



Interest Rate Risk? Taper Trouble?

Simplicity: *The Solution You Overlooked*

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Interest Rate Risk in the Era of QE

- Zero Interest Rate Policy (ZIRP) and Quantitative Easing (QE) have subtly, reshaped risk parameters
- Portfolio & Balance Sheet managers have tacitly/unknowingly accepted incremental risk
- Fed policy has forced financial institutions to follow one of two risk paths:
 - Earnings Risk (low loan demand, 0% cash yields)
 - Interest Rate Risk (fueled by duration shift)

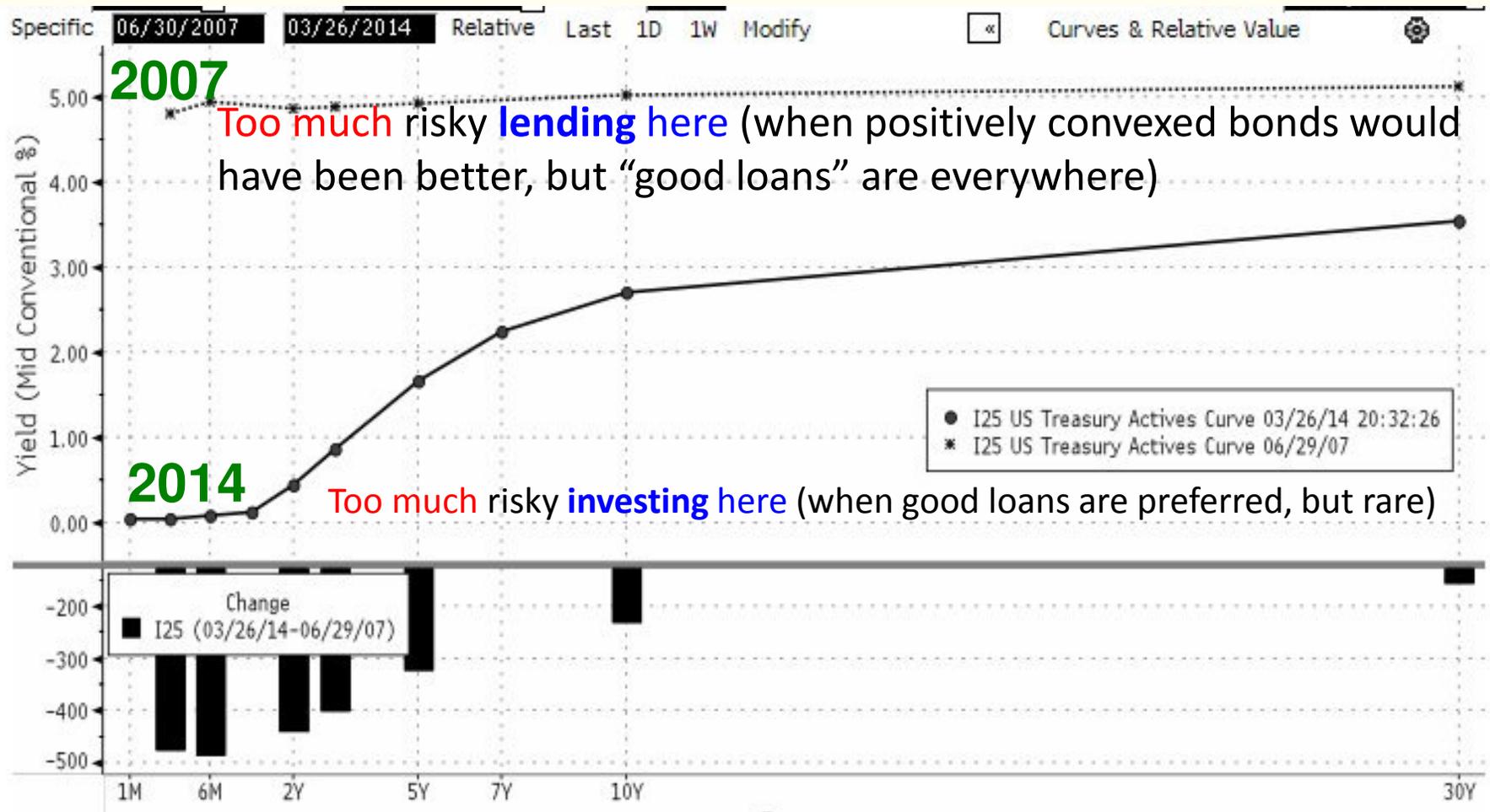


0%: The Cure That Kills

- In response to the acute credit trauma which strangled our nation's economy in 2008, the Fed adopted ZIRP – *an historical first*
- When ZIRP failed to quickly spur economic recovery, the Fed adopted QE – *another first*
- The yield curve steepened; asset yields converged with stubbornly slow to adjust COF; bond prices soared; loan losses dismantled earnings – *the trap is set!*



The Bankers' Trap: two snares





QE Diagnostics

- **2007:** Fed held btw \$700BB - \$800BB USTNs
- **QE 1:**
 - Nov 2008 Fed buys \$600BB MBS
 - by March 2009 Fed owns \$1.75TT in bank debt, MBS and USTNs
 - by Aug 2010, growth stalls so Fed buys \$30BB USTNs monthly maintains holdings at \$2.05TT
- **QE 2:**
 - Nov 2010 Fed pledges additional purchases totaling \$600BB
- **QE 3:**
 - Sept 2012 Fed pledges additional \$40BB monthly
 - Dec 2012 Fed increases pledge to \$80BB monthly

Concurrently, bond yields plummet, COF remains stubbornly high, loan losses are recognized and bank earnings are under pressure...***so who has been rewarded?***



Why Bonds Treated You So Well

- **Bond Buyers of all stripes!**
 - Smart buyers (bullets and top quality munis)
 - Nominal yield buyers (callables and MBS)
 - Credit buyers (corporate bonds)
 - ...not so fast “Hair of the dog that bit ya” buyers (depreciated PLMBS)
- **“Like falling backward into a honey pot”**
 - Buy what the Fed is buying and it goes well because a high tide raises all boats





Why Bonds Made You Sick

Until QE Became Quicksand

- May 2013: Fearing no way out and “legacy” concerns, Chairman Ben Bernanke tests the waters with “taper” commentary. **Bond markets freak out! (10yr TSY)**





QE Q & As

Q) **Is QE inflationary?**

A) Common sense says “yes.” It has terrific potential to cause inflation but it hasn’t yet (as measured by the Personal Consumption Expenditure Price Index).

Q) **But printing money is inflationary and isn’t QE printing money?**

A) Technically, no. It more directly credits the banking system with capacity to lend as the Fed buys bonds and sells cash (creating reserves). Then, when banks lend the money supply grows (but it’s been shrinking since mid 2011). The velocity of money is still slow, but has much potential to accelerate.

Q) **Is QE the reason stocks are near all time highs?**

A) Most likely. QE has unquestionably propped up bond prices. Accordingly, bonds yields have bottomed and “savers” who used to live on CD and bond interest, now masquerade as “investors” as they’ve been forced to higher risk (higher return?) equities. This is analogous to the “risk creep” financial institution bond portfolio managers have actively or passively accepted. Duration extension is the #1 culprit.

