

CALIFORNIA
DEBT AND
INVESTMENT
ADVISORY
COMMISSION

Changing Rate Dynamics: Portfolio Structures and Strategies

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Senior Fixed Income Strategist

Wednesday, March 12, 2014

Session 4:

OVERVIEW

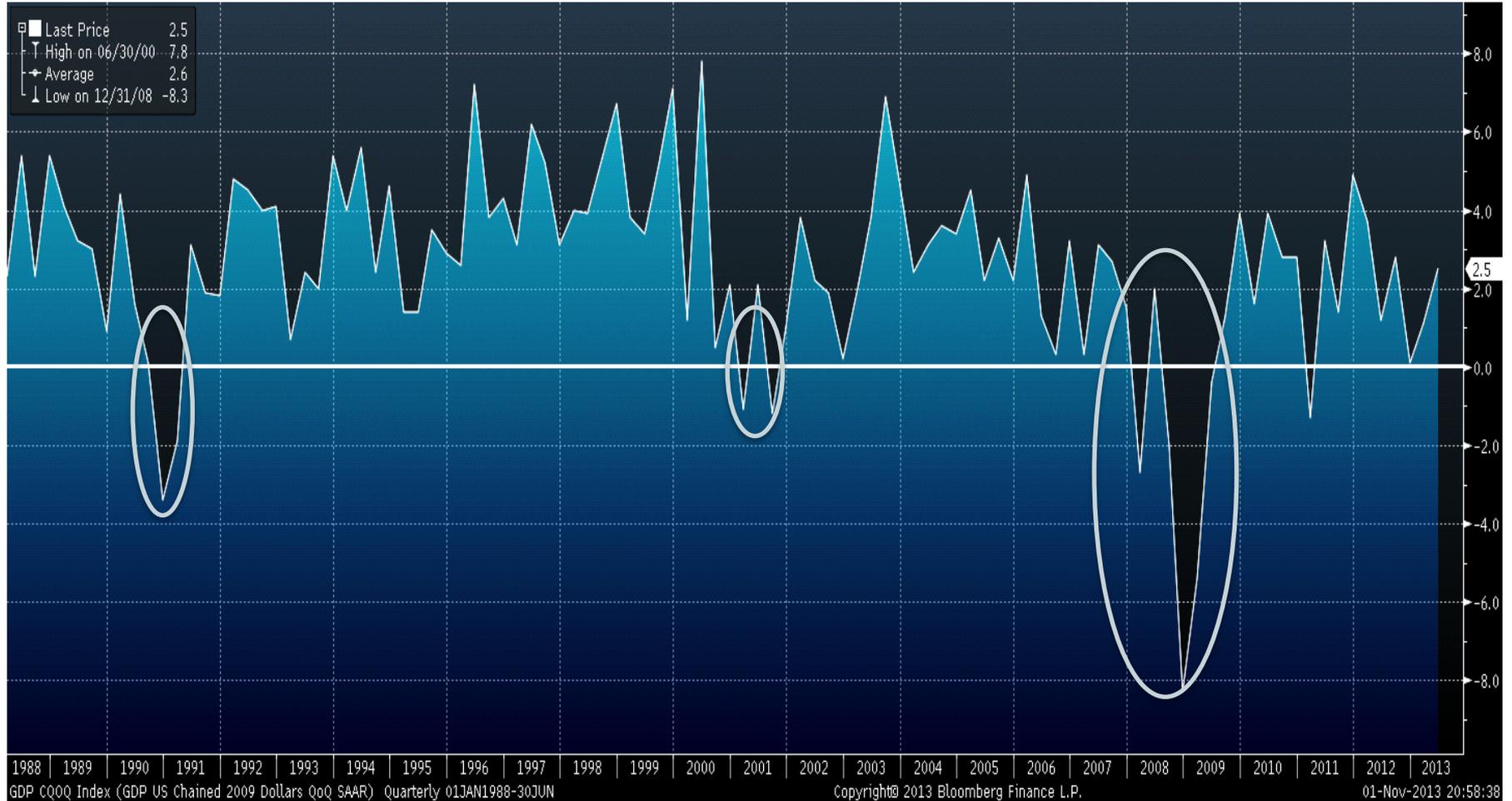
- **ECONOMIC INDICATORS**
- **TREASURY YIELDS - Changing rates**
- **RELATIVE VALUE**
- **STRATEGIES**

Economic Indicators

- **Gross Domestic Product (GDP)**
- **Unemployment Rate**
- **Consumer Price Index (CPI)**
- **Consumer Confidence**
- **Leading Economic Indicators**

