Callan
FORTY YEARS

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Fixed Income Discussion

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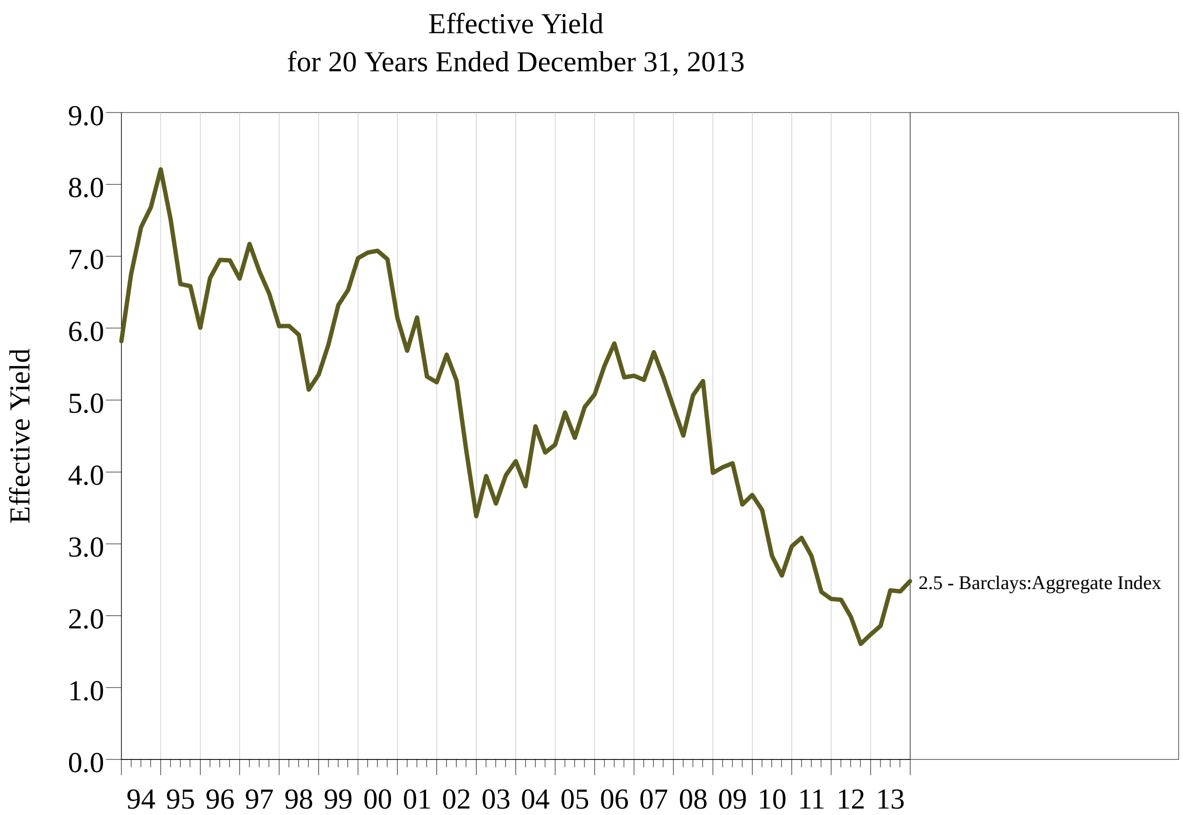
The Problem with Bonds

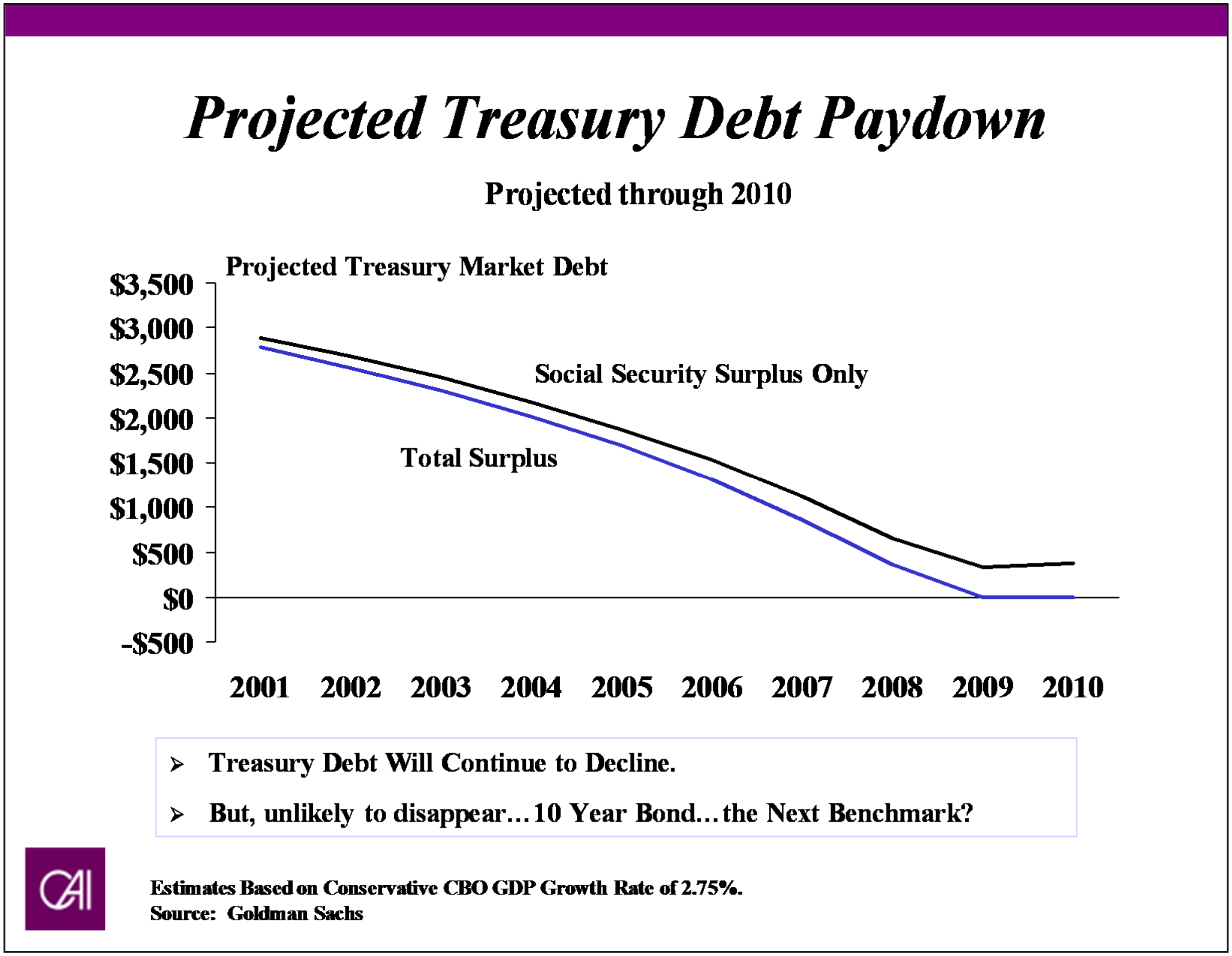
- Low return expectations
- Historic risk exposure may not reflect future risk exposure
- This time it is different?