Q) **Won’t the Fed’s Tapering of bond purchases shrink the Fed’s balance sheet?**

A) Absolutely not. It will, however, reduce the rate of growth.



So Is The Bond Bull Market Over?

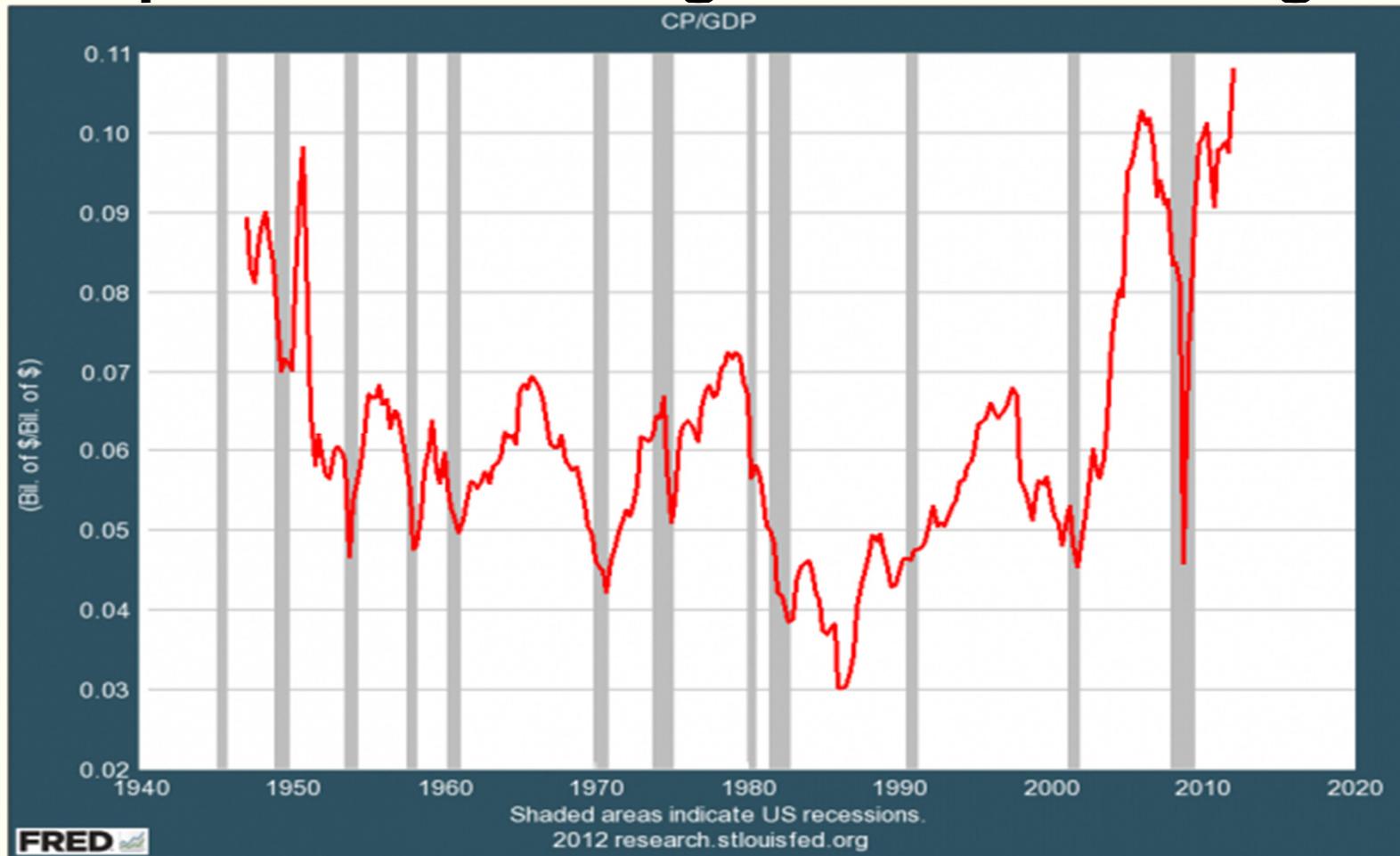
That's the question we must come to terms with
What's your rate conviction?

- **Rates headed up quickly...**
 - ✓ *Tapering IS tightening (no matter what the Fed says!)*
 - ✓ *Sell your most price sensitive bonds*
 - ✓ *Overweight cash and < 2 duration*
 - ✓ *Make prime adjustable loans*
- **Rates varying, but “range bound” ...**
 - ✓ *Buy munis & agency bullets in the steepest part of the curve*
 - ✓ *Buy fixed rate MBS*
 - ✓ *Favor most liquid bonds in well traded markets (light on CMOs, HECMs, Step Ups, “story bonds”)*