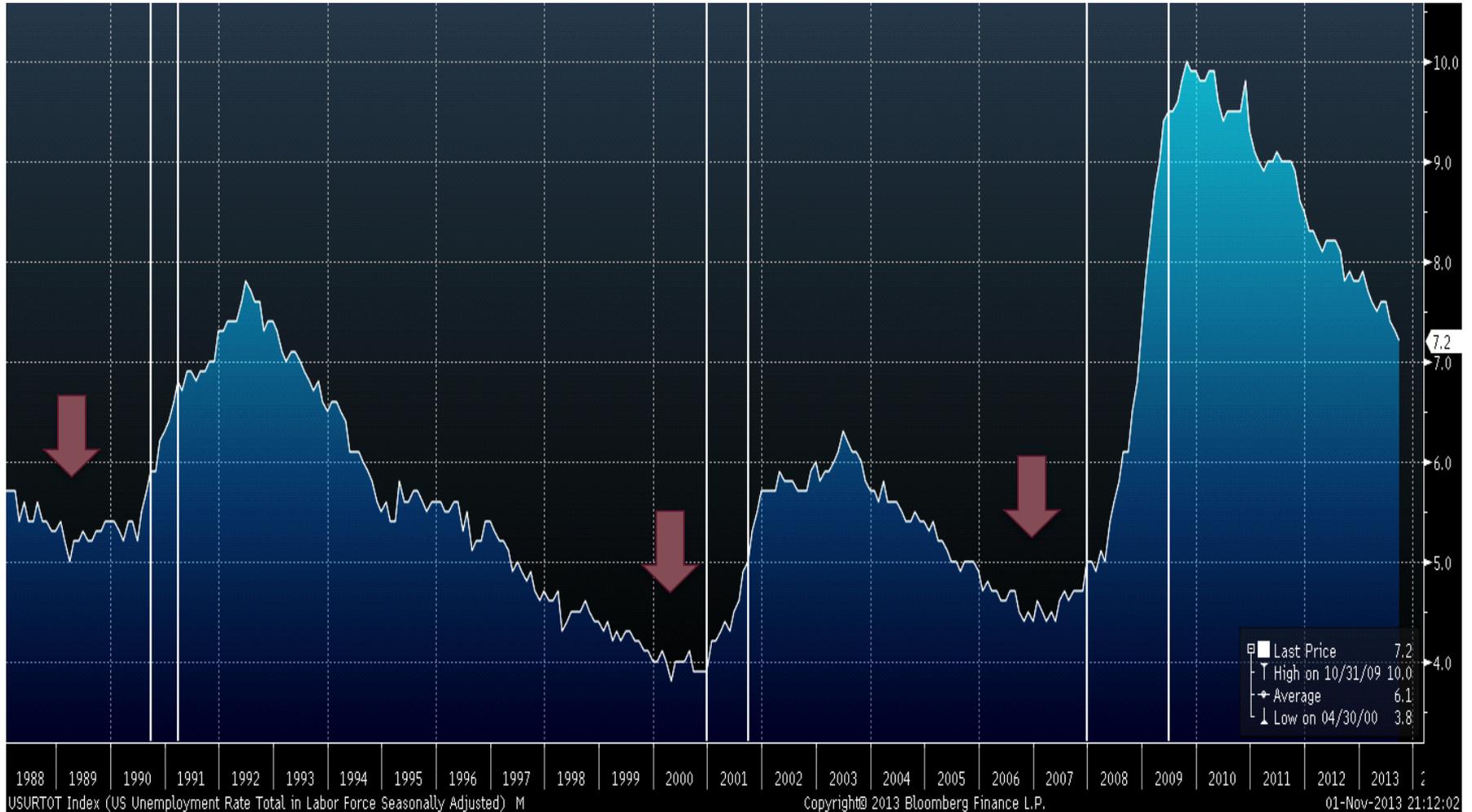
Economic Indicators

Gross Domestic Product (GDP) chained quarter-over-quarter



Economic Indicators

Unemployment – total labor in force, seasonally adjusted



↓ = Lagging Market Indicator

Economic Indicators

Consumer Price Index (CPI) less food and energy



Economic Indicators

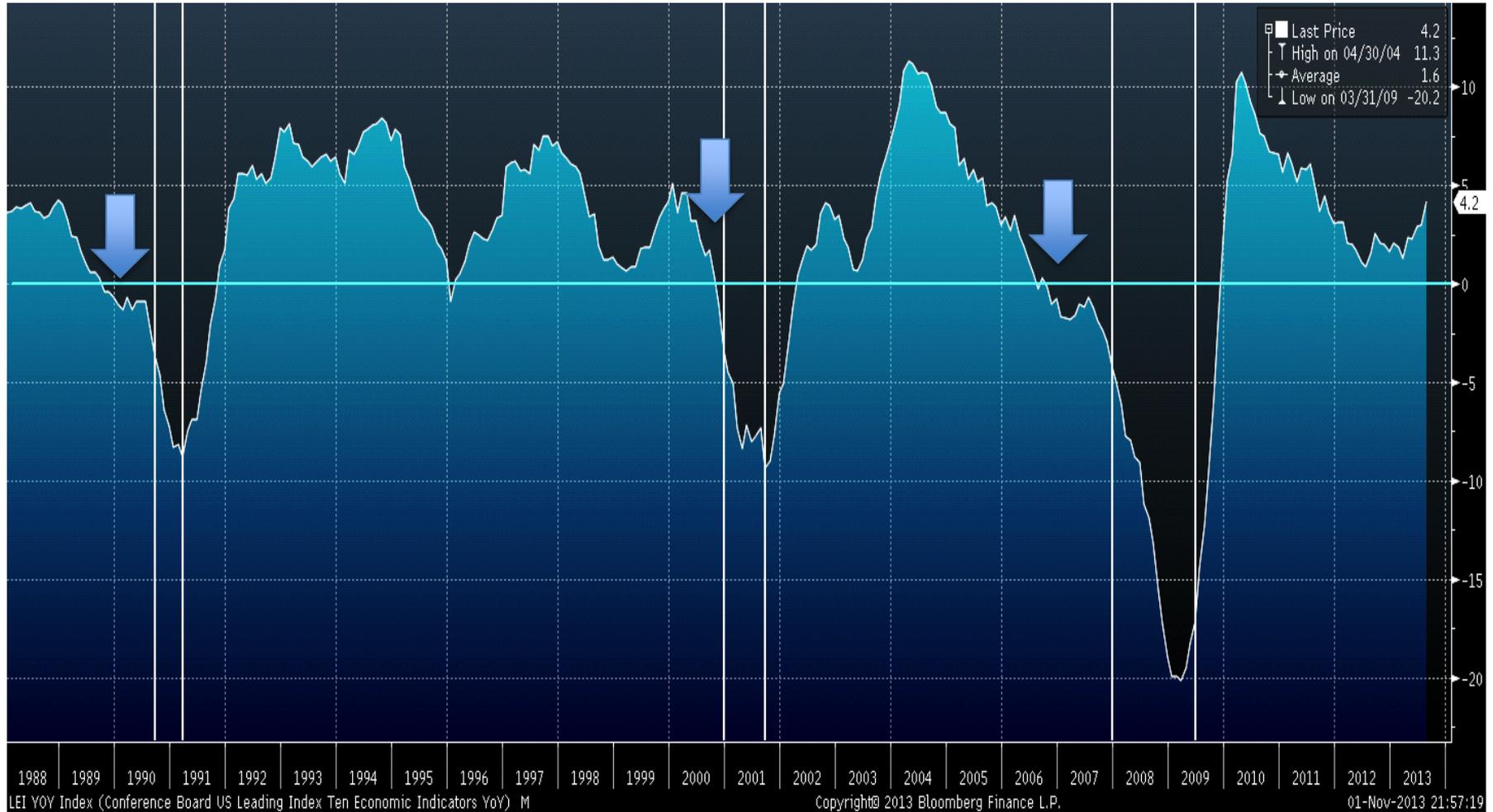
Consumer Confidence



↑ = *Contrary Indicator*

Economic Indicators

Leading Economic Indicators (LEI) YOY



↓ = *Leading Indicator*

Treasury Yields

- **Ten year Treasury yields**
- **Five year Treasury yields**
- **Normal and Flat Yield curves**
- **Fed Funds versus 30 Year Treasury**
- **Fed Funds versus 30 Year Treasury Spreads**