Presentation from January 2001

Evolution of LB Aggregate
From 2001

Presentation from January 2001



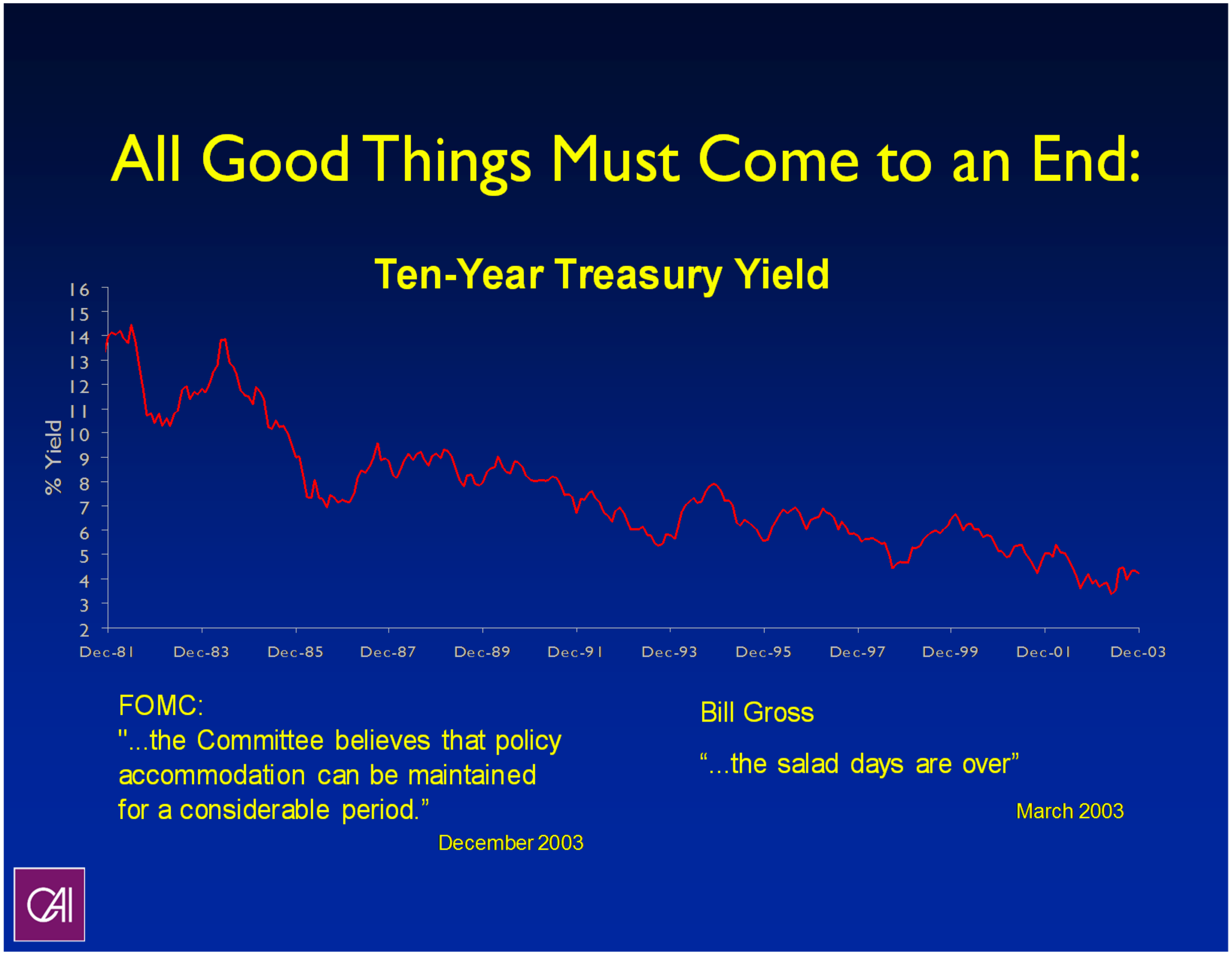
Presentation from January 2001

Projected Composition Shifts of LB Aggregate Index (1996-2010)

	Percent of Total			
	12/31/96	12/31/00	1/1/05	1/1/10
U.S. Government	52%	37%	25%	19%
U.S. Treasury	45	26	14	7
U.S. Agency	7	11	12	12
U.S. Collateralized	31	39	45	48
MBS Pass Throughs	30	35	42	44
ERISA CMBS	0	2	2	2
ABS	1	2	2	2
U.S. Credit	18	24	30	33
Investment Grade Corporate	17	21	25	28
Sovereign and Supranational	1	2	3	3
Foreign Agency/Local Authority	0	1	2	2
Total	100%	100%	100%	100%