A Reason To Be Bullish on US Economy

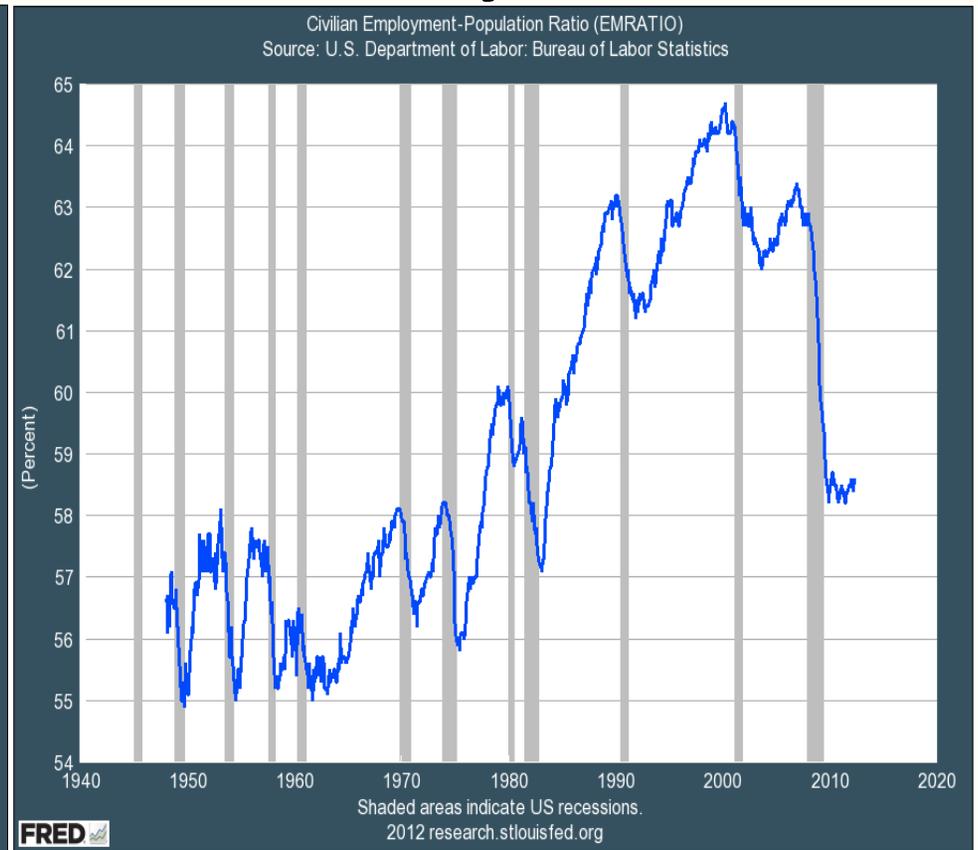
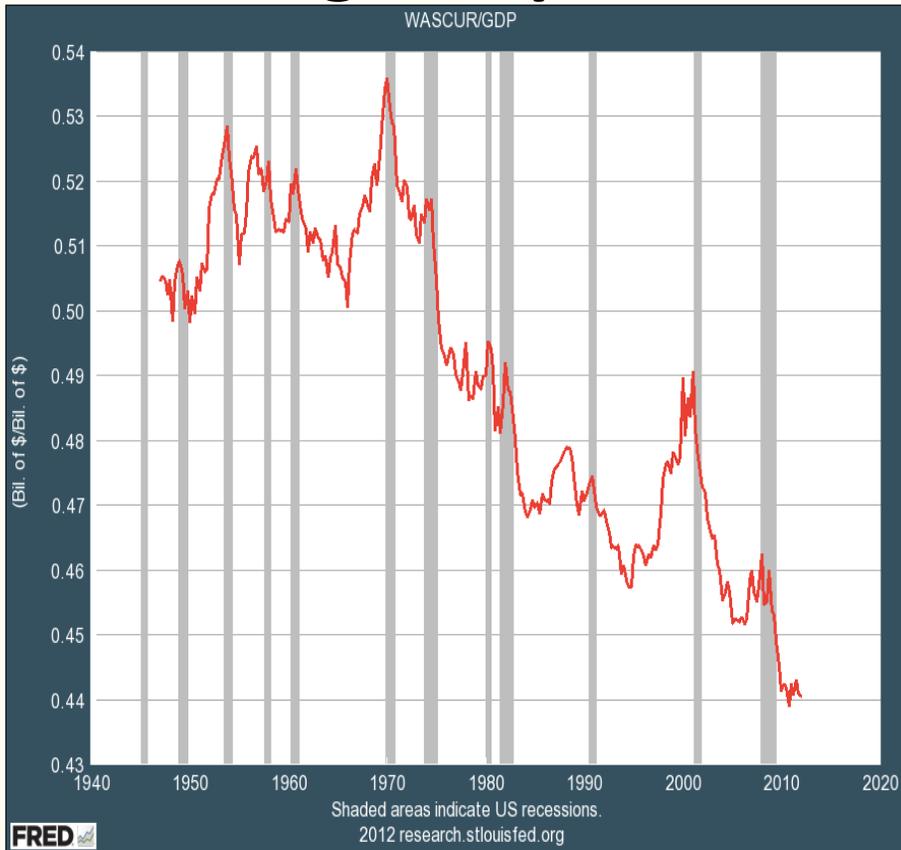
Corporate Profit Margins Hit All-Time High





Reasons To Be Bearish on US Economy

Wages Dip and the Workforce Stays Home





Measuring Bond Performance

- **Static Duration Test (a price only test)**
 - ✓ *Reasonable for simulated moves of 1% or less*
 - *E.g. 1: 5yr USTN*
 - *E.g. 2: 2 ½yr US agency new issue callable*
- **Total Return (a contextual test of price and income)**
 - ✓ *Works best for bonds with minimal “moving parts”*
 - *E.g. 1: 5yr USTN, 1yr later - flat, rates up 100bps, rates dn 25bps*
 - *E.g. 2: Discount Callable, 1yr later - flat, rates up 100bps, rates dn 25bps*
- **How do you test what you cannot predict?**
 - ✓ *It's difficult and unreliable. Be prepared to be wrong.*



Static Duration Test

- Duration is an immediate & linear price shock
- Reasonable for testing rate shifts <100bps
- A “back of the envelope” stress test

US TREASURY N/B T 1 ⁵/₈ 03/31/19

T 1 ⁵/₈ 03/31/19 settle 3/31/14

Tsy Shift	Yield	Price	PERCENT PRICE CHANGE		
			Security	Benchmark Treasury 5y	Benchmark MBS TBA
-300	-1.250%	114.8817	+ 16%	+ 16%	+ 7%
-100	0.750	104.286	+ 5%	+ 5%	+ 6%
0 BP	1.750	99.404	0	0	0
+100	2.750	94.77795	- 5%	- 5%	- 8%
+300	4.750	86.2361	- 13%	- 14%	- 21%



Static Duration Test

- Duration has its shortcomings
 - ✓ Linear nature will be wrong for larger rate swings
 - ✓ Optionality isn't well recognized

FHLB 0 3/4 10/2016 – 4/2015 1x only

settle 4/24/14



Tsy Shift	Volatility	GRADE IS		2CC		
		Security Option Value	Opt-free Yield	Security US CORP	Benchmark Treasury 2y 0.7%	Benchmark MBS TBA 3.0%
-300	63.7%	-4.8495	1.452%	Price	PERCENT	PRICE CHANGE
-100	63.7	-1.6200	0.971	103.133	+ 3%	+ 6%
0 BP	63.7	-0.1680	0.818	101.0748	+ 1%	+ 2%
+100	63.7	-0.0309	1.713	100	0	0
+300	63.7	-0.0021	3.699	97.68485	- 2%	- 2%
				93.0226	- 7%	- 6%
						- 8%
						- 21%

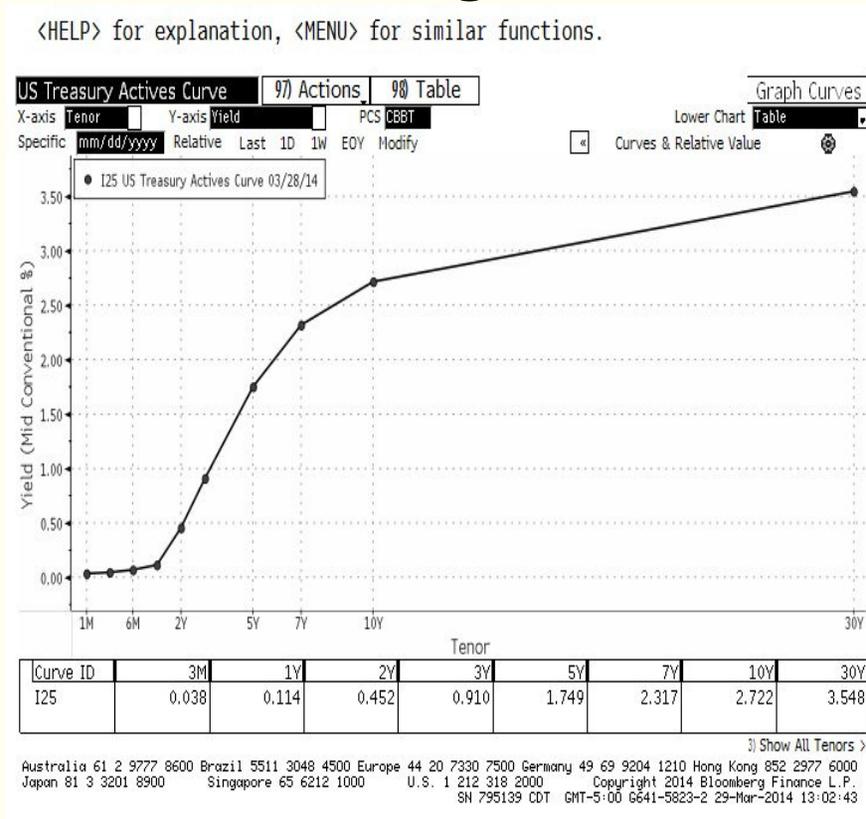
18 month bullet yields 0.25%



Total Return

Considers larger context

And reveals possibilities



T 1 5/8 03/31/19 (B)	
Settlement Date	3/31/2014
Price/Yield	99.404000 / 1.750012
Principal	-4,970,200
Accrued Interest	
NPV at Settlement	-4,970,200
At Horizon Date 03/31/15	
Price/Yield	101.851000 / 1.150194
Principal	5,092,550
Accrued Interest	
Coupon Payments	81,250
Reinvestment Income	18
Net Future Value	5,173,818
Net Profit & Loss	203,618
HPR %	4.097
Total Return %	4.056

What you think you need **complexity** to achieve, can be done better with **simplicity**.



