their portfolios? We believe that the same conviction that drives substantially increased commitment to alternatives—and that drives results within the best of the alternative investments themselves—can increase success with the traditional.

The structural enemy of active management success is closet indexing. The remedy is to act with conviction in active investments. Resist "enhanced indexing" mandates and the dilution of active bets across too many overlapping active portfolios. Seek out concentrated portfolios of managers' best ideas, combined with indexing as needed for active risk control and liquidity. Holdings in which active managers indicate the most conviction (their "best ideas") have been shown to produce greater performance—but many managers hold deadweight positions just to minimize risk relative to the benchmark.[23]

Use performance-based fees when the terms are attractive, to promote an alignment of interests with the manager. Seek out investments where the manager invests alongside you. Evidence suggests that funds in which managers invest their personal wealth have superior risk-adjusted performance.[24]

Lastly, consider going big, or going home, with traditional active management. Reflect on your answer to the question: Why do you use traditional active management at all if you don't believe in it enough to use it for all of your stock and bond assets?

[23] See Cohen, Polk and Silli [2010]
[24] See Khorana, Servaes and Wedge [2007]

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About Hewitt EnnisKnupp

Hewitt EnnisKnupp, Inc., an Aon company, provides investment consulting services to over 500 clients in the U.S. and abroad with total client assets of over $2 trillion. Our more than 200 investment consulting professionals – a result of the merger of Hewitt Investment Group, Ennis, Knupp & Associates, and Aon Investment Consulting – advise endowment, foundation, not-for-profit, corporate and public pension plan clients ranging in size from $3 million to over $740 billion. For more information, please visit www.aonhewitt.com

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Sample Monthly Performance Report

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Ventura County Employees' Retirement Association

Sample Monthly Performance Report
October 2012

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MONTHLY INVESTMENT UPDATE
VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

August 2012

Market Highlights

- Despite rumblings of bad news throughout the month, nothing really materialized and equities had a good August. Most of the gains came early, in response to word from the head of the European Central Bank (ECB) that it would do whatever it took to support the euro. U.S. markets ended August close to four-year highs. For the month, the S&P 500 Index showed a gain of 2.3 percent, while the Dow Jones U.S. Total Stock Market Index showed a slightly higher gain of 2.5 percent.
- Within the U.S. equity market, small cap stocks outperformed their large cap counterparts, while growth stocks outperformed value stocks across the large, mid, and small cap asset classes.
- Foreign markets trailed the U.S. markets, with the MSCI EAFE Index gaining 0.3 percent, the MSCI ACWI ex-US returning 0.4 percent, and the MSCI Emerging Markets Index increasing 0.6 percent.
- The U.S. 10-year Treasury yield spiked up above 1.8 percent in mid-August. Generally, a lack of major changes in the economic picture may have caused interest in safe assets to wane slightly over the month. The Barclays Capital Aggregate Bond Index returned 0.1 percent during the month.