Source: Lehman Brothers

Presentation from January 2004



Presentation from April 2009

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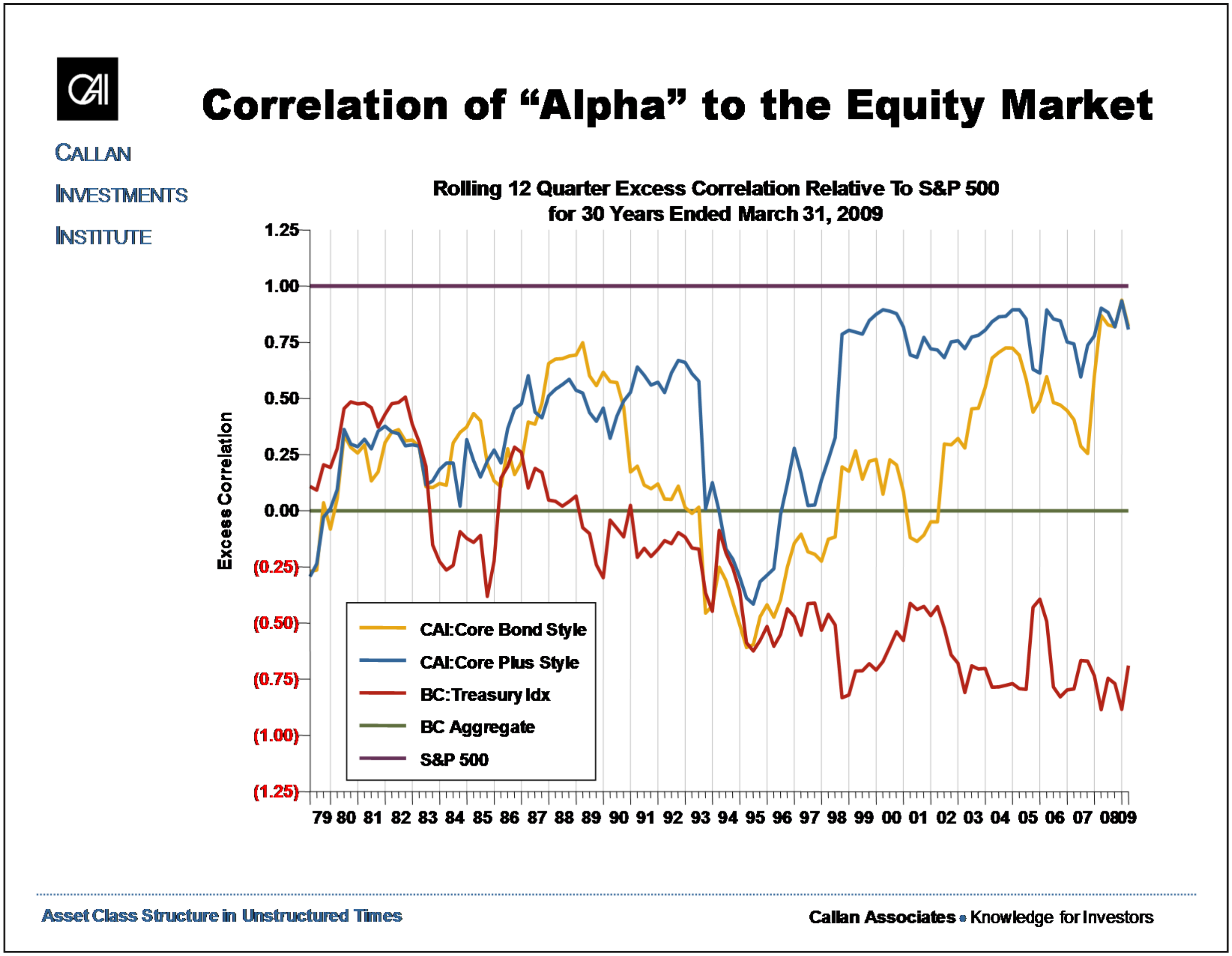
Fixed Income: 2007 and 2008 in Review

- **Active management underperformed more than was thought possible.**
- **Fixed income spread sectors underperformed in advance of, and concurrent with, equity market decline.**
  - Diversification benefits were lacking
  - Spread widening exerted more influence than duration
- **Liquidity was absent in many securitized bond sectors.**
- **The dislocation was similar to previous credit cycles but different due to its magnitude and impact on both securitized and credit markets.**

Asset Class Structure in Unstructured Times

Callan Associates • Knowledge for Investors

Presentation from April 2009



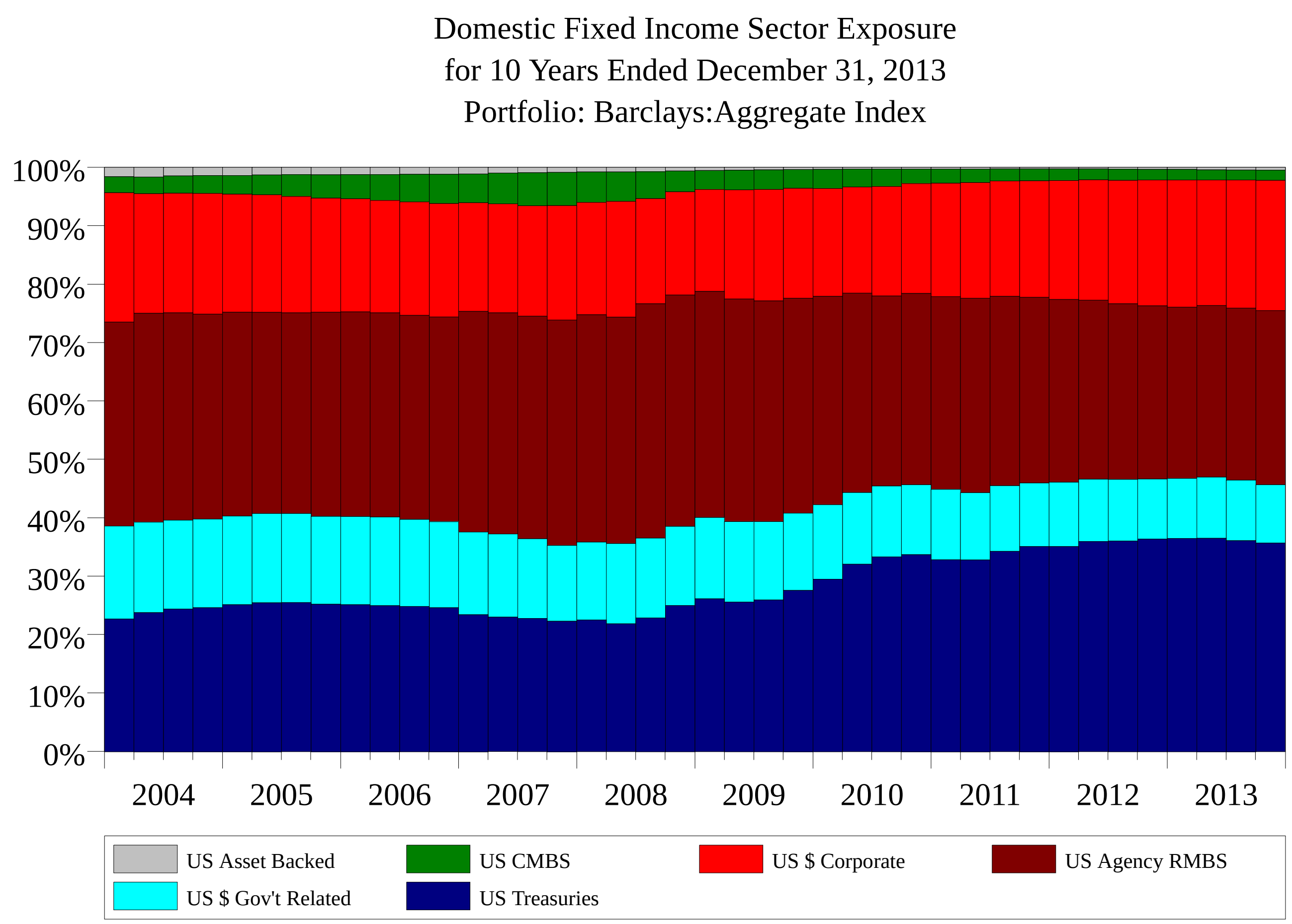
The U.S. Bond Market

Is the Beta Broken?

- Does the Barclays Capital U.S. Aggregate Bond Index (Agg) still represent the desired fixed income risk exposure?
- Common criticisms of the Agg today
  - Increased exposure to U.S. Government
  - Higher rate sensitivity
  - Low income potential
  - Muted return expectations
  - Asymmetric risk profile

Is the Beta Broken?

Sector changes in the Aggregate Index over the last 10 years.