Total Return: Yield + Price Change

- **Referenced, but not the normal investment style for most financial institutions**
 - ✓ *Today's **bond market** and **regulatory climate** make a compelling case for adopting this style*
 - ***Historically steep curve** offers significant price appreciation/protection*
 - ***Paltry nominal yields** are not sufficient for the price risk (so take the conscious price risk to reward and protect portfolio values)*
 - ***Simple products** with well articulated markets work best AND pose no regulatory risk (quite the opposite actually)*
 - ✓ ***Portfolio Managers hold the cards***
 - *Recognize the gains & losses...or not – you decide*
 - *Start by committing just a portion of the portfolio to this style*



A Beginning: Alternative to Cash

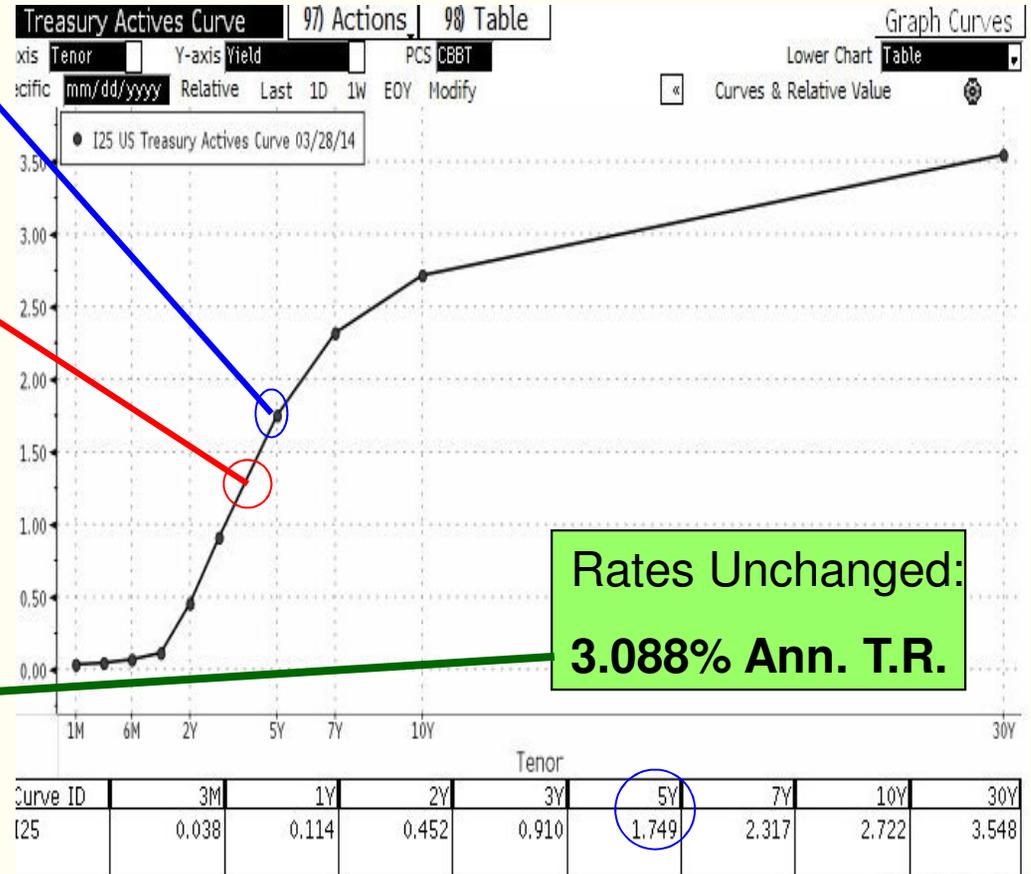
	Settlement Date	Coupon	Maturity	Price	Yield	% Price Change	Total Return
<i>Opening Purchase</i>	Wednesday, January 02, 2008	2.875%	1/2/2010	100.000	2.875%		
<i>Closing Sale</i>	Wednesday, December 31, 2008	2.875%	1/2/2010	102.486	0.388%	2.486%	5.361%
<i>Opening Purchase</i>	Friday, January 02, 2009	0.820%	1/3/2011	100.000	0.820%		
<i>Closing Sale</i>	Thursday, December 31, 2009	0.820%	1/3/2011	100.421	0.400%	0.421%	1.241%
<i>Opening Purchase</i>	Monday, January 04, 2010	1.125%	1/2/2012	100.000	1.125%		
<i>Closing Sale</i>	Friday, December 31, 2010	1.125%	1/2/2012	100.865	0.260%	0.865%	1.990%
<i>Opening Purchase</i>	Monday, January 03, 2011	0.700%	1/2/2013	100.000	0.700%		
<i>Closing Sale</i>	Friday, December 30, 2011	0.700%	1/2/2013	100.602	0.100%	0.602%	1.302%
<i>Opening Purchase</i>	Monday, January 02, 2012	0.250%	1/2/2014	100.000	0.250%		
<i>Closing Sale</i>	Monday, December 31, 2012	0.250%	1/2/2014	100.110	0.140%	0.110%	0.360%
<i>Opening Purchase</i>	Wednesday, January 02, 2013	0.250%	1/2/2015	100.000	0.250%		
<i>Closing Sale</i>	Tuesday, December 31, 2013	0.250%	1/2/2015	100.140	0.110%	0.140%	0.390%
SIMULATED TRADE FOR 2014							
<i>Opening Purchase</i>	Thursday, January 02, 2014	0.410%	1/4/2016	100.000	0.410%		
<i>Closing Sale</i> <i>(Rates Flat)</i>	Wednesday, December 31, 2014	0.410%	1/4/2016	100.302	0.110%	0.302%	0.712%
<i>Closing Sale</i> <i>(Rates +25bps)</i>	Wednesday, December 31, 2014	0.410%	1/4/2016	100.050	0.360%	0.050%	0.460%
<i>Closing Sale</i> <i>(Rates +100bps)</i>	Wednesday, December 31, 2014	0.410%	1/4/2016	99.300	1.110%	-0.700%	-0.290%



Why A Steep Curve Makes This Profitable

Rates Flat

T 1 ½ 03/31/2019	
Settlement Date	3/31/2014
Price/Yield	99.404 / 1.750
Principal	-4,970,200
Accrued Interest	
NPV at Settlement	-4,970,200
At Horizon Date <u>03/31/15</u>	
Price/Yield	100.872 / 1.400
Principal	5,043,600
Accrued Interest	
Coupon Payments	81,250
Reinvestment Income	18
Net Future Value	5,124,868
Net Profit & Loss	154,668
HPR %	3.112
Total Return %	3.088
Book Price	99.519
Book Value	\$ 4,975,950
\$ Gain (Loss)	\$ 67,650
% Gain (Loss)	1.360%