Preliminary Manager Highlights

- The Total Fund's preliminary August return of 1.7 percent, beat the Policy Portfolio return of 1.5 percent. The Fund's international equity asset class hurt results versus their respective benchmarks, domestic fixed income aided results by over 60 basis points, while domestic equity, global equity, and global fixed income matched their performance benchmark returns.
- During the month, the Fund's U.S. equity portfolio returned 2.5 percent, matching its benchmark's return of 2.5 percent. BlackRock performed well in the month matching their respective indices, while Western outperformed its benchmark by 40 basis points.
- The international equity component returned 1.9 percent, underperforming the 2.1 percent return of its benchmark. Sprucegrove's underperformance was attributable to stock selection in Telecommunication Services, Utilities and Consumer Discretionary and an underweight position in Financials relative to the Index. Hexavest's overweight cash position finally hurt them in the month of August, as they slightly underperformed by 20 basis points. Their underweight position in Spain and Italy detracted from results. Walter Scott returned 1.4 percent versus 2.1 percent for the benchmark, much of this underperformance was attributable to the overweight position in Health Care and stock selection in the Consumer Discretionary sector. BlackRock's international equity index fund tracked its benchmark.
- The collective return of the Fund's global equity component returned 2.2 percent, matching the benchmark return of 2.2 percent. GMO's return of 2.2 percent matched the benchmark return of 2.2 percent during the month, as many sub-strategies across all asset classes were positive for the month. The BlackRock MSCI ACWI Equity account's tracked its benchmark in its first full month of performance.
- In August, the Fund's U.S. fixed income component returned 0.7 percent, outperforming the Barclays Aggregate Bond Index return of 0.1 percent. Reams outperformed, returning 0.9 percent versus 0.1 percent for the benchmark. Reams was aided by its allocation and security selection in investment grade credit and high yield sectors. BlackRock's fixed income index fund tracked its benchmark. The Loomis Sayles Global Fixed Income account was funded during the month of July and matched the benchmark, returning 0.9 percent.

Key: Positive Mixed/Cautionary Alert Informational

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VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Period Ending 8/31/2012

	August	Year-to-Date	Fiscal Year-to-Date	1 Year Ending 8/31/2012	3 Years Ending 8/31/2012	5 Years Ending 8/31/2012	10 Years Ending 8/31/2012	Since Inception	Inception Date
BlackRock Extended Equity	3.6	12.3	2.9	13.8	15.7	3.0	--	10.6	10/31/02
Dow Jones U.S. Completion Total Stock Market Index	3.5	12.0	2.7	13.2	15.4	3.0	--	10.6	
Western U.S. Index Plus	2.7	16.9	4.7	20.2	19.1	-2.6	--	-3.6	5/31/07
S&P 500 Index	2.3	13.5	3.7	18.0	13.6	1.3	--	0.6	
BlackRock Equity Market Fund	2.5	13.3	3.5	17.3	14.1	--	--	2.8	5/31/08
Dow Jones U.S. Total Stock Market Index	2.5	13.2	3.5	17.1	14.0	--	--	2.7	
Total U.S. Equity	2.5	13.6	3.6	17.4	14.6	1.0	6.6	7.8	12/31/93
Performance Benchmark**	2.5	13.2	3.5	17.1	14.0	1.7	7.1	8.2	
BlackRock All Country World ex-U.S.	2.2	6.7	3.5	-2.2	4.1	-3.1	--	-1.8	3/31/07
MSCI All Country World ex-U.S. IM Index	2.2	6.5	3.5	-2.4	3.9	-3.3	--	-1.9	
Sprucegrove	1.5	7.0	2.3	1.9	6.7	-2.3	8.5	7.5	3/31/02
MSCI EAFE Index	2.7	6.9	3.9	0.0	2.4	-4.8	6.7	5.1	
MSCI All Country World ex-U.S. Index	2.1	6.4	3.5	-1.9	3.6	-3.6	8.2	6.5	
Hexavest	2.5	8.6	4.5	4.1	--	--	--	-0.8	12/31/10
MSCI EAFE Index	2.7	6.9	3.9	0.0	--	--	--	-3.7	
Walter Scott	1.4	12.0	3.4	3.9	--	--	--	1.0	12/31/10
MSCI All Country World ex-U.S. Index	2.1	6.4	3.5	-1.9	--	--	--	-5.0	
Total International	1.9	8.1	3.3	-0.3	4.8	-3.3	7.9	6.2	3/31/94
MSCI All Country World ex-U.S. Index	2.1	6.4	3.5	-1.9	3.6	-3.6	8.2	4.8	
GMO Global Fund	2.2	8.9	3.1	6.7	8.6	0.2	--	5.4	4/30/05
MSCI All Country World Index	2.2	9.4	3.6	6.2	7.7	-1.7	--	4.4	
BlackRock MSCI ACWI Equity Index	2.2	--	3.6	--	--	--	--	--	6/30/05
MSCI All Country World Index	2.2	--	3.6	--	--	--	--	--	
Total Global Equity	2.2	8.1	3.3	5.0	7.9	-2.2	--	3.4	4/30/05
MSCI All Country World Index	2.2	9.4	3.6	6.2	7.7	-1.7	--	4.4	