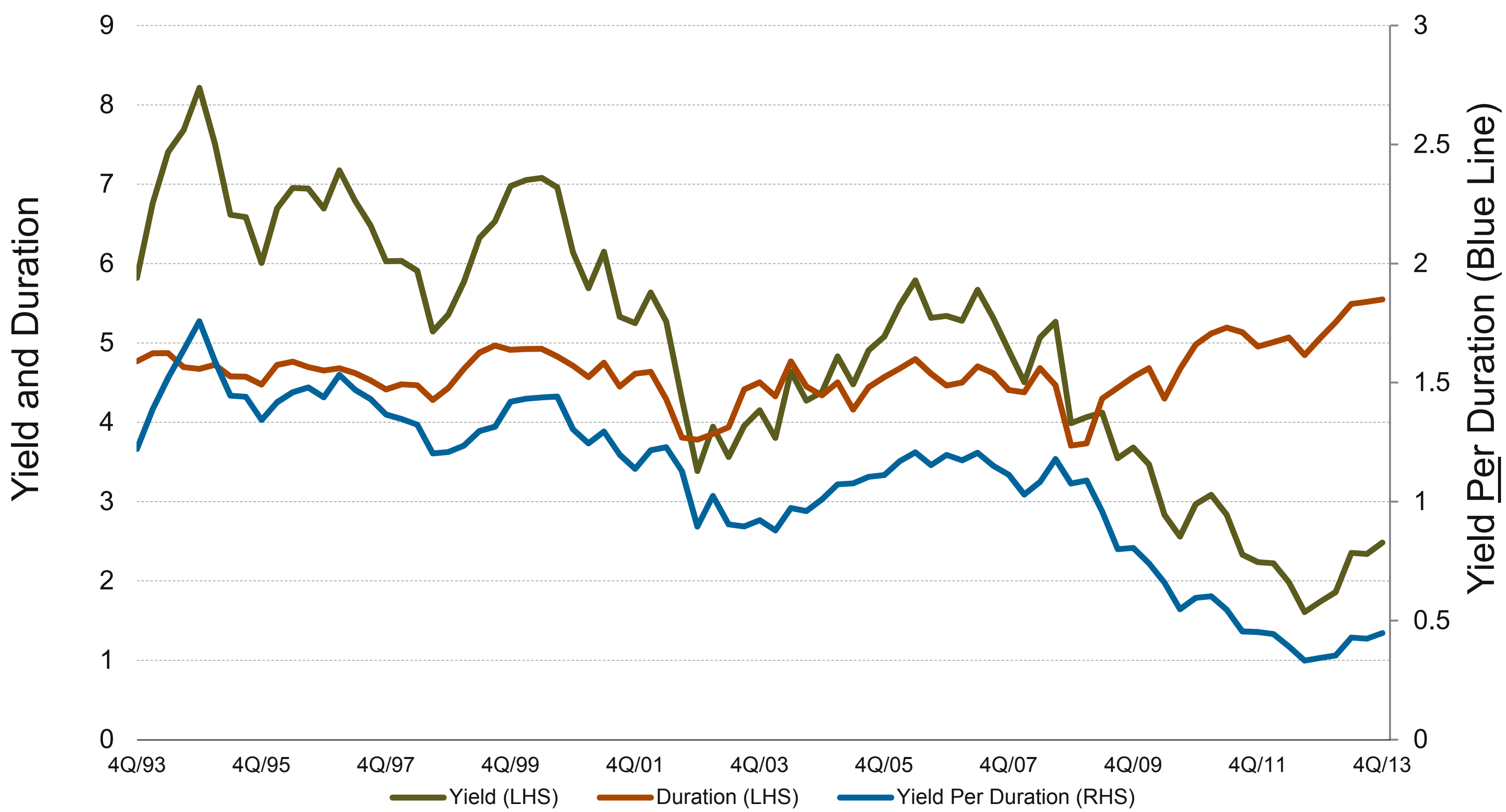


Source: Barclays

Common Critiques of the Barclays Aggregate Index

- Muted return expectations.
  - Yields remain low, even after last year's increase
  - Asymmetric risk profile

Historical 10-Year Yields, Duration and Yield per Duration



Source: Barclays

Major Issues Facing Fixed Income Investors Today

Issue	Consequence
Low Yield Environment	Difficult for investors to achieve return targets
Potential for Rising Rates	Investors are grappling with the reality of potentially negative returns on their fixed income portfolios
Valuations Are Not Cheap	Because many fixed income sectors are trading below their trailing 10-year average spread, it has become a game of relative value were traditional core sectors are not as compelling relative to select spread sectors
Active Central Banks	Global government intervention and uncertain policy make it difficult for investors to position their portfolio

What is the Role of Fixed Income?

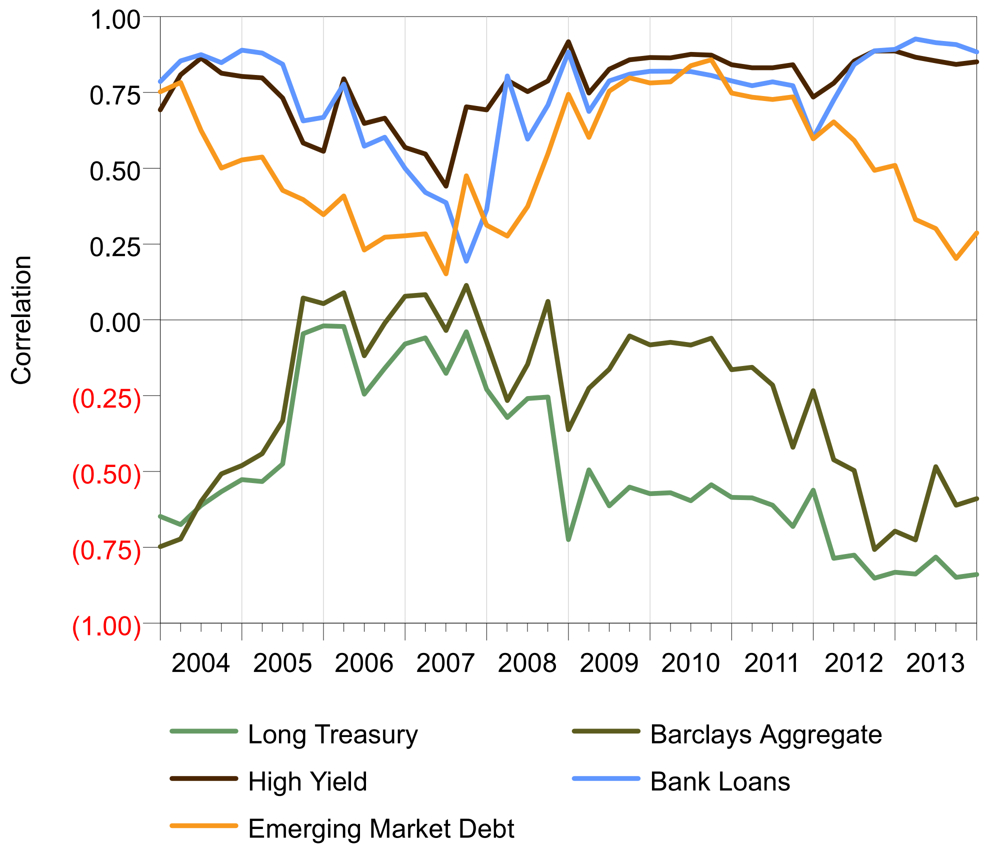
The Competing Objectives

- Low volatility
- High liquidity
- Preserve capital
- Diversify equity risk
- Produce income
- Hedge deflation
- Produce positive returns
- Provide alpha