Treasury Yields

10 year Treasury yields



= Average

Treasury Yields

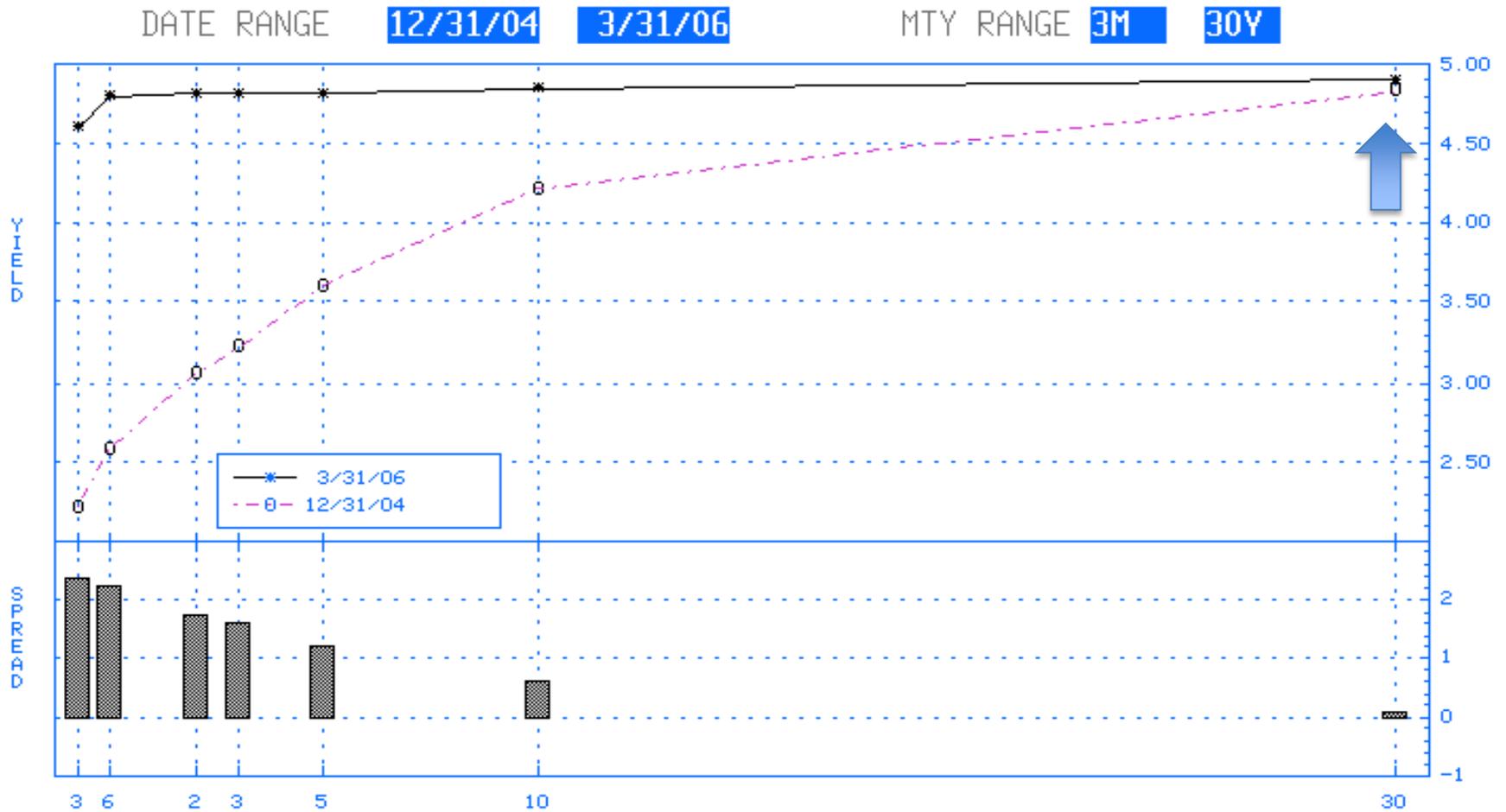
5 year Treasury yields



= Average

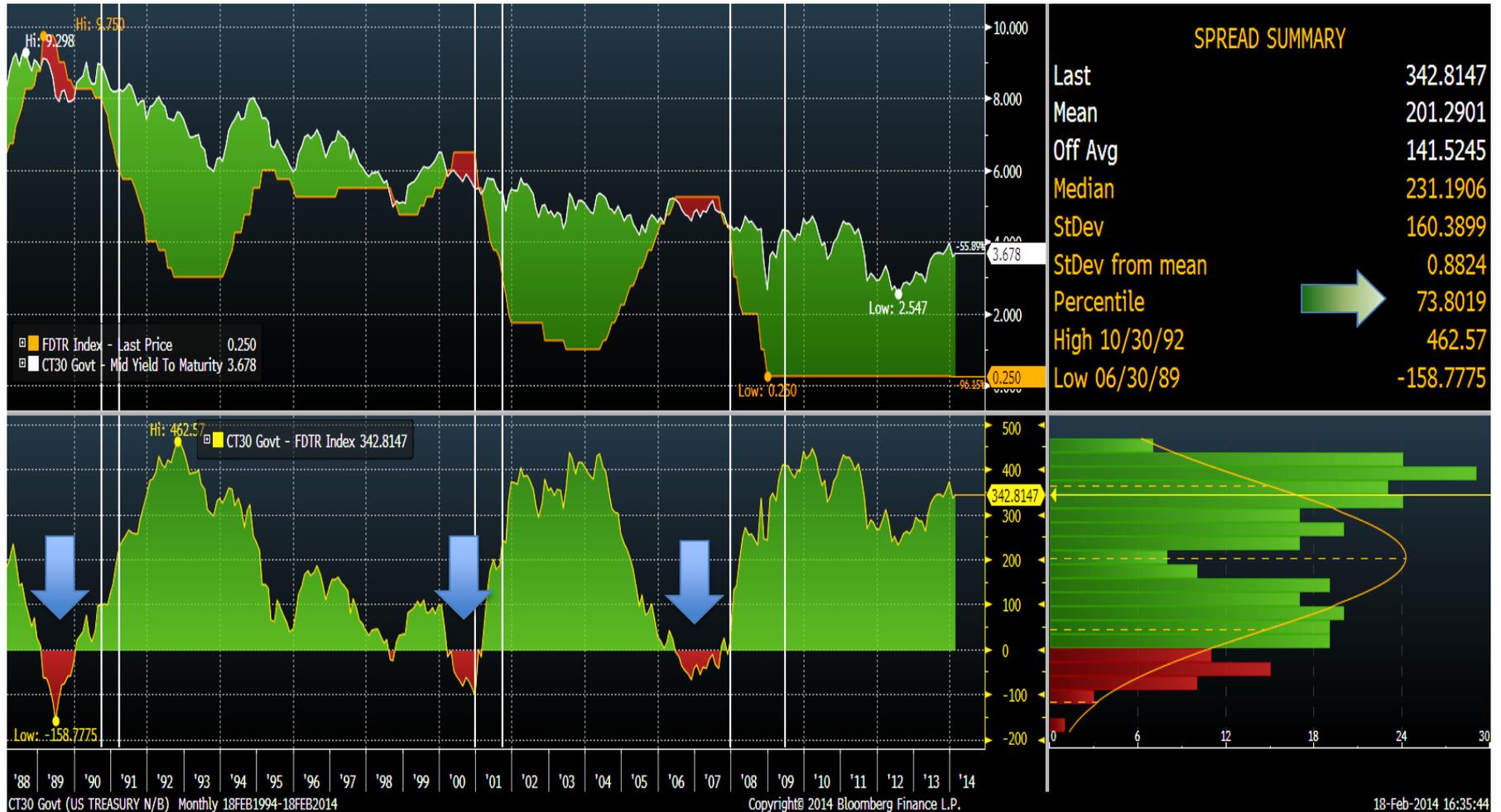
Treasury Yields

Normal and Flat Yield Curves



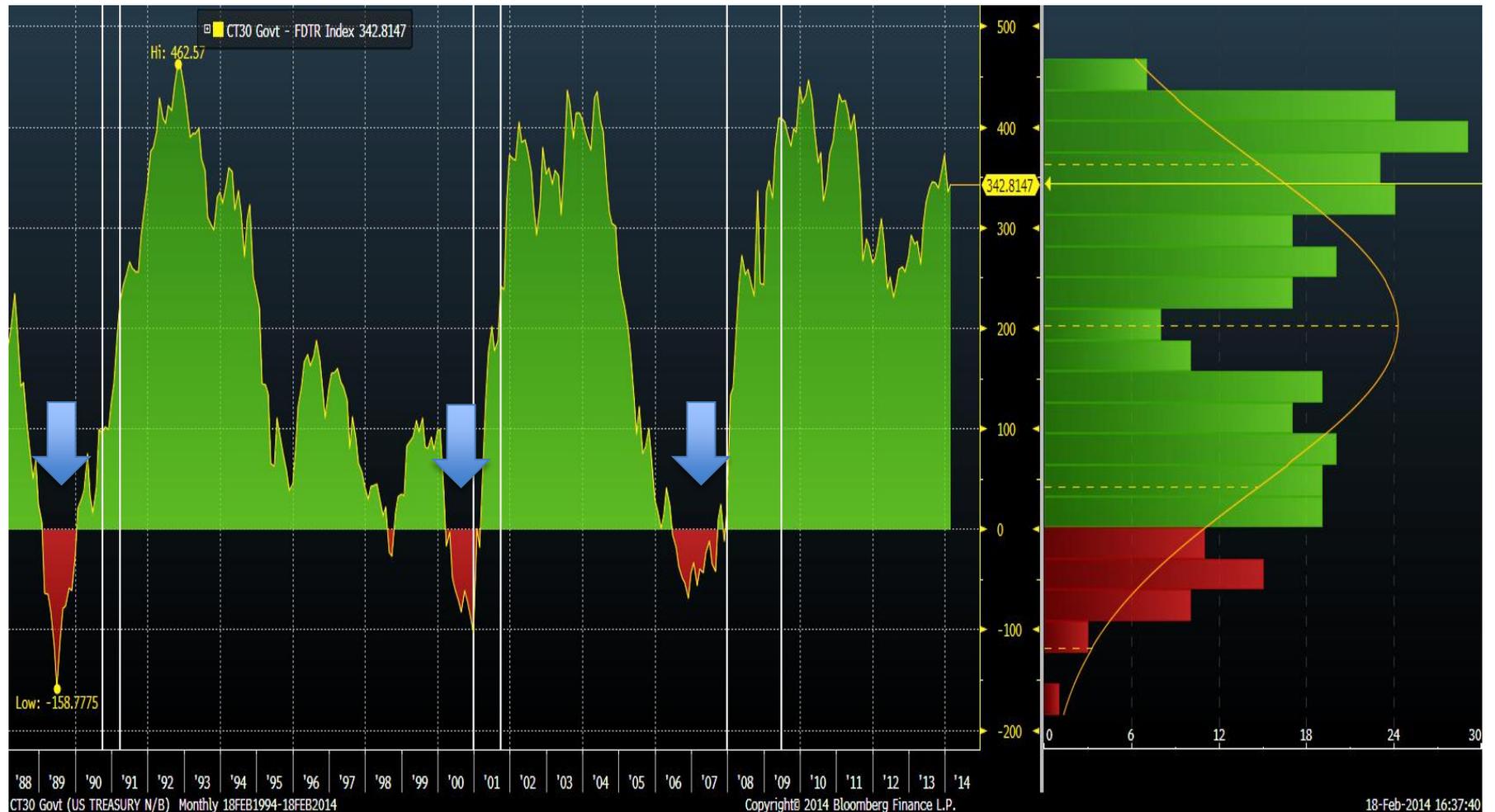
Treasury Yields

Fed Funds and 30 year Treasury – yields on top and spreads below.



Treasury Yields

Fed Funds and 30 year Treasury – spreads

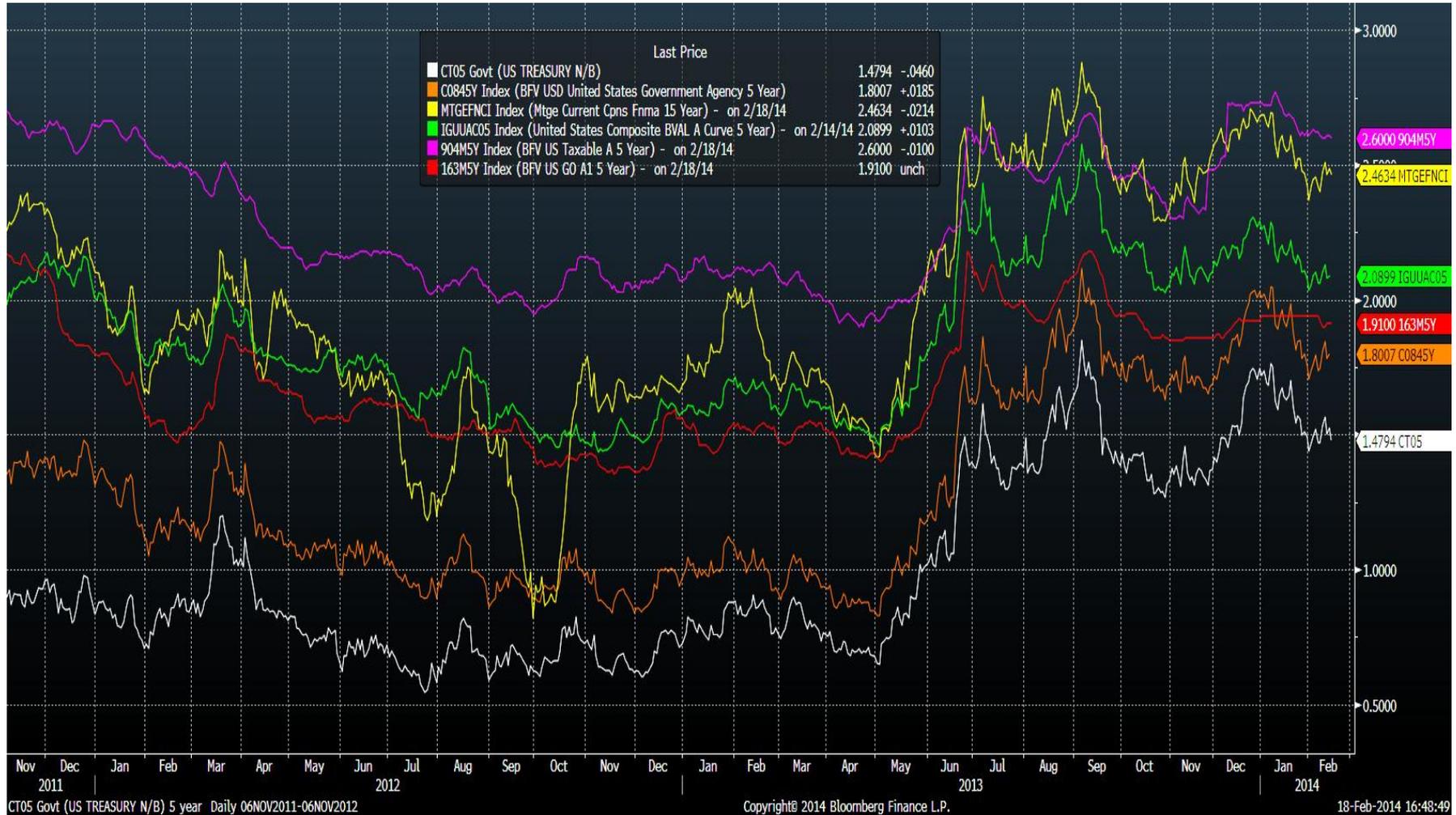


Relative Value

- **Multi-sector yields – 5 yr maturity Yield Comparison**
- **Agency spread -5yr maturity**
- **Corporate spread – 5 yr maturity**
- **Taxable Municipal spread – 5 yr maturity**
- **Mortgage spread – 15 yr current coupon versus 5 yr maturity**
- **Opportunity Matrix**
- **Opportunity Matrix table**

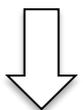
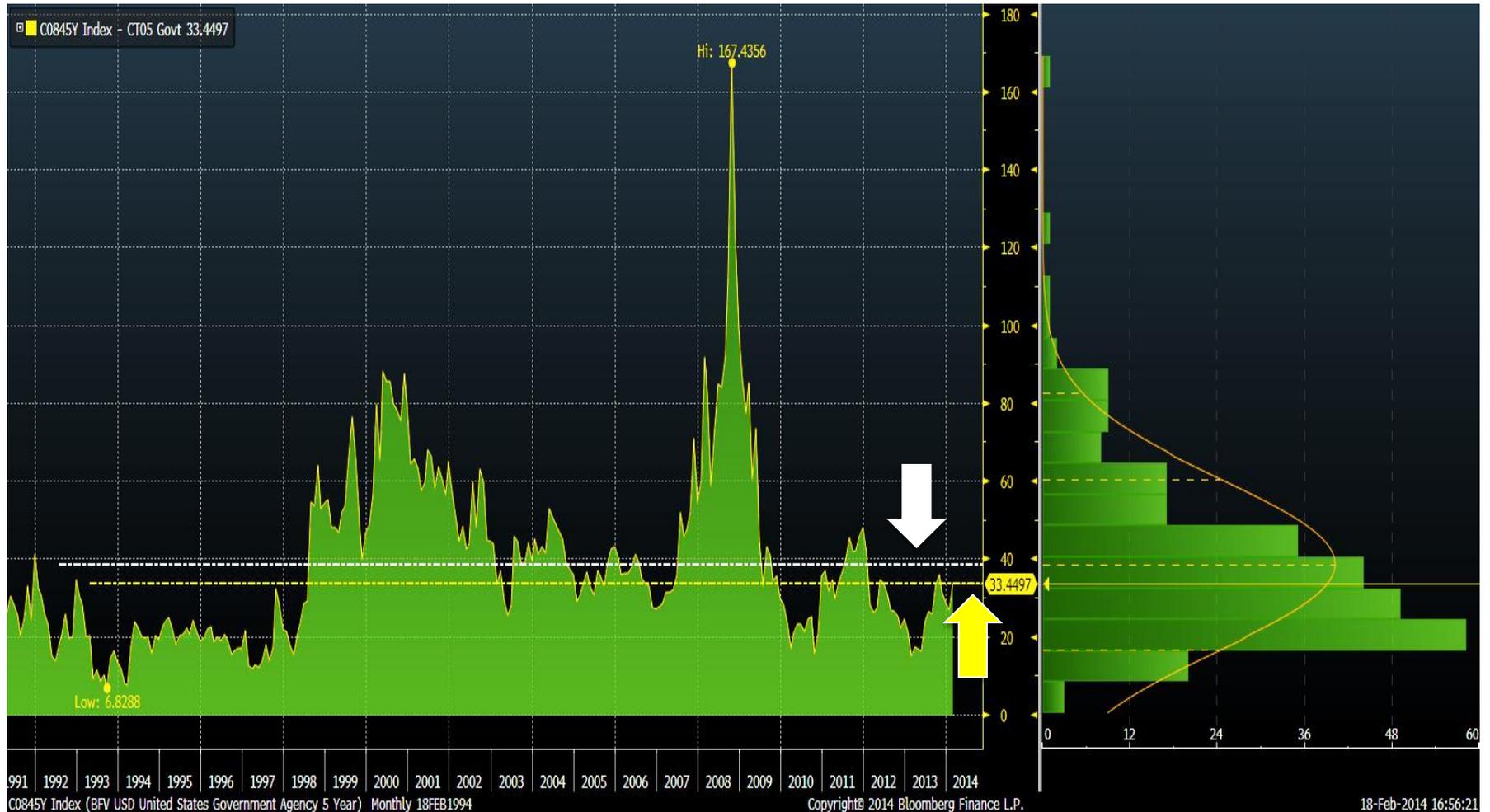
Relative Value