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VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION (Continued)
Period Ending 8/31/2012

	August	Year-to-Date	Fiscal Year-to-Date	1 Year Ending 8/31/2012	3 Years Ending 8/31/2012	5 Years Ending 8/31/2012	10 Years Ending 8/31/2012	Since Inception	Inception Date
Loomis Sayles Global Fixed Income	0.9	--	1.9	--	--	--	--	2.0	6/30/12
Barclays Capital Global Aggregate Bond Index	0.9	--	2.0	--	--	--	--	2.1	
Total Global Fixed Income	0.9	--	1.9	--	--	--	--	2.0	6/30/12
Barclays Capital Global Aggregate Bond Index	0.9	--	2.0	--	--	--	--	2.1	
Western	0.5	7.5	2.4	9.2	10.0	7.4	6.6	7.0	12/31/96
Barclays Capital Aggregate Bond Index	0.1	3.9	1.4	5.8	6.5	6.7	5.5	6.3	
BlackRock U.S. Debt Fund	0.1	3.9	1.5	5.9	6.6	6.8	5.5	6.2	11/30/95
Barclays Capital Aggregate Bond Index	0.1	3.9	1.4	5.8	6.5	6.7	5.5	6.2	
Reams	0.9	8.1	2.5	10.9	10.2	9.9	7.8	7.2	9/30/01
Barclays Capital Aggregate Bond Index	0.1	3.9	1.4	5.8	6.5	6.7	5.5	5.6	
Loomis Sayles	1.3	10.5	3.5	9.3	12.1	8.5	--	7.7	7/31/05
Performance Benchmark***	0.4	5.7	1.9	8.2	8.7	7.5	--	6.6	
Total U.S. Fixed Income	0.7	7.5	2.4	9.3	9.9	8.7	7.0	6.9	2/28/94
Barclays Capital Aggregate Bond Index	0.1	3.9	1.4	5.8	6.5	6.7	5.5	6.3	
Total Real Estate****	--	5.2	0.0	10.7	8.0	-3.6	5.0	7.4	3/31/94
NCREIF Open-End Fund Property Index*****	--	5.3	0.0	9.5	10.5	1.6	7.9	9.0	
Total Fund	1.7	9.7	2.9	10.2	10.7	2.1	7.0	7.8	3/31/94******
Policy Portfolio	1.5	8.6	2.7	9.2	9.6	2.2	7.0	7.8	
Total Fund (ex-Private Equity)	1.6	9.2	2.8	--	--	--	--	--	
Total Fund (ex-Clifton)	1.6	9.5	2.8	10.2	10.5	2.0	6.9	7.8	