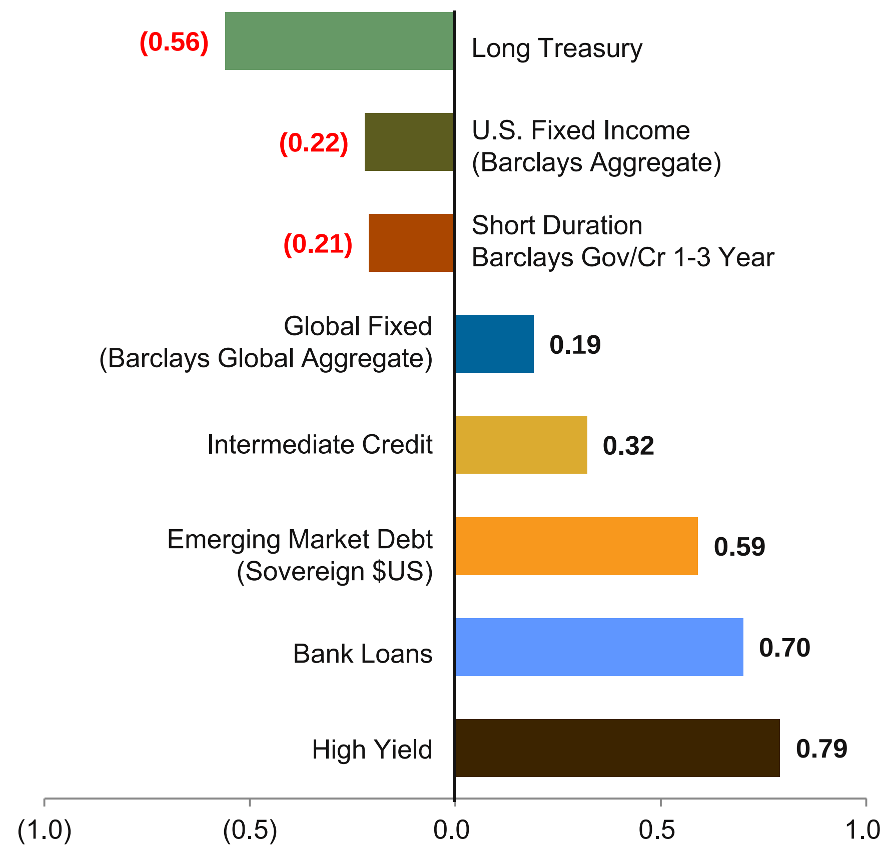
  - Fixed income portfolio plays a role in the total portfolio and should not be viewed in isolation

Fixed Income Diversifiers may be Highly Correlated with Equities

Rolling 12 Quarter Correlation Relative to S&P 500



Correlation to S&P 500



- Although correlations can fluctuate overtime, we can expect credit-sensitive sectors to be positively correlated with equities and U.S. government securities to be negatively correlated with equities (i.e., a flight to quality hedge).

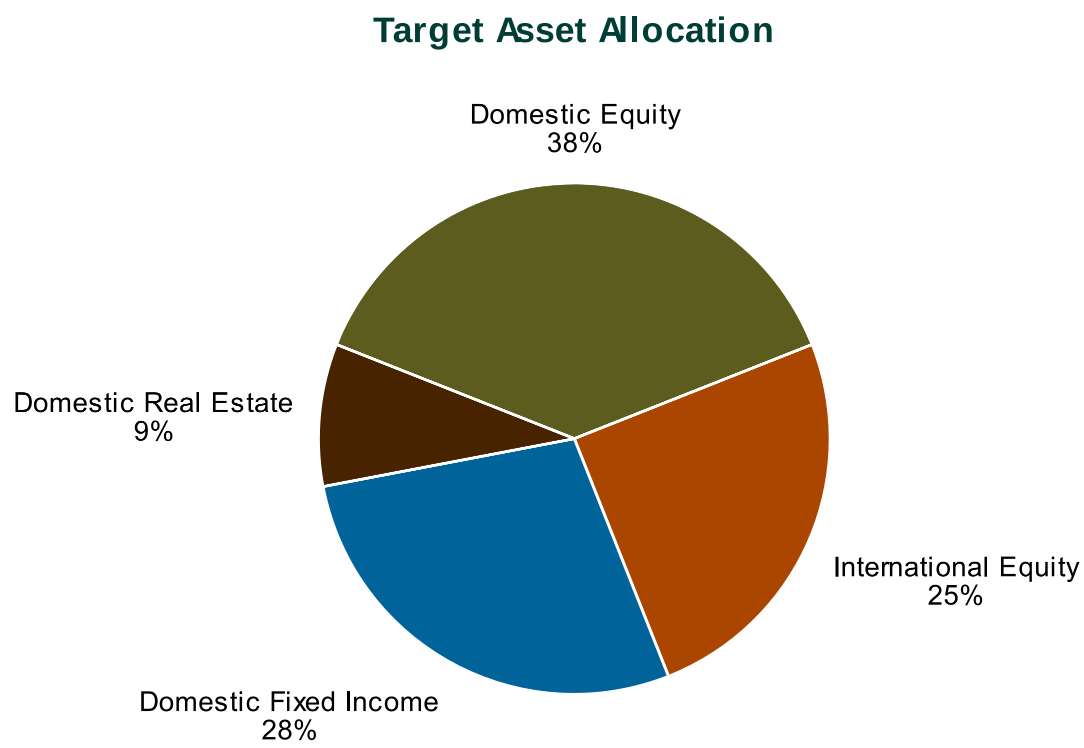
Fixed Income Alternatives

Three Broad Categories

Spread	Non-Traditional Solutions	Liquid Premium Trade
• Global/Non-U.S. Fixed Income • Mortgage Credit • High Yield • Bank Loans • Emerging Market Debt • CLOs, Structured Product	• Opportunistic and Unconstrained • Global Macro • Long/short Strategies • Convertibles	• Private Debt – Direct lending – Distressed/Special Situations – Mezzanine Debt • Infrastructure Debt

Current Asset Allocation

Total Portfolio



Current Fixed Income Portfolio (December 31, 2013)