Yield comparison – 5yr maturity – tough to digest



Relative Value

5 year Agency bullet spreads – 43 percentile



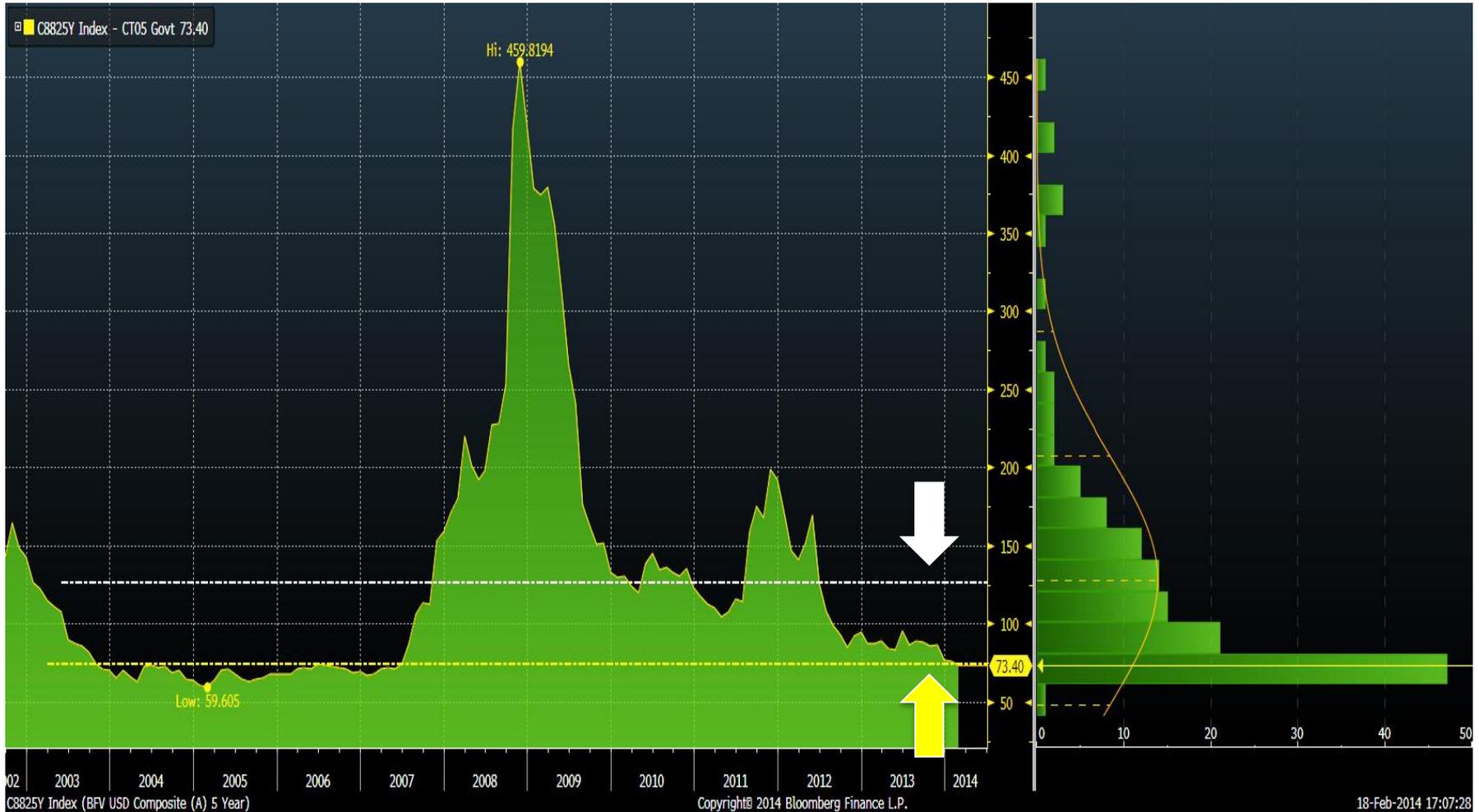
= Mean



= Current value

Relative Value

5 year Corporate Composite spreads – 30 percentile



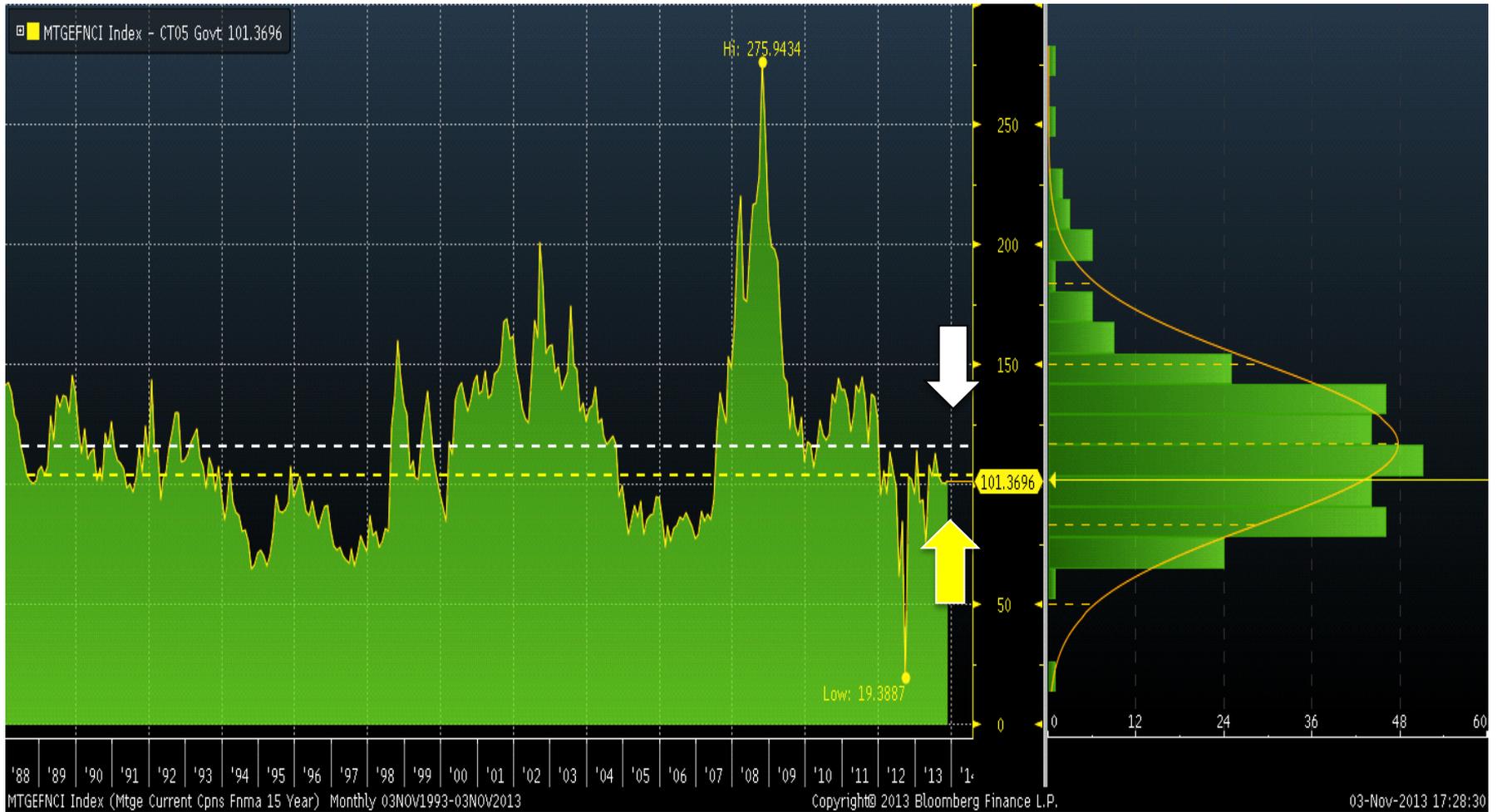
= Mean



= Current value

Relative Value

15 year current coupon FNMA Mortgages vs 5 year Treasury spreads – 33 percentile



= Mean



= Current value

Relative Value

5 year Taxable A-rated Municipal bond spreads

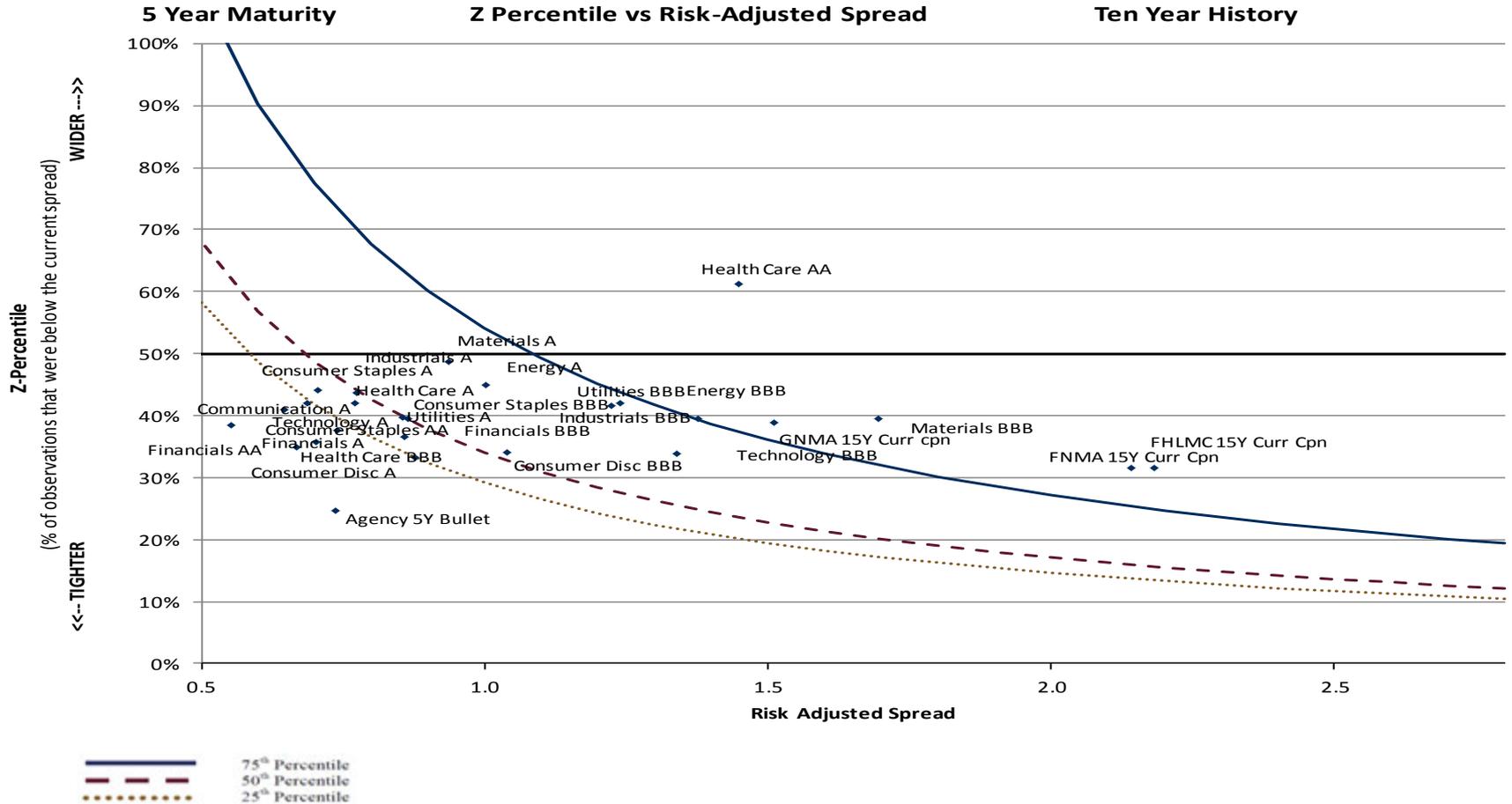


 = Mean
  = Current value

Relative Value

Opportunity Matrix – 5 year maturity

Opportunity Matrix



Relative Value

Opportunity Matrix - 5 year table

	5 Year Maturity					Ten Year History						
	Current Yield	Spread			Current Spread	Std Dev	Risk Adjusted Spread (RAS)	Rank- RAS	Z-Score	Percentile Rank	Rank - Z	Combined Rank
		Median	High	Low								
Health Care AA	2.11	50	231	6	62	42.9	1.4	5	0.28	61%	1	1
FNMA 15Y Curr Cpn	2.43	114	312	19	93	42.7	2.2	1	(0.48)	31%	24	2
FHLMC 15Y Curr Cpn	2.43	115	328	14	94	43.9	2.1	2	(0.49)	31%	25	3
Materials BBB	2.96	170	512	95	147	86.5	1.7	3	(0.27)	39%	12	4
GNMA 15Y Curr cpn	2.20	84	298	35	71	46.8	1.5	4	(0.29)	39%	15	5
Energy BBB	2.64	138	480	63	115	83.4	1.4	6	(0.27)	39%	14	6
Utilities BBB	2.51	119	491	53	102	82.5	1.2	8	(0.21)	42%	8	7
Industrials BBB	2.50	119	447	30	101	82.2	1.2	9	(0.22)	41%	9	8
Materials A	2.06	59	348	15	57	60.8	0.9	12	(0.04)	48%	2	9
Technology BBB	2.65	153	495	78	116	86.6	1.3	7	(0.42)	34%	22	10
Energy A	2.11	69	356	23	61	61.1	1.0	11	(0.13)	45%	3	11
Consumer Disc BBB	2.56	149	565	96	106	102.3	1.0	10	(0.41)	34%	21	12
Consumer Staples BBB	2.36	114	523	62	87	100.7	0.9	14	(0.27)	39%	13	13
Utilities A	2.00	66	378	30	51	59.4	0.9	16	(0.26)	40%	11	14
Industrials A	1.97	58	348	16	48	61.3	0.8	17	(0.16)	44%	5	15
Health Care A	1.96	60	349	17	47	61.0	0.8	18	(0.21)	42%	7	16
Financials BBB	2.73	173	754	89	124	143.3	0.9	15	(0.34)	37%	18	17
Consumer Staples A	1.99	60	385	29	50	70.4	0.7	20	(0.15)	44%	4	18
Health Care BBB	2.23	110	455	38	74	83.7	0.9	13	(0.44)	33%	23	19
Technology A	1.92	56	353	16	43	62.4	0.7	22	(0.21)	42%	6	20