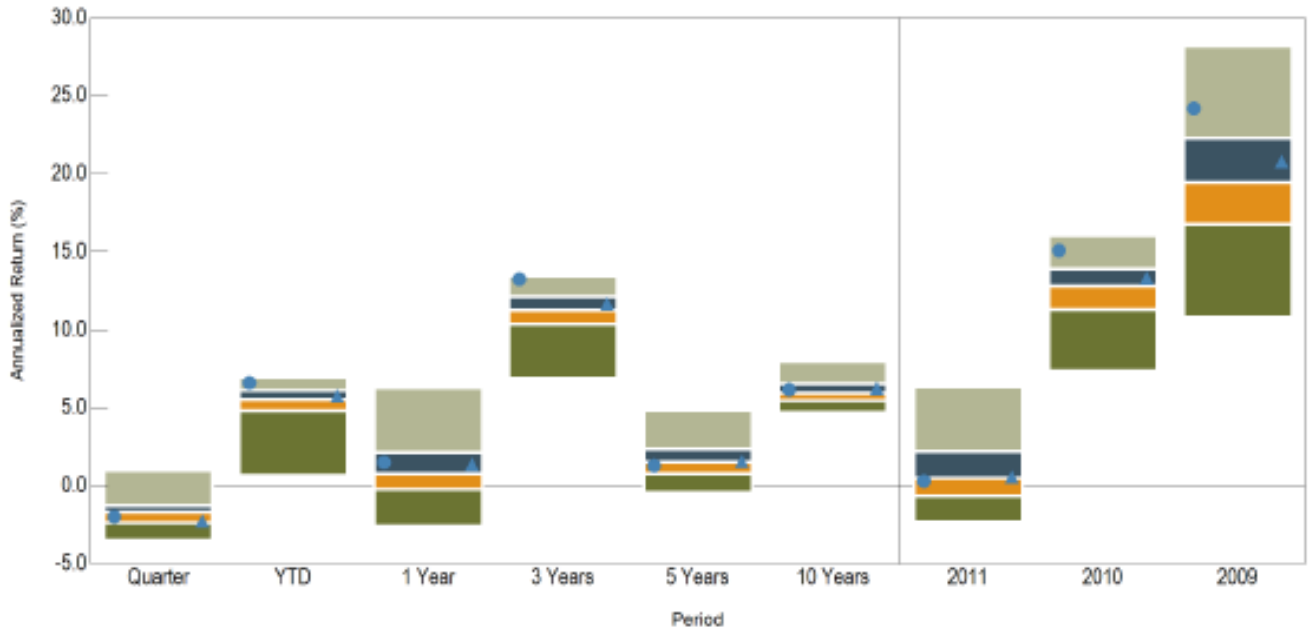
*All returns contained in this flash report are net of investment management fees.
**The Dow Jones U.S. Total Stock Market Index. Prior to May 2007, the Russell 3000 Index.
***A mix of 65% of the Barclays Capital Aggregate Bond Index, 30% of the Salomon Brothers High Yield Index and 5% of the J.P. Morgan Non-U.S. Hedged Bond Index.
****Real Estate returns are based on market values and cash flows provided by managers.
*****Prior to January 2006, the NCREIF Property Index.
******Total Fund inception date is the longest time period that Hewitt EnnisKnupp has reliable historical monthly data.

Total Fund | As of June 30, 2012 | $3,198.9 Million and 100.0% of Fund

Universe Comparison

Benchmark: Policy Portfolio | Universe: Public Funds Net

Ending June 30, 2012



	Return (Rank)															
5th Percentile	1.0		6.9		6.3		13.4		4.8		7.9		6.3		16.1		28.2	
25th Percentile	-1.2		6.1		2.1		12.1		2.4		6.5		2.2		13.9		22.3	
Median	-1.7		5.6		0.8		11.3		1.5		6.0		0.5		12.8		19.5	
75th Percentile	-2.4		4.8		-0.2		10.4		0.8		5.5		-0.6		11.3		16.8	
95th Percentile	-3.5		0.7		-2.6		6.9		-0.4		4.7		-2.3		7.4		10.8	
# of Portfolios	112		112		110		98		92		79		111		113		110	
● Total Fund	-2.0	(63)	6.6	(9)	1.5	(39)	13.2	(8)	1.3	(59)	6.1	(42)	0.3	(55)	15.1	(10)	24.2	(13)
▲ Policy Portfolio	-2.3	(72)	5.8	(41)	1.4	(40)	11.7	(42)	1.6	(49)	6.2	(42)	0.6	(49)	13.3	(43)	20.8	(38)