Total Fixed Income = $115M and 28% of target allocation

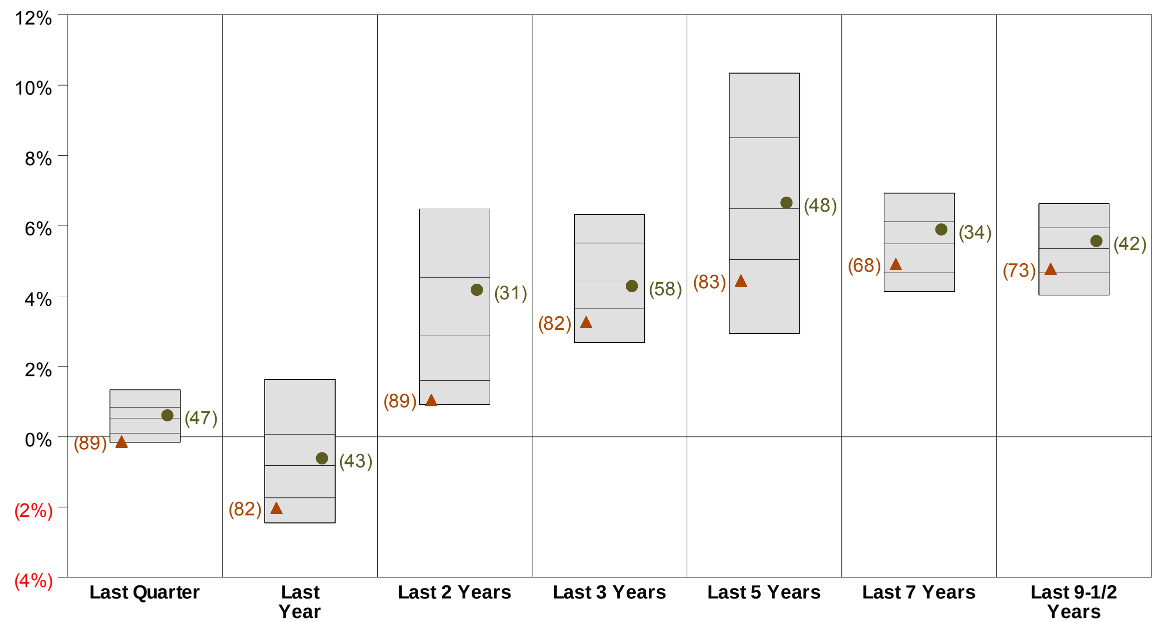
The Plan has two Core Plus Fixed Income Mutual Funds

Two Managers	Comments
PIMCO	• Top-down manager actively managing interest rate and sector exposure with latitude to invest on a tactical basis in high yield, emerging debt, bank loans.
Dodge and Cox	• Bottom-up manager with an emphasis on corporate and mortgage bond security selection. Historically the portfolio's duration has been less than the index's duration.

MCERA Fixed Income Portfolio

Cumulative Performance

Performance vs Pub Pln- Domestic Fixed (Gross)

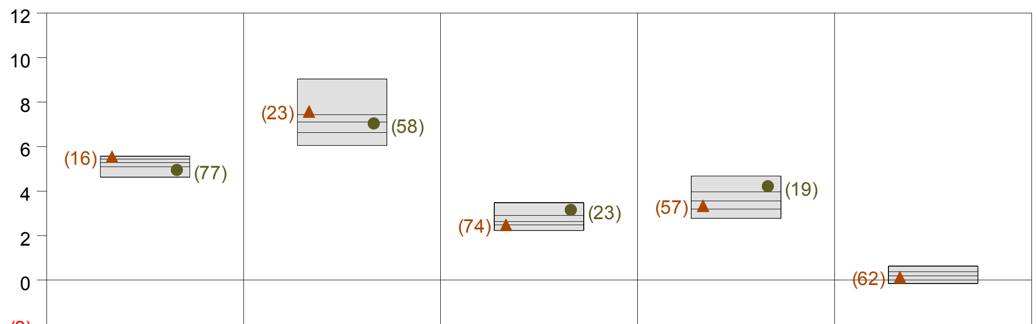


	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 9-1/2 Years
10th Percentile	1.33	1.64	6.48	6.32	10.34	6.93	6.62
25th Percentile	0.84	0.06	4.54	5.51	8.50	6.11	5.94
Median	0.53	(0.82)	2.87	4.43	6.49	5.48	5.36
75th Percentile	0.10	(1.74)	1.60	3.66	5.04	4.66	4.66
90th Percentile	(0.16)	(2.45)	0.91	2.67	2.94	4.13	4.03
Domestic Fixed Income Composite ●	0.56	(0.65)	4.13	4.24	6.62	5.85	5.52
Barclays Aggregate Index ▲	(0.14)	(2.02)	1.05	3.26	4.44	4.91	4.77

- Good Relative Performance
- Negative one year return, however active managers protected on the downside

Fixed Income Portfolio Characteristics

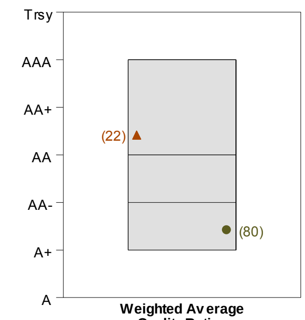
Fixed Income Portfolio Characteristics
Rankings Against CAI Core Bond Fixed-Inc Style
as of December 31, 2013



	Duration	Average Life	Effective Yield	Coupon Rate	OA Convexity
10th Percentile	5.57	9.04	3.48	4.68	0.63
25th Percentile	5.44	7.44	2.90	3.97	0.38
Median	5.28	7.11	2.63	3.56	0.19
75th Percentile	5.10	6.63	2.48	3.19	0.00
90th Percentile	4.63	6.05	2.23	2.78	(0.15)
Domestic Fixed Income Composite ●	4.88	6.97	3.08	4.15	-
Barclays Aggregate Index ▲	5.55	7.58	2.48	3.34	0.13

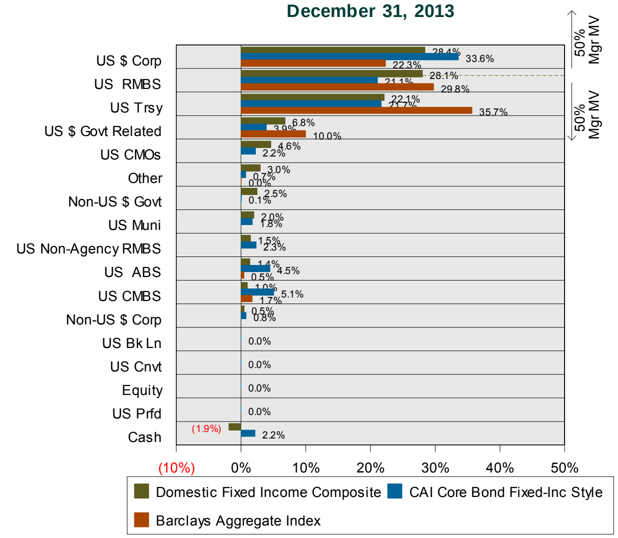
- Managers are actively managing the portfolio