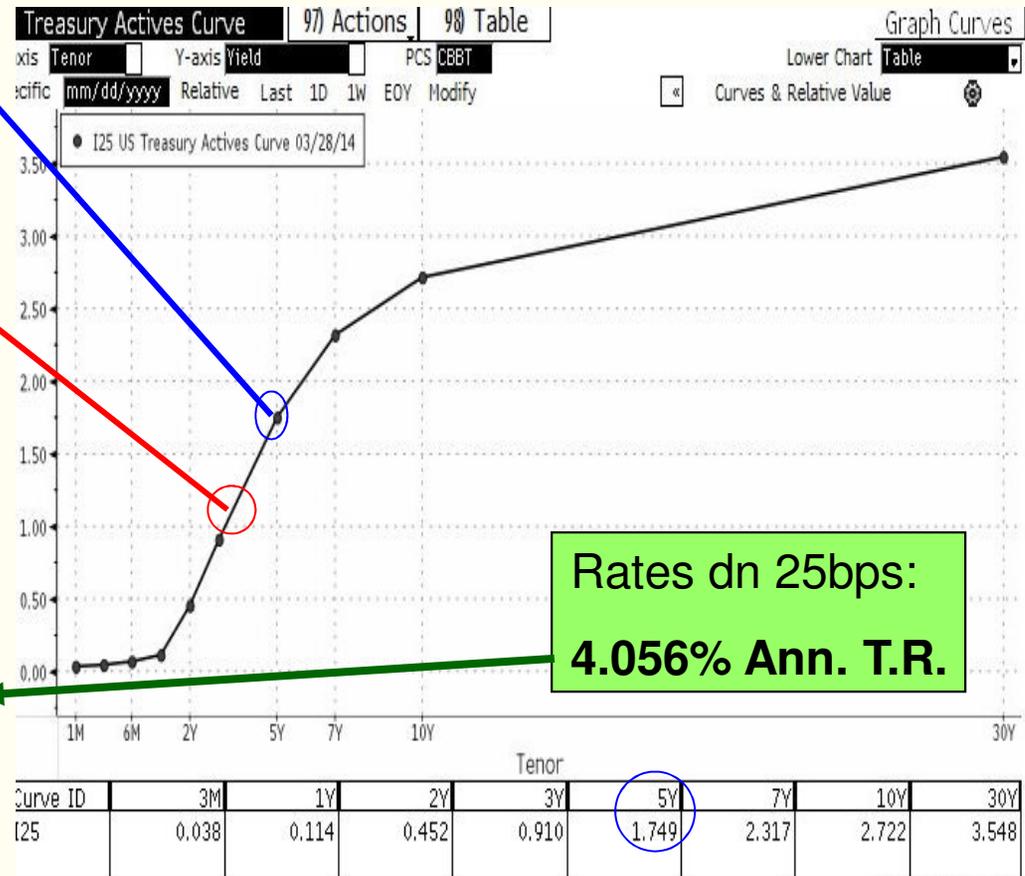




Why A Steep Curve Makes This Profitable

Rates dn 25bps

T 1 5/8 03/31/2019	
Settlement Date	3/31/2014
Price/Yield	99.404 / 1.750
Principal	-4,970,200
Accrued Interest	
NPV at Settlement	-4,970,200
At Horizon Date <u>03/31/15</u>	
Price/Yield	101.851 / 1.150
Principal	5,092,550
Accrued Interest	
Coupon Payments	81,250
Reinvestment Income	18
Net Future Value	5,173,818
Net Profit & Loss	203,618
HPR %	4.097
Total Return %	4.056
Book Price	99.519
Book Value	\$ 4,975,950
\$ Gain (Loss)	\$ 116,600
% Gain (Loss)	2.343%

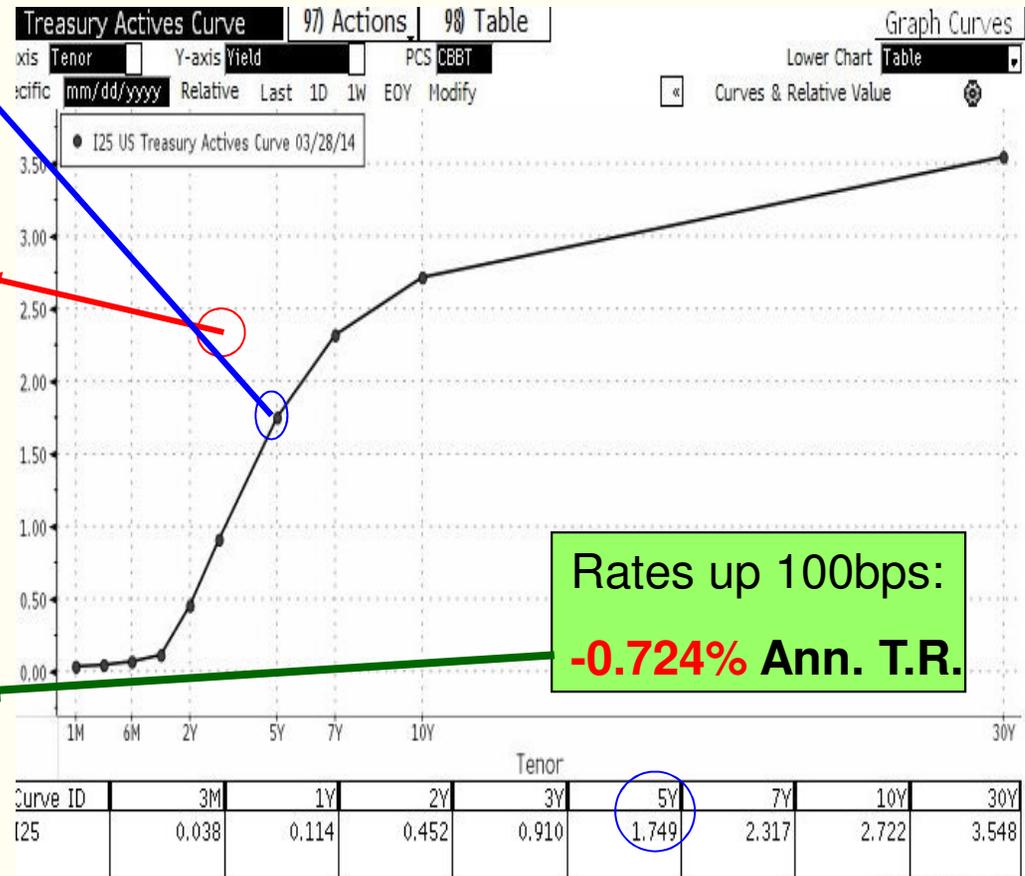




Why A Steep Curve Makes This Price Defensive

Rates up 100bps

T 1 5/8 03/31/2019	
Settlement Date	3/31/2014
Price/Yield	99.404 / 1.750
Principal	-4,970,200
Accrued Interest	-4,970,200
NPV at Settlement	-4,970,200
At Horizon Date <u>03/31/15</u>	
Price/Yield	97.060 / 2.400
Principal	4,853,000
Accrued Interest	
Coupon Payments	81,250
Reinvestment Income	18
Net Future Value	4,934,268
Net Profit & Loss	-35,932
HPR %	-0.723
Total Return %	-0.724
Book Price	99.519
Book Value	\$ 4,975,950
\$ Gain (Loss)	\$ (122,950)
% Gain (Loss)	-2.471%