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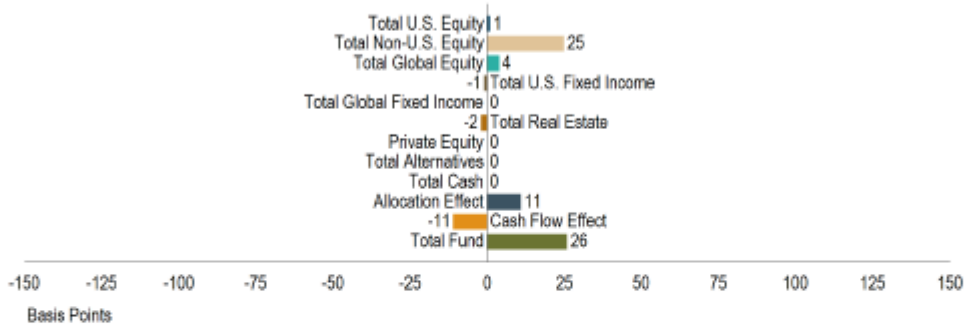
Performance Attribution

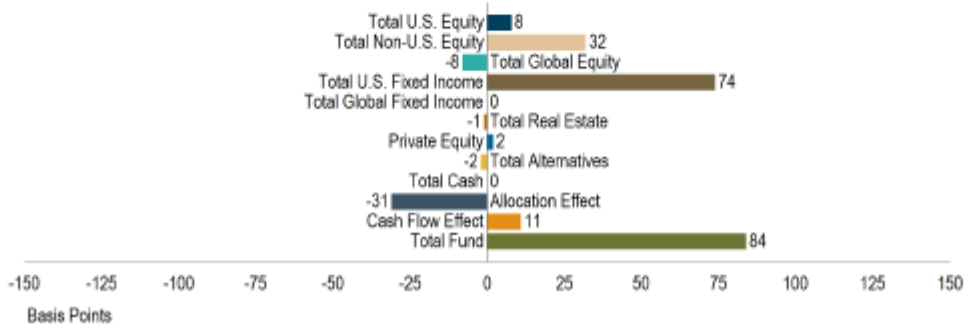
Total Fund | As of June 30, 2012 | $3,198.9 Million and 100.0% of Fund

Attribution

TOTAL FUND ATTRIBUTION ANALYSIS
3 MONTHS ENDING 6/30/12



TOTAL FUND ATTRIBUTION ANALYSIS
6 MONTHS ENDING 6/30/12



Note: The Cash Flow Effect exhibited in this quarter's and over the one year attribution charts represents the effect the Clifton Group had on the Total Fund.

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Manager Watchlist and Updates

Manager "Watch" List

- RREEF was placed on the watch list in February 2009 for performance reasons.

Manager Updates

- On June 20, 2012, Deutsche Bank ("DB") announced that is had ended its exclusive negotiations with Guggenheim Partners over a potential sale of RREEF Alternatives, including RREEF Real Estate.

  DB is in the process of creating a new business division, called Asset & Wealth Management. This new division integrates the firm's existing asset management and wealth management businesses. It will be led by Michele Faissola, who has been with DB since 1995 and was formerly the Head of Global Rates and Commodities. At this juncture, DB does not intend to sell either RREEF Alternatives or RREEF Real Estate.

  RREEF had no additional information to share at the time and we will continue to monitor the situation closely and report on significant events as they arise.

- On June 18th, 2012, we were informed by Hexavest that it had entered into a definitive agreement for Eaton Vance Corp. (EV) to acquire a 49% stake of Hexavest. Following this transaction, it is expected that the current employee shareholders of Hexavest will continue to have control of the firm and its operations for at least the next five years. At the end of this five-year period, EV will have the option to increase its ownership to 75%. It is anticipated that the deal will close on or around August 31, 2012.