Communication A	1.99	72	444	34	50	67.6	0.7	19	(0.32)	38%	17	21
Consumer Staples AA	1.74	34	249	4	25	38.7	0.6	24	(0.23)	41%	10	22
Financials A	2.27	118	597	55	77	110.0	0.7	21	(0.37)	36%	19	23
Consumer Disc A	1.98	77	407	41	48	72.1	0.7	23	(0.39)	35%	20	24
Financials AA	2.03	82	550	14	54	96.7	0.6	25	(0.30)	38%	16	25
Agency 5Y Bullet	1.62	29	164	0	13	23.3	0.6	26	(0.69)	25%	26	26

Strategies

- **Core Focus**
- **Duration Management**
- **Structure**
- **Asset / Liability Management – cash flow**
- **Yield Curve Strategies**
- **Business Cycle Strategies**
- **Money Market Fund Yields**

Strategies

Core Focus

- Objectives
 - Safety
 - Liquidity
 - Yield

- Constraints
 - Fish Bowl
 - Maintaining Public trust
 - Local Laws

Strategies

Duration Management

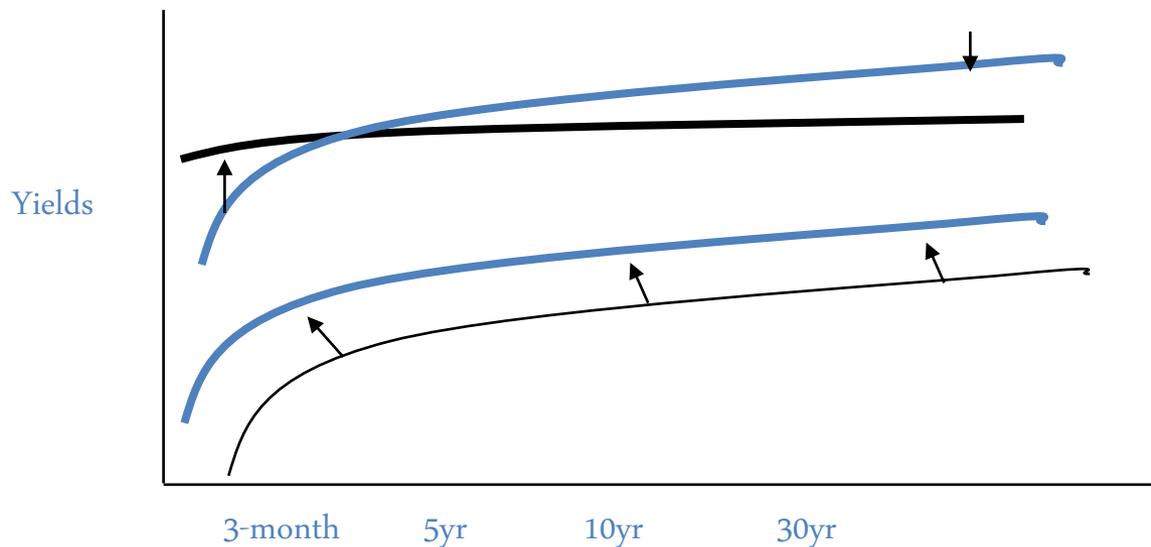
- Bond Market **Rally** (bond prices **rise** – interests rates fall)
 - Longer durations will outperform short duration bonds
 - Bullets will outperform callables
 - Given the same maturity, lower coupon bonds will outperform higher coupons

- Bond Market **Sell-off** (bond prices **fall** – interest rates rise)
 - Shorter duration bonds will outperform longer duration bonds
 - Callables will tend to outperform bullets
 - Given the same maturity, higher coupon bonds will outperform lower coupons

Strategies

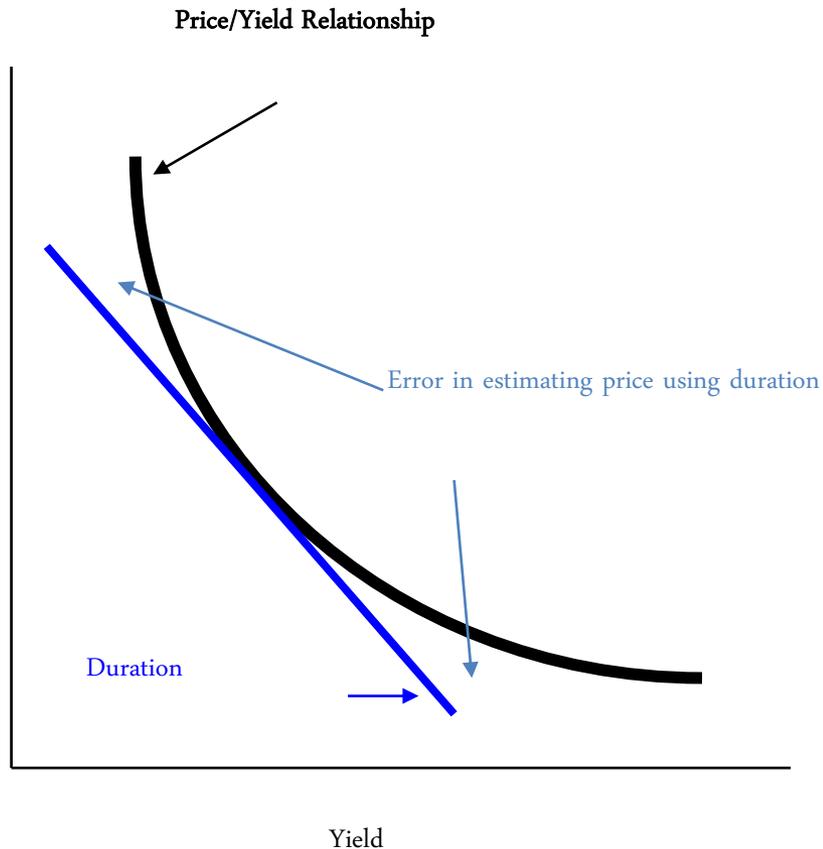
Duration Management

- Duration – a concept to measure the volatility of a bond by measuring the weighted average term to maturity of the bond's cash flow.
- Duration is the approximate percentage change in the price for a 100 basis point change in yields.
 - Given small changes in yields
 - Assuming interest rates move in a parallel manner.
 - However, the yield curve typically does not move parallel.



Strategies

Duration Management



- For small changes in yield, the straight line (estimated price using duration) and the curved line (actual prices) are fairly similar.
- As yields change by larger amounts, the gap increases between the straight line and the curved line - hence making duration less useful as a predictor of price.