Quality Ratings vs CAI Core Bond Fixed-Inc Style



	Weighted Average Quality Rating
10th Percentile	AAA
25th Percentile	AA
Median	AA
75th Percentile	AA-
90th Percentile	A+
Domestic Fixed Income Composite ●	A+
Barclays Aggregate Index ▲	AA

Sector Allocation December 31, 2013



Potential Courses of Action

- Option 1: Stay the Course
  - Accept fixed income's low return characteristics
  - Embrace fixed income's equity diversifying properties
  - Take your lumps when they come
  - Live to fight another day
- Option 2: Reduce the Dollars Allocated to Fixed Income
  - If not fixed income, where should the asset be allocated?
  - Will this increase the volatility of the portfolio?
- Option 3: Reduce Fund's Risk Allocation to Treasury Rates
  - Reduce the fixed income portfolio's duration from Intermediate to Defensive
- Option 4: Increase Alpha expectations for Fixed Income managers
  - Hire a manager with a broader opportunity set with the ability to reduce duration to zero or even negative levels
- Option 5: Change existing Fixed Income market exposure through the use of "specialty mandates"
  - International or Global Fixed Income, High Yield, Bank Loans, Emerging Market Debt
  - Many of these sectors have a higher correlation to the equity market

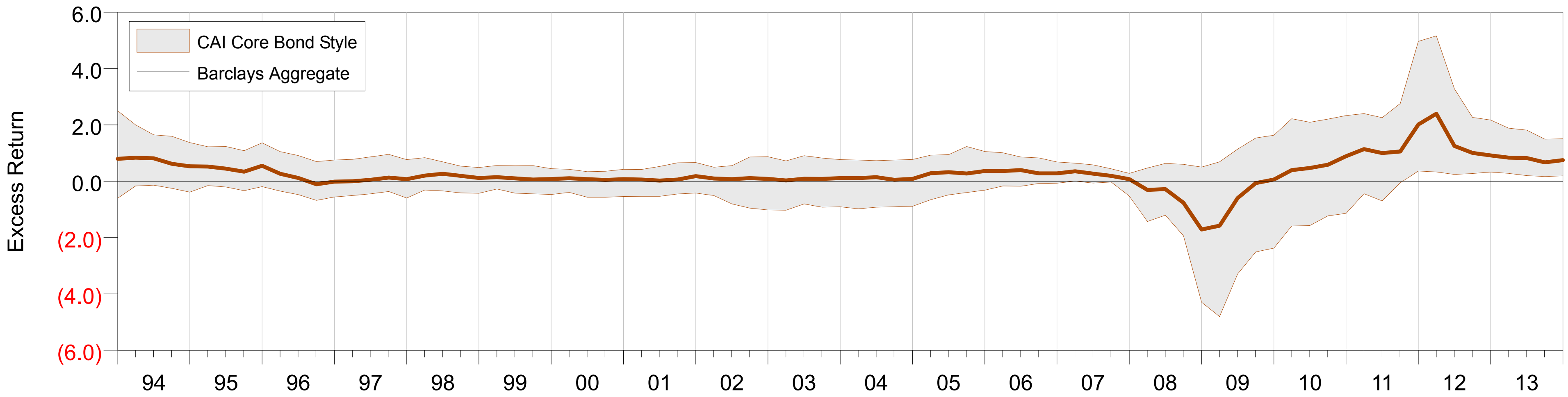
Core Bond Style versus Barclays Aggregate

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.20%	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%
Median	46%	45%	36%	34%	28%	28%	25%	23%	20%	19%
45th Percentile	51%	48%	41%	39%	35%	30%	29%	29%	25%	21%
40th Percentile	65%	56%	49%	44%	40%	36%	33%	29%	29%	26%
35th Percentile	78%	65%	56%	48%	45%	40%	36%	35%	33%	29%
30th Percentile	89%	76%	68%	56%	50%	45%	41%	38%	36%	33%
25th Percentile	96%	89%	79%	69%	58%	54%	48%	44%	40%	38%

Average Annualized Excess Return – Median Manager: 0.28%

Rolling 12 Quarter Excess Return relative to Barclays Aggregate for 20 Years ended December 31, 2013



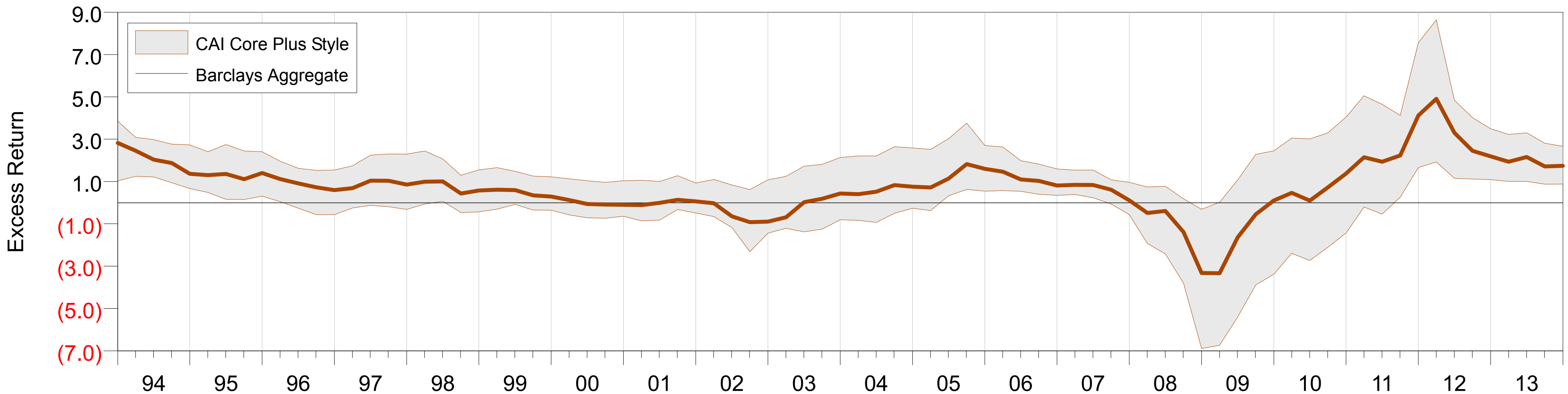
Core Plus Bond Style versus Barclays Aggregate

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.20%	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%
Median	69%	69%	68%	66%	66%	63%	61%	60%	59%	54%
45th Percentile	73%	71%	69%	69%	69%	68%	65%	64%	63%	60%
40th Percentile	76%	74%	74%	73%	73%	71%	70%	68%	68%	66%
35th Percentile	81%	80%	76%	75%	74%	74%	74%	73%	71%	68%
30th Percentile	84%	83%	83%	83%	80%	79%	76%	75%	75%	73%
25th Percentile	90%	88%	88%	88%	85%	83%	83%	80%	78%	76%