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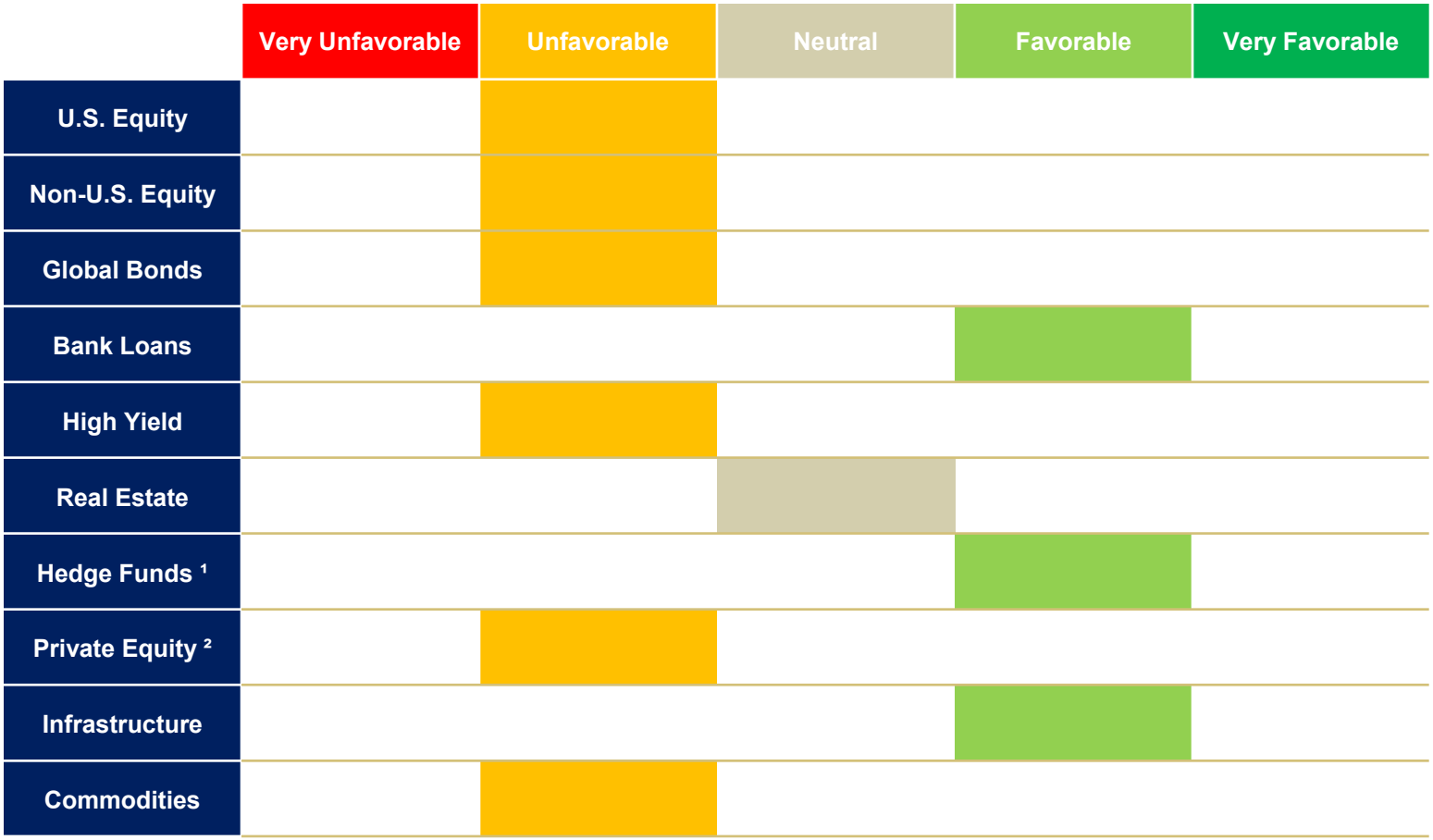
Absolute Medium Term Views – August 2012



1. Global Macro strategy is favored. More detail is on slide 10.
2. Attractive opportunities in certain sectors where value is created through venues other than leverage and the IPO market. More detail is on slide 10.

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