Strategies

Duration Management

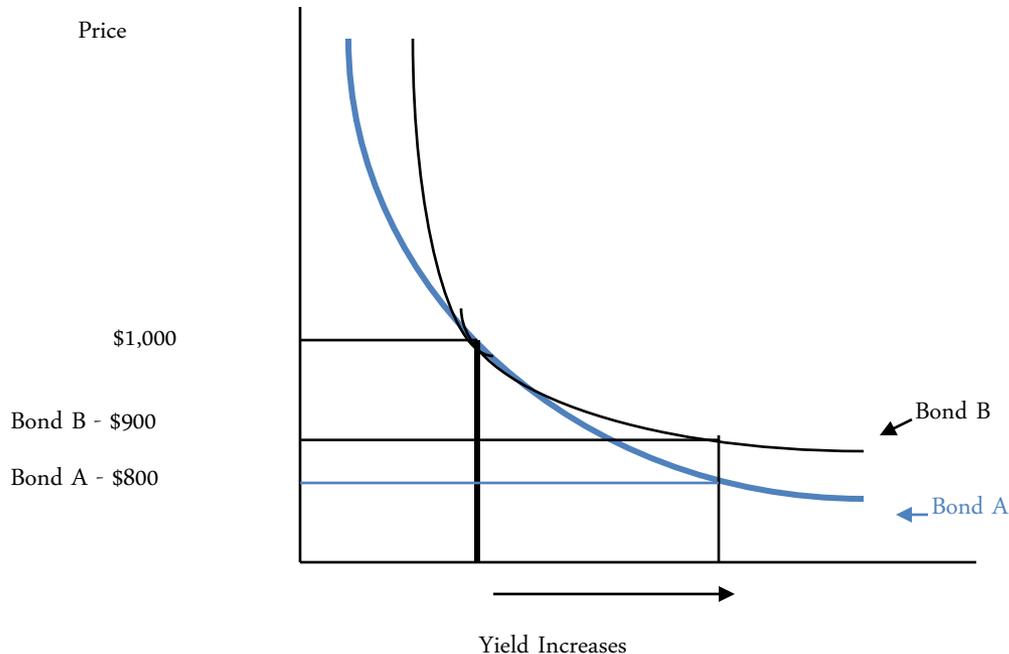
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Strategies

Duration Management

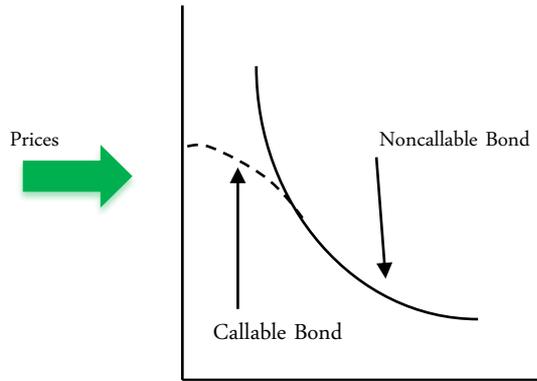
Positive Convexity – is good when rates rise or fall



- Even when rates increase positive convexity is a “Good Thing.”
- Bond B has greater Convexity than Bond A.
- Why? Because if yield decrease by the same amount, the price of Bond B increases more than the Price of Bond A.

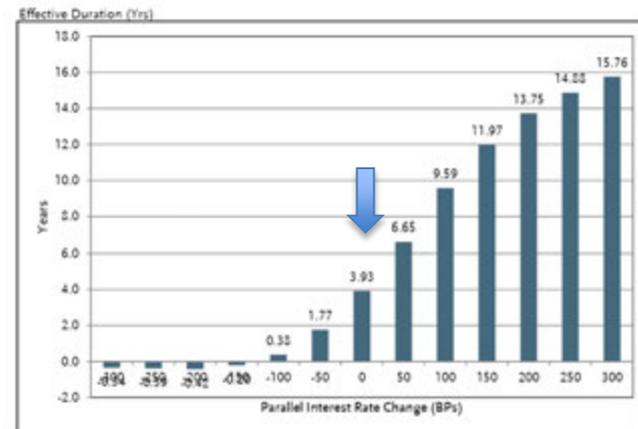
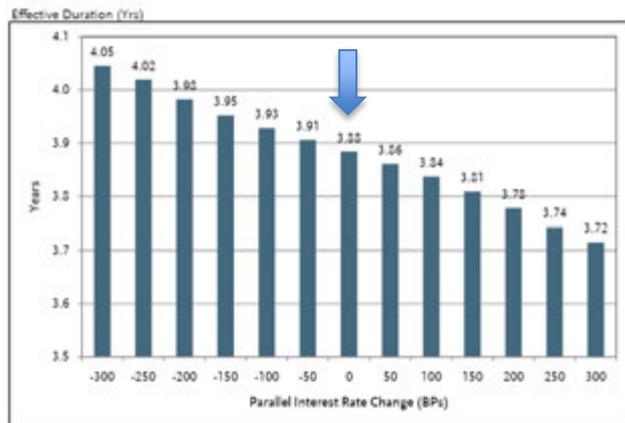
Strategies

Duration Management Negative convexity



- Investors receive more yield to purchase callable bonds (munis, agencies, corps, or mortgages).
- Callable bonds have negative convexity.
 - Negative convexity can hurt price appreciation when yields fall.
 - Negative convexity can introduce extension risk when interest rates rise

Yield

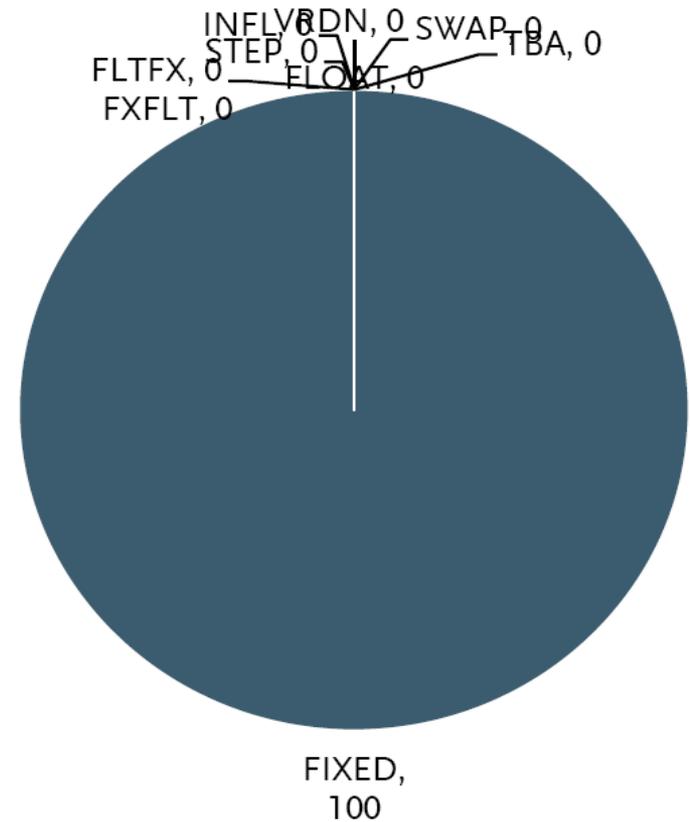
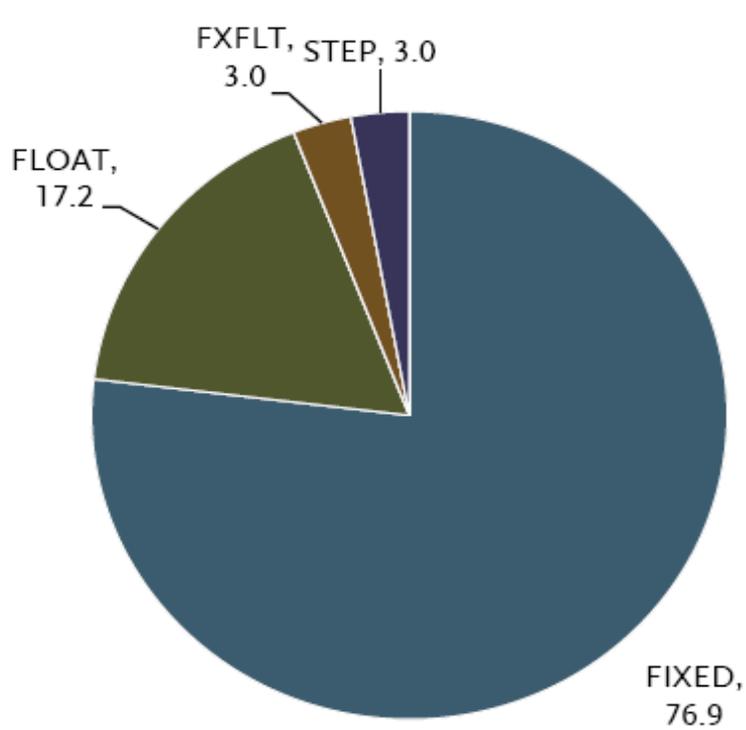


Strategies

Structure

Coupon

Weighted Average Coupon & Coupon Type Matters.....

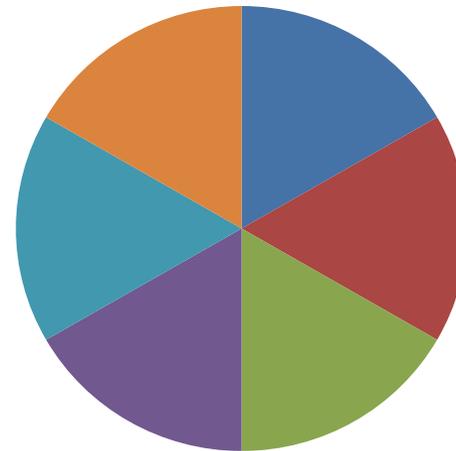
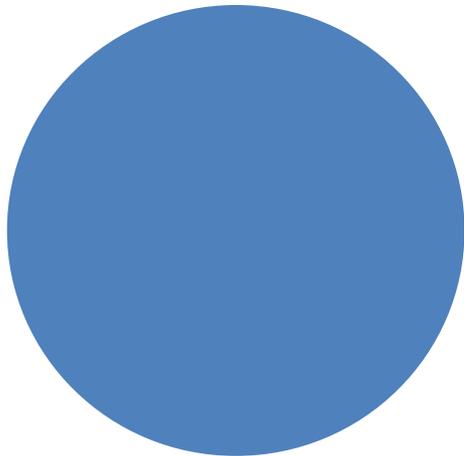