Average Annualized Excess Return – Median Manager: 0.75%

Rolling 12 Quarter Excess Return relative to Barclays Aggregate for 20 Years ended December 31, 2013



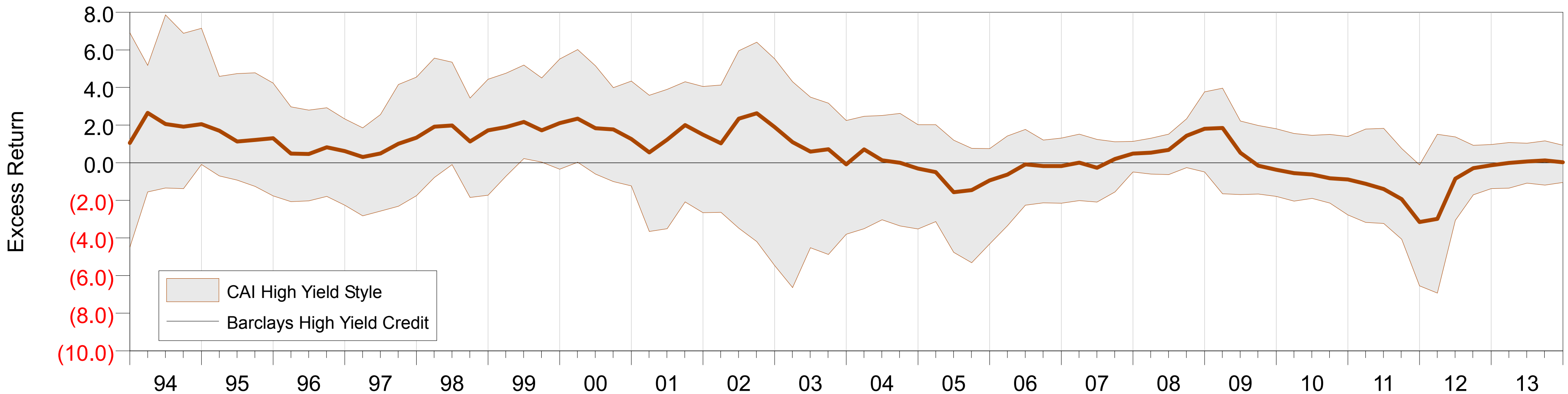
High Yield Style versus Barclays High Yield Credit

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.20%	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%
Median	60%	59%	59%	58%	58%	58%	53%	50%	48%	46%
45th Percentile	64%	60%	59%	59%	59%	59%	59%	59%	54%	54%
40th Percentile	70%	68%	65%	63%	60%	60%	60%	60%	59%	55%
35th Percentile	75%	75%	71%	70%	68%	64%	61%	61%	60%	60%
30th Percentile	83%	80%	78%	75%	71%	68%	66%	65%	64%	63%
25th Percentile	88%	86%	86%	86%	84%	80%	78%	74%	73%	68%

Average Annualized Excess Return – Median Manager: 0.55%

Rolling 12 Quarter Excess Return relative to Barclays High Yield Credit for 20 Years ended December 31, 2013



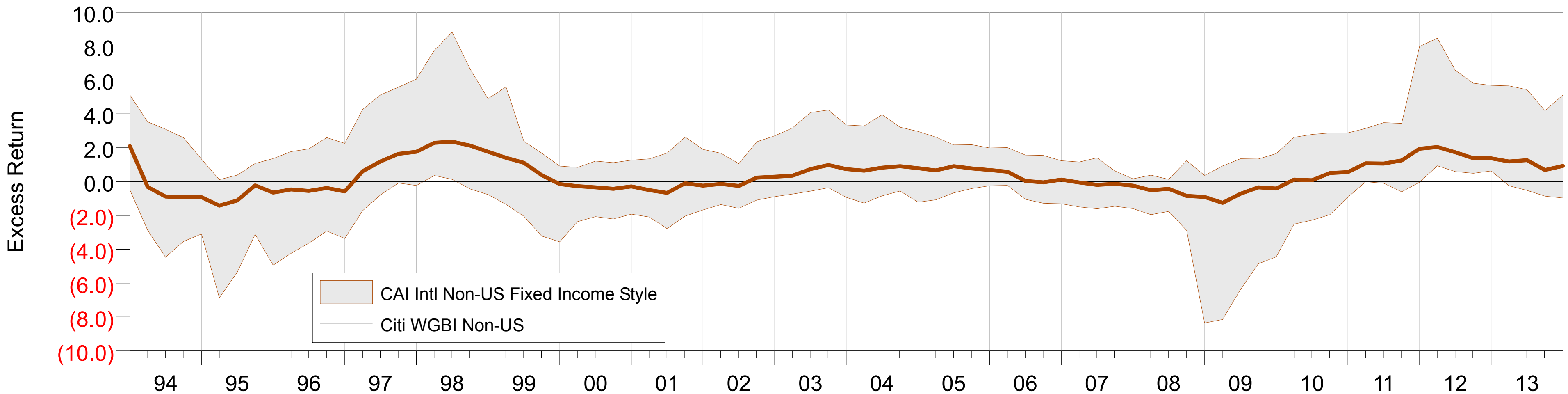
Non-US Fixed Style versus Citi World Government Non-US

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.20%	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%
Median	50%	49%	48%	46%	45%	45%	45%	44%	41%	39%
45th Percentile	53%	51%	51%	50%	49%	46%	45%	45%	44%	44%
40th Percentile	58%	54%	53%	53%	53%	51%	50%	48%	45%	45%
35th Percentile	64%	61%	59%	56%	56%	55%	54%	54%	54%	53%
30th Percentile	70%	64%	64%	61%	60%	56%	56%	54%	54%	54%
25th Percentile	79%	75%	73%	70%	68%	65%	61%	60%	56%	55%

Average Annualized Excess Return – Median Manager: 0.33%

Rolling 12 Quarter Excess Return relative to Citi WGBI Non-US for 20 Years ended December 31, 2013



Emerging Market Debt Style vs JPM EMBI Global Diversified

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.20%	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%
Median	88%	87%	85%	82%	82%	82%	81%	79%	78%	76%
45th Percentile	90%	90%	90%	90%	90%	88%	87%	87%	87%	84%
40th Percentile	96%	96%	96%	96%	96%	94%	93%	93%	91%	91%
35th Percentile	97%	97%	97%	97%	97%	97%	97%	97%	96%	94%
30th Percentile	97%	97%	97%	97%	97%	97%	97%	97%	97%	97%
25th Percentile	100%	100%	100%	99%	99%	99%	99%	99%	99%	99%

Average Annualized Excess Return – Median Manager: 2.15%

Rolling 12 Quarter Excess Return relative to JP Morgan EMBI Global Diversified for 17 Years ended December 31, 2013