Adding Optionality: Discount Callables (bullets' cousin)

FFCB 1.42 07/10/2019 - 2014 (cont.)	
Settlement Date	3/31/2014
Price/Yield	97.109 / 2.000
Principal	-4,855,450
Accrued Interest	-15,975
NPV at Settlement	-4,871,425
At Horizon Date <u>03/31/15</u>	
Price/Yield	98.645 / 1.750
Principal	4,932,283
Accrued Interest	15,975
Coupon Payments	71,000
Reinvestment Income	30
Net Future Value	5,019,288
Net Profit & Loss	147,863
HPR %	3.035
Total Return %	3.013
Book Price	97.634
Book Value	\$ 4,881,700
\$ Gain (Loss)	\$ 50,583
% Gain (Loss)	1.036%

Optionality adds layers of uncertainty. The more “moving parts” the less certain outcomes become. Uncertain outcomes subject to vacillating attitudes & inputs promote greater price volatility which diminishes the likelihood of top returns.

The lower the coupon, the less the uncertainty

1.75%: market yield in one year

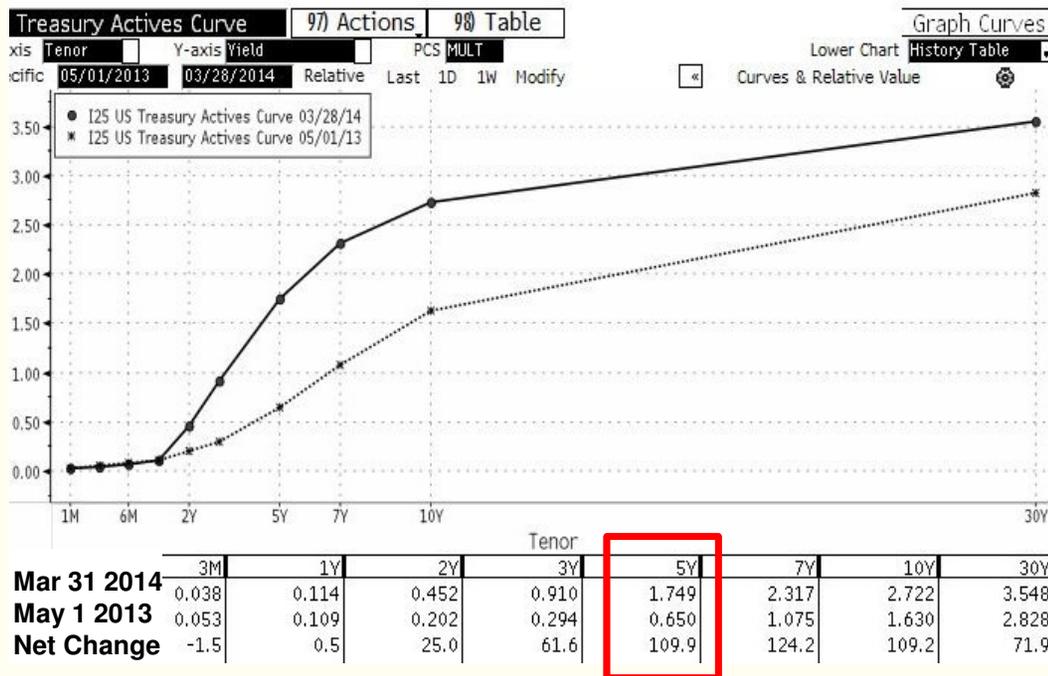
FFCB 1.42 07/10/19 Corp		90 Feedback	Page 1.
1) Yield & Spread	2) Yields	3) Graphs	4) Pricing
Settlement Date	03/31/2014	Price	97.109
YTC (3133EA3Z9)	Date	Price	Yield
Yield to Maturity	07/10/2019	100.00	2.000
Yield to Custom	03/31/2015	100.00	4.407
Yield to Next Call	04/04/2014	100.00	357.534
Yield to Worst Call	07/10/2019	100.00	2.000
Additional Call Scenarios			



GNMA CMO PasThru CMO offered May 2013

GNMA “stripped” Passthrough CMO

- 1.25% coupon
- Built with 3.00% 15yr MBS (3.50% WAC)
- Illustrated Yield/WAL: 1.03%/3.91yrs
- Current Yield/WAL: 1.89% / 4.32yrs
- Will this self-correct?



GNR 2012-143 XC	
Settlement Date	5/1/2013
Price/Yield	100.875 / 1.010
WAL	3.91yrs
Principal	4,778,361
Accrued Interest	0
NPV at Settlement	4,778,361
At Horizon Date 03/31/14	
Price/Yield	97.406 / 1.890
Par Value	4,193,228
Principal Value	4,084,466
Accrued Interest	4,368
Coupon Payments	46,597
Principal paid off at par	543,685
Reinvestment Income	394.32
Net Future Value	4,679,511
HPR %	-2.069
Total Return %	-2.267
Book Price	100.625
Book Value	\$ 4,219,436
\$ Gain (Loss)	\$ (134,970)
% Gain (Loss)	-3.199%
Avg Life	4.32yrs



Discussing Portfolio Values with your BOD

- **What is the nature of the loss**
 - ✓ Interest Rate Risk
 - ✓ OTTI
- **Demonstrate self-correcting nature of Interest Rate Risk**
 - ✓ Interest is being collected as illustrated
 - ✓ Principal is secure
 - ✓ Time will do much to recapture the loss

Par	Issuer	Coupon	Maturity	July 31 2013			RATES UNCHANGED July 31 2014			RATES UNCHANGED July 31 2015		
				Book Price	Mkt. Price	Gain/Loss	Book Price	Mkt. Price	Gain/Loss	Book Price	Mkt. Price	Gain/Loss
5,000	USTN	0.250%	4/15/2016	99.865	99.234	-0.63%	99.914	99.860	-0.05%	99.964	100.096	0.13%
2,500	FHLB	1.375%	12/11/2015	102.480	101.996	-0.47%	101.431	101.415	-0.02%	100.380	100.456	0.08%
2,500	FHLB	1.625%	12/9/2016	103.718	102.360	-1.31%	102.616	101.937	-0.66%	101.509	101.119	-0.38%
2,500	FHLB	0.750%	12/14/2017	99.957	96.853	-3.11%	99.966	98.355	-1.61%	99.976	100.023	0.05%
2,000	FFCB	1.900%	7/2/2018	100.704	101.267	0.56%	100.565	102.092	1.52%	100.424	102.582	2.15%
2,500	FHLB	1.750%	12/14/2018	103.805	100.069	-3.60%	103.111	100.798	-2.24%	102.411	101.644	-0.75%
2,500	FHLB	1.250%	12/13/2019	99.543	93.847	-5.72%	99.612	96.200	-3.43%	99.682	98.695	-0.99%
2,500	FHLMC	2.000%	1/27/2020	100.000	98.663	-1.34%	100.000	100.000	0.00%	100.000	101.900	1.90%
22,000						-1.86%			-0.78%			0.21%
				July 31 2013	\$	(413,126)	July 31 2014	\$	(172,935)	July 31 2015	\$	46,735