Strategies

Structure

Diversification

Agency



- Treasury
- Agency
- Muni
- Mortgage
- Corporate
- MM

Strategies

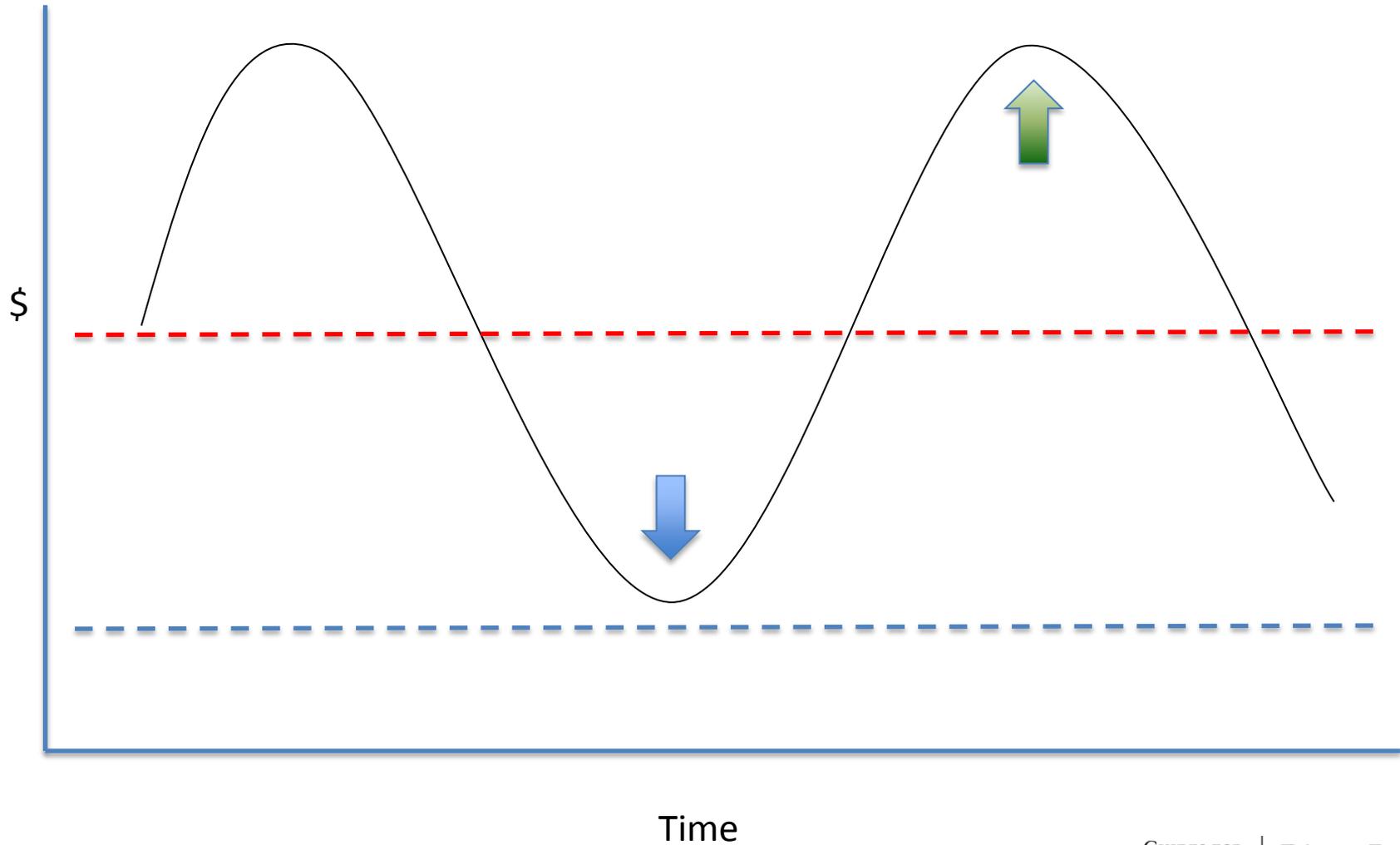
Structure

General tendencies in a rising rate environment

	Yield	Total Return	Extension Risk	Effective Duration
Bullet	Med	Low	Low	High
Floater	Low	High	Low	Low
Callable	High	Med	High	Med

Strategies

Asset / Liability management – Cash Flow



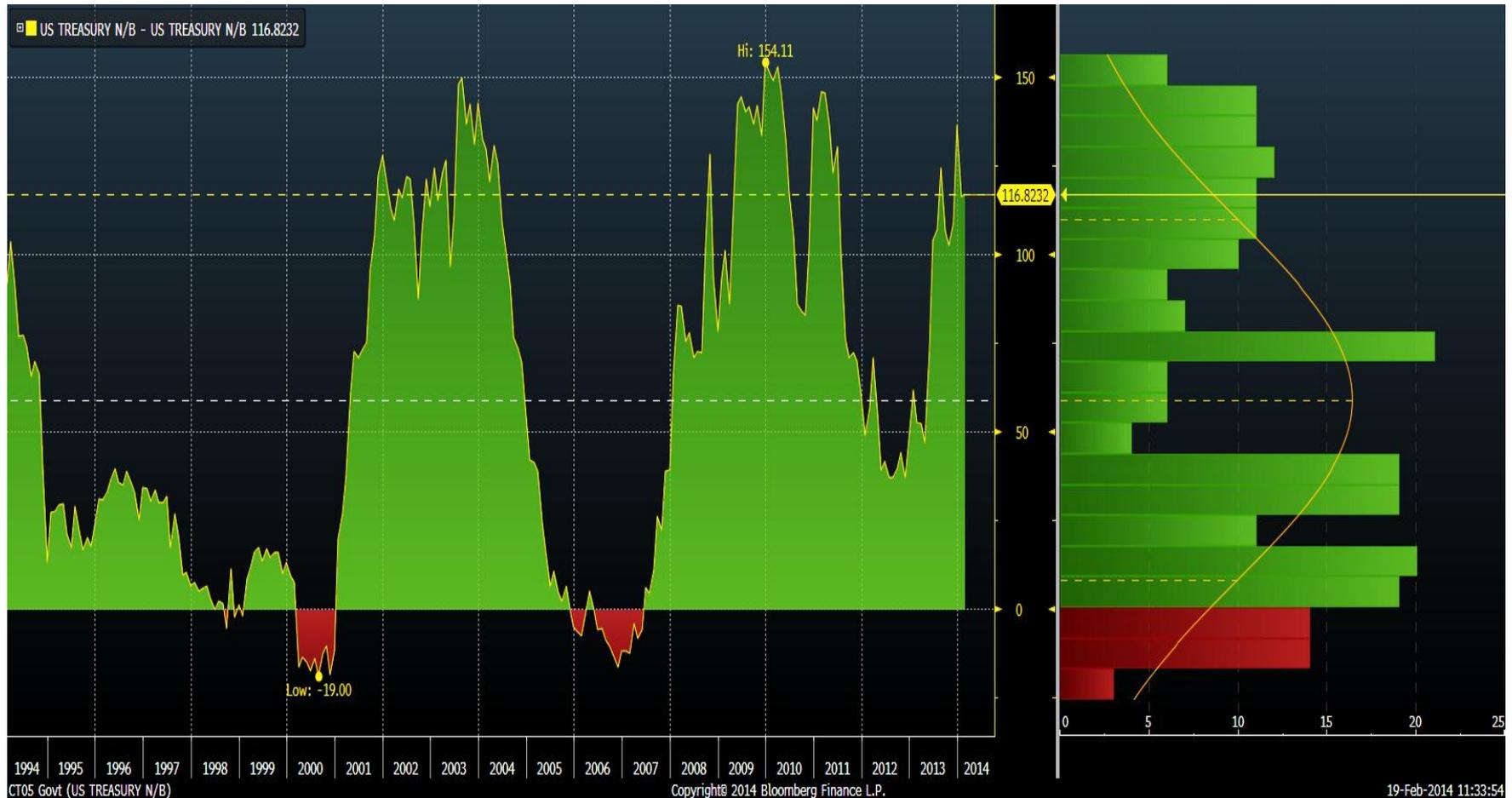
Strategies

Yield curve strategies: Steep Yield Curve



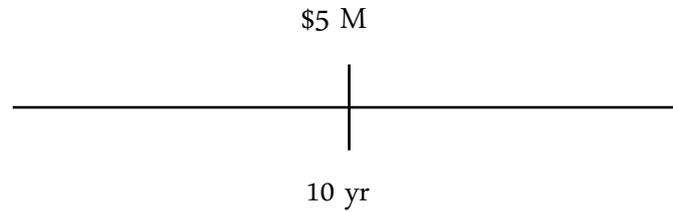
Strategies

*Yield curve strategies:
2 year to 5 year Treasury spread – 80 percentile*

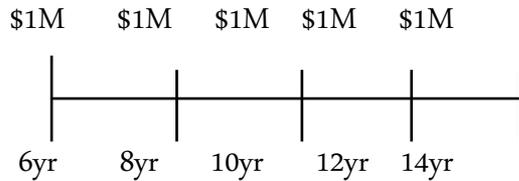


Strategies

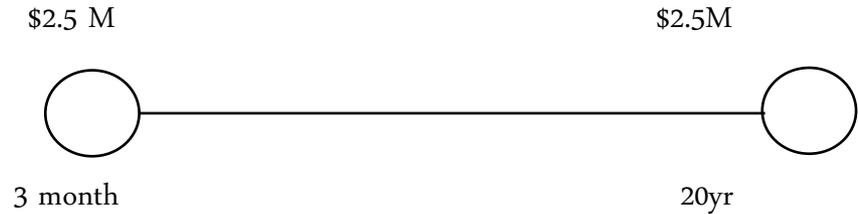
Yield curve strategies:



Bullet



Ladder



Barbell

Strategies

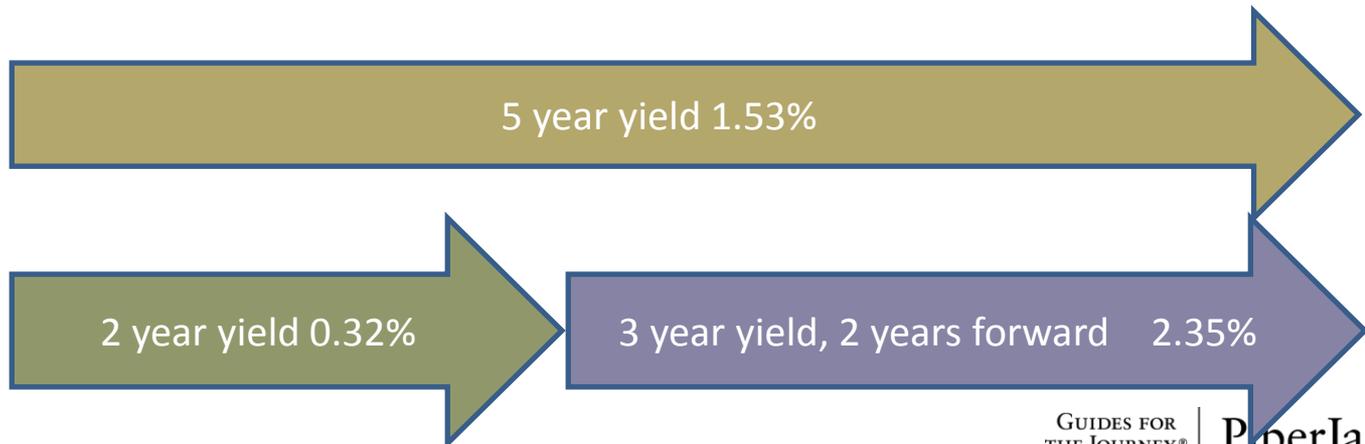
Yield curve strategies:

- Steepening Curve
 - Laddered & Bullet strategies
- Bull Market
 - Lengthen Duration
 - Decrease (Low) coupon
 - Positive convexity
- Flattening Curve
 - Barbell strategies
- Bear Market
 - Shorten Duration
 - Increase (High) coupon
 - Negative convexity (if paid)

Strategies

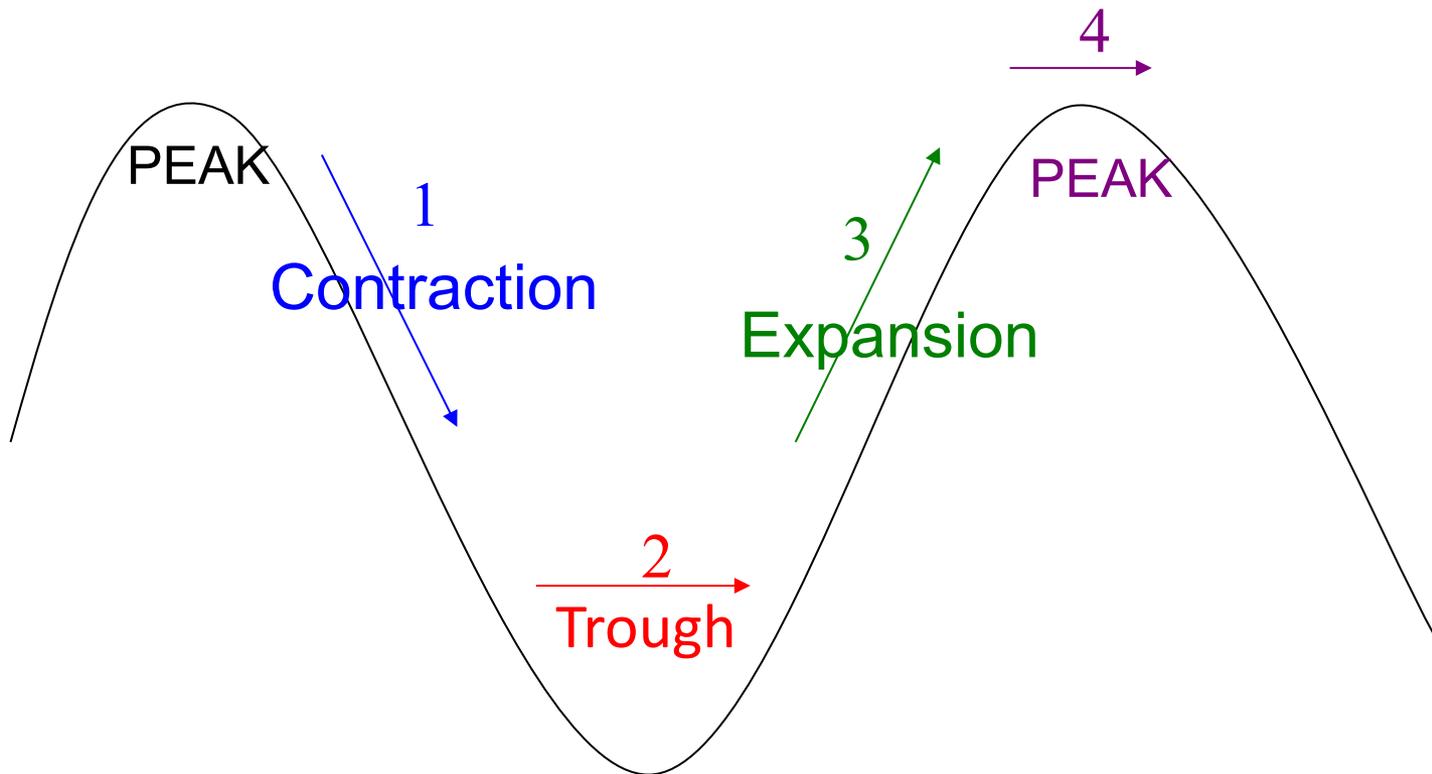
*Yield curve strategies:
Forward Curve*

Treasury Implied Forward Rates										
		Years to Maturity								
		1	2	3	4	5	7	10	20	30
	SPOT	0.11	0.32	0.70	1.12	1.53	2.17	2.73	3.21	3.69
Forward	1	0.53	1.00	1.46	1.89	2.20	2.68	3.05	3.42	
	2	1.48	1.92	2.35	2.63	2.92	3.19	3.33	3.61	
	3	2.37	2.78	3.01	3.28	3.36	3.61	3.53	3.76	
	5	3.46	3.78	3.75	3.82	3.94	3.76	3.70	3.94	



Strategies

Business cycles strategies



Strategies

Business cycle strategies:

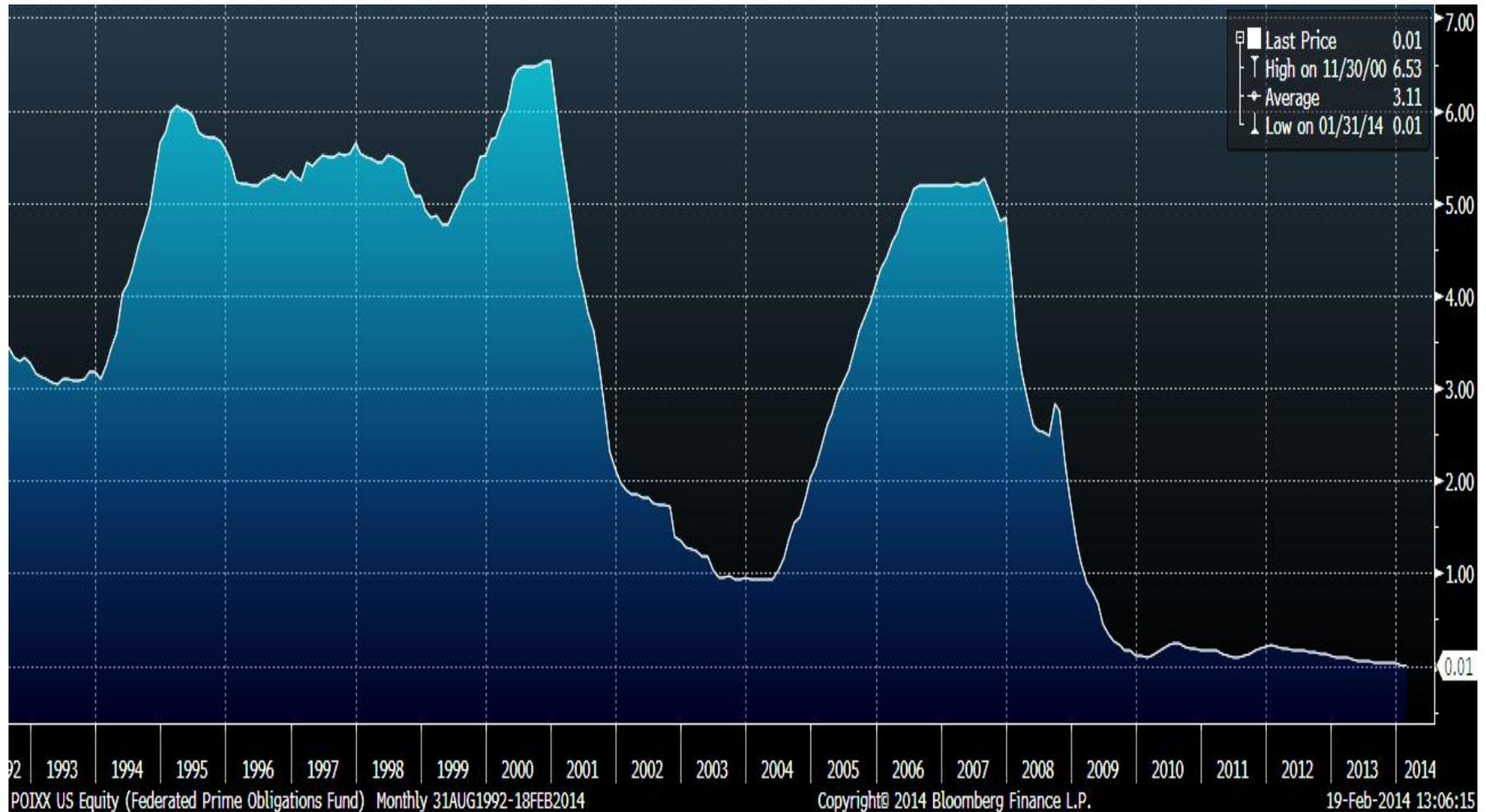
- Contraction
 - Flight to Quality
 - Transition to:
 - Consumer Staples/Food/Beverage/Tobacco
 - Drugs/Utilities/Supermarkets/Drug Stores
 - Treasuries

- Trough
 - Consumer Staples/Food/Beverage/Tobacco
 - Drugs/Utilities/Supermarkets/Drug Stores

- Expansion
 - Increase risk exposure
 - Transition to:
 - Interest rate sensitive sectors
 - Consumer discretionary
 - Lower quality credits

Strategies

Money Market Fund Yields



Strategies

*Money Market Fund Yields – tend to underperform in rising rate environments
Spread to 3 month T-Bill*



Portfolio and Balance Sheet Strategies

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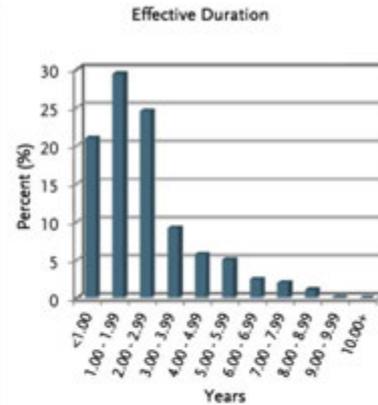
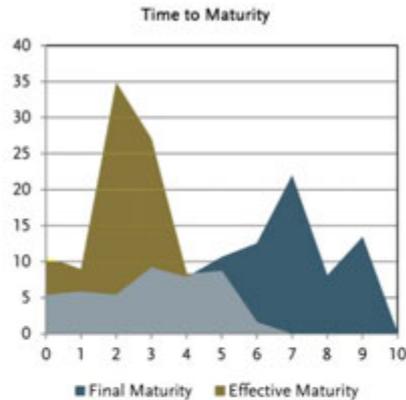
Portfolio and Balance Sheet Strategies

Our portfolio and balance sheet strategies (PBSS) group uses a multi-pronged strategy that helps clients navigate the changing market and gain a competitive advantage.



Portfolio and Balance Sheet Strategies

Our team assesses client portfolios to identify risks and define strategies focused on client unique needs and objectives that improve the risk return profile.

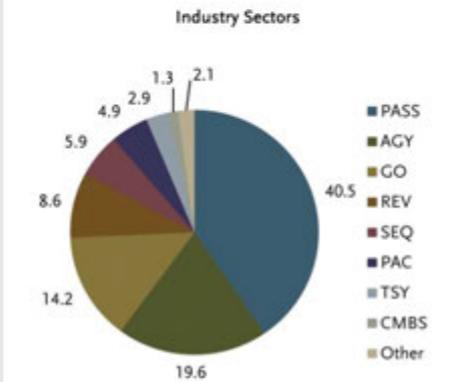
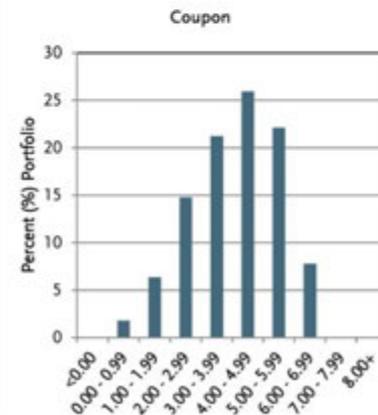


Credit Duration

	<1	1-2	2-3	3-4	4-5	5-7	7-10	10-15	15-30
TSY									
AGY									
Aaa	13.0	23.3	18.1	4.3		1.1	0.6		
Aa	4.7	2.4	2.2	1.8	2.2	1.3	0.7		
A	1.4	2.2	3.1	2.3	2.8	5.1	1.7		
Baa		0.1	0.2						
Ba									
B									
Caa									
Ca									
C									
D									
NR									
N/A	1.9	1.4	0.9	0.8	0.7		0.1		

Summary

Market Value	\$300,516
Effective Duration	2.35
Convexity	-0.26
Weighted Average Life	3.04
Weighted Average Final Maturity	9.90
Weighted Average Maturity	3.49
Current Yield	3.637%
Book Yield	3.923%
YTW	1.238%
Average Credit Rating	Aa1



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Questions & Answers

Thank You