Discussing Portfolio Values with your BOD

- Where is your loss most pronounced?
 - ✓ What products? Why? Do you know what's driving it?
 - ✓ Would a bond swap be the best fix?
 - ✓ Measure and monitor these metrics regularly

	Current Book Value	Scenario Variance						
		DN 300	DN 200	DN 100	Current	UP 100	UP 200	UP 300
Treasuries	111,395,322	339,894	339,894	339,894	221,994	(1,203,306)	(2,441,798)	(3,655,502)
Agency NC	36,962,483	1,303,793	1,251,219	836,684	169,099	(694,289)	(1,527,566)	(2,326,513)
Agency - Call	70,744,498	887,480	622,169	226,838	(948,360)	(3,194,938)	(6,229,789)	(9,624,401)
Muni GO	153,867,346	6,633,957	5,987,355	4,404,937	2,214,906	70,264	(2,348,114)	(4,967,003)
Muni REV	22,477,931	1,021,019	891,885	677,494	337,783	57,427	(252,978)	(589,040)
Corp / Other	16,035,647	1,763,205	1,473,415	1,018,969	407,995	(33,344)	(525,011)	(992,579)
CMO	18,799,294	770,216	756,491	293,003	(184,615)	(777,920)	(1,349,634)	(1,911,323)
MBS	96,099,567	3,438,434	3,841,485	3,023,933	1,213,157	(2,577,466)	(5,868,568)	(9,078,571)
Total	526,382,087	16,157,998	15,163,912	10,821,752	3,431,958	(8,353,571)	(20,543,456)	(33,144,932)
% Change		3.07%	2.88%	2.06%	0.65%	-1.59%	-3.90%	-6.30%



Avoid “Opaque” Products

- **When the moving parts are hard to ascertain the bond’s character is not well known...and therefore not well analyzed**
- **Not well traded due to lack of uniform analysis**
- **A sure-fire method of being stuck with a “high yield” illiquid portfolio**
 - ✓ **Last decade: TRPS, Alt A, subprime private label MBS**
 - **These still have not recovered and there is no visible marketplace**
 - **PLMBS trades are predicated on speculation alone**
 - ✓ **This decade: Reverse Mortgages (HECM)?**
- **Get used to having to “explain yourself”**



“Oh, heck!”

- **“HECM Lenders Can Suspend Foreclosures for 60 Days”**
 - April 17, 2014 (www.Nationalmortgagenews.com)
- HECMs are the predominant form of reverse mortgages. Foreclosures on these FHA-guaranteed loans have become a big issue because during the recession **many seniors took out HECMs as a way to pay off their regular mortgage and avoid foreclosure.**
- The Federal Housing Administration will allow lenders to suspend foreclosures on government-insured reverse mortgages for up to 60 days so the deceased borrowers' younger spouses can stay in the homes. The **AARP Foundation has sued HUD** to these stop these foreclosures, arguing HUD has a duty to protect the surviving spouses.
- HUD told the U.S. District Court for the District of Columbia judge that the FHA will be issuing a new policy soon to address the spousal issue for new HECMs. But it will take longer to address the **main issue before the court: how to protect non-borrowing spouses who are facing foreclosure now.** To get the maximum proceeds, a younger spouse's name would be removed from the title. That puts the spouse in jeopardy of losing the home when the older spouse dies. Many reverse lenders required seniors to sign documents acknowledging this risk.
 - **Does this sound familiar to anyone???? Not likely to end well. Stay away.**
 - **“fool me once, shame on you, fool me twice...”**



Private Label MBS

- **Much too late for separating the wheat from the chaff! – it's a matter of separating the chaff from the worms**
 - At least the chaff can be sold as fertilizer
 - Would you recognize a worm?
- **Nobody knows what they've got, so they keep writing down values through OTTI.**
- **Valuations are winning prizes for fiction writing**
- **Don't try to catch a falling knife**



Treasury / GSE MBS

- **GNMA and FannieMae/FreddieMac**
 - Buy **CONVENTIONAL** products
 - **ARMs: Currently Resetting / Hybrid (fixed, then float: 5/1 & 7/1)**
 - **Fixed: 10yr, 15yr, 20yr (30yr?)**
 - Consider interest rate conviction, price volatility profile and cashflow needs
 - Simple is better
 - Watch out for **PREMIUMS!** (yield reduction)
 - Be careful with **DISCOUNTS** (price volatility)
 - **Some moving parts to manage, but a reasonable mix will keep you from “blowing up” AND give you room to swap later**
- **TRADE IDEA: Sell GNMA ARM / Buy 2% debenture**
 - **Sell 1yr ARM 1.65% coupon @ 103+/ Buy 2% bullet**
 - **Take two years of coupon in premium, buy higher nominal yield and a total return candidate**



Yet...Munis are Still a Safe Buy

- **The default parade never happened**
- **New issuance is down significantly**
- **Buyers have been rewarded for staying since '08**
 - ✓ **General Obligation and Essential Purpose Revenues**
 - ✓ **Several years of consecutive gains (not 2013)**
 - ✓ **Prefer PREMIUM munis, the math is compelling**



Munis Have Relative Value

BLOOMBERG DAILY GENERIC OAS YIELDS

MONDAY CLOSE

Date **04/21/14**

Term	AAA (SECTOR 49)	AA (SECTOR 104)	A (SECTOR 159)	BAA1 (SECTOR 631)	AAA MUNICIPAL AS % OF CURRENT US GOVT.'S
1 Yr 2015	0.14	0.32	0.67	0.68	122.20
2 Yr 2016	0.27	0.46	0.87	0.88	63.39
3 Yr 2017	0.49	0.72	1.21	1.21	54.65
4 Yr 2018	0.82	1.04	1.59	1.59	60.12
5 Yr 2019	1.17	1.39	2.03	2.03	67.00
7 Yr 2021	1.91	2.07	2.82	2.82	83.28
9 Yr 2023	2.49	2.60	3.38	3.39	96.92
10 Yr 2024	2.79	2.90	3.64	3.68	103.08
12 Yr 2026	3.27	3.40	3.96	4.09	115.70
14 Yr 2028	3.60	3.82	4.24	4.39	122.20
15 Yr 2029	3.70	3.96	4.40	4.53	123.10
17 Yr 2031	3.84	4.17	4.61	4.76	122.87
19 Yr 2033	3.99	4.31	4.90	4.99	122.96
20 Yr 2034	4	4.37	5.06	5.13	121.04
25 Yr 2039	4.08	4.78	5.58	5.61	119.90
30 Yr 2044	4.17	4.89	5.63	5.65	119.10



Munis Have Relative Value

MUNI BOND YIELD CURVE

Term	Jan 2 2014 AAA Credit	April 21 2014 AAA Credit	Change
1 Yr 2015	0.170	0.140	-0.030
2 Yr 2016	0.340	0.270	-0.070
3 Yr 2017	0.570	0.490	-0.080
4 Yr 2018	0.910	0.820	-0.090
5 Yr 2019	1.370	1.170	-0.200
7 Yr 2021	2.120	1.910	-0.210
9 Yr 2023	2.700	2.490	-0.210
10 Yr 2024	2.960	2.790	-0.170
12 Yr 2026	3.500	3.270	-0.230
14 Yr 2028	3.860	3.600	-0.260
15 Yr 2029	3.980	3.700	-0.280
17 Yr 2031	4.150	3.840	-0.310
19 Yr 2033	4.350	3.990	-0.360
20 Yr 2034	4.370	4.000	-0.370
25 Yr 2039	4.390	4.080	-0.310
30 Yr 2044	4.400	4.170	-0.230

**US Treasury Curve
01/01/14**

	Description	Yield
1M	B 0 01/30/14 Govt	0.013
3M	B 0 04/03/14 Govt	0.068
6M	B 0 07/03/14 Govt	0.089
1Y	B 0 12/11/14 Govt	0.114
2Y	T 0.25 12/31/15 Govt	0.382
3Y	T 0.625 12/15/16 Govt	0.766
5Y	T 1.5 12/31/18 Govt	1.743
7Y	T 2.375 12/31/20 Govt	2.452
10Y	T 2.75 11/15/23 Govt	3.029
30Y	T 3.75 11/15/43 Govt	3.969

**US Treasury Curve
04/21/14**

	Description	Yield	CHANGE
	B 0 05/15/14 Govt	0.018	0.005
	B 0 07/17/14 Govt	0.030	-0.038
	B 0 10/16/14 Govt	0.048	-0.041
	B 0 04/02/15 Govt	0.094	-0.020
	T 0.375 03/31/16 Govt	0.393	0.011
	T 0.875 04/15/17 Govt	0.898	0.132
	T 1.625 03/31/19 Govt	1.722	-0.021
	T 2.25 03/31/21 Govt	2.293	-0.159
	T 2.75 02/15/24 Govt	2.716	-0.313
	T 3.625 02/15/44 Govt	3.523	-0.446





Example: Lone Star Cmty Clg, TX

- Aa1/AAA Moody's / S&P
- Plain vanilla GO bond, Tax-free, Bank Eligible
 - Harris & Montgomery Counties (Houston to Conroe)
- 5% 8-15-2027 / 2019 117.792 1.50% / 3.33%
 - ✓ 1.50% ytc = 2.45% TEY / 3.33% ytc = 5.48% TEY
 - ✓ 5% coupon @ 100 (if not called) = 8.245% TEY

Bank Qualified Calculator PAGE 1 OF 2

ISSUER: LONE STAR CLG SY SIZE: 144520 STATE: TX MD/S&P: NR/AAA

COF: 0.25% FED TAX: 39.60% STATE TAX: 0.00% TEFRA: 1.98 bps

YIELD CURVE # 345 Bank Qualified AAA CURVE DT 4/21/14 SHIFT: 0

	1yr	2yr	3yr	4yr	5yr	7yr	10yr	15yr	20yr	30yr
FMC Curve:	0.30	0.41	0.56	0.82	1.16	1.81	2.56	3.58	3.88	4.99

SCALE N

MATURITY	PAR/SIZE	COUPON	YIELD	INTERPOLATED TSY YLD.	PERCENT TSY YLD	EQUIVALENT YLDS	TAXABLE EQUIVALENT SPREADS			
							WITH TEFRA	STATE + TEFRA	WITHOUT TEFRA	FMC WITH TEFRA
8/15/19	2820	3.750	1.500	1.835	81.76	2.451	61.6	61.6	64.9	22.6
8/15/27	7400	5.000	3.330	2.973	112.02	5.480	250.8	250.8	254.1	235.6



Why Prefer Premiums?

- Lower Coupons appreciate more when rates fall
- Higher Coupons depreciate less when rates rise
- So..If you *knew* rates would fall you wouldn't want premiums
- But..If you *think/guess/fear/hope* rates are rising, you want the price protection that premiums offer

Bond Math

- **Premiums = Higher Coupons = Lower Duration**
 - Which means less price depreciation than par or discount priced bonds as rates rise

Market Math

- **Markets will price for the De Minimus rule**
 - Which may tax non-OID discounts as ordinary income (vs. the less onerous cap gains rate)
 - So higher coupons will have less tendency to fall for TAX reasons



DeMinimus Rule

- Determines how a market discount will be taxed (cap gains or ordinary)
- If market discount is > 0.25 pt per year to maturity, the entire discount is taxed as **ordinary income (39.6%)**
- If market discount is < 0.25 pt per year to maturity, the entire discount is taxed at the **net capital gains rate (23.8%)**
 - ✓ A perpetual “tax spiral” results
 - The greater the discount, the greater the taxable event
 - To compensate for the resulting tax, the discount deepens
 - DeMinimus bonds fall in price to a greater degree than non DeMinimus bonds.
 - Premiums are NEVER impacted
- While most taxpaying financial institutions record gains and accretions as ordinary income (cap gains doesn't apply), managers need to understand market forces which will impact their fixed income holdings (tax free or otherwise)



Recognizing the Trouble

NEWTON MA		CUSIP 653063Z26	
Settle	04/24/14	Ticker	NWT
Cpn	2.250	Maturity	02/15/2025
Dated	04/24/2013	State	MA
Price	90.850	To Maturity	To Worst
Concession	0.000	02/15/2025	02/15/2025 @ 100.000
Price less Concession	90.850	Yield	Yield
Yield (no Concession)		% Tsy	% Tsy
Yield with Concession		3.261	3.261
After Tax Yield (Inc 43.40 CG 23.80 OID 0.00)		117.9	117.9
Taxable Equivalent Yield @ 43.40		3.261	3.261
Effective Yield @ 3.261		107.7	107.7
PV 0.01		2.978	2.978
Modified Duration		5.261	5.261
		3.934	3.934
		0.08568	0.08568
		9.386	9.386
Issue prc = 98.565(2.390). Oid bond purchased with mkt discount.			

Newton MA
2.25% coupon
Feb 2025 maturity
3.26% Taxfree
5.26% Tax Equiv Yld
MARKET DISCOUNT

THURSTON CNTY WA FIRE PROT DIST #11		CUSIP 88610LBV1	
Settle	05/01/14	Ticker	THUEAC
Cpn	3.000	Maturity	12/01/2025
Dated	05/01/2014	State	WA
Price	97.500	To Maturity	To Worst
Concession	0.000	12/01/2025	12/01/2025 @ 100.000
Price less Concession	97.500	Yield	Yield
Yield (no Concession)		% Tsy	% Tsy
Yield with Concession		3.261	3.261
After Tax Yield (Inc 43.40 CG 23.80 OID 0.00)		115.4	115.4
Taxable Equivalent Yield @ 43.40		3.261	3.261
Effective Yield @ 3.261		113.8	113.8
PV 0.01		3.217	3.217
Modified Duration		5.684	5.684
		3.924	3.924
		0.09444	0.09444
		9.686	9.686
Issue prc = 103.977(2.600). Non OID bond with mkt discount. Effective mkt discount 0 due to "de mini..."			

Thurston WA
3.00% coupon
Dec 2025 maturity
3.26% Taxfree
5.68% Tax Equiv Yld
NO MARKET DISCOUNT



Pricing for the Trouble

NEWTON MA				CUSIP 653063Z26							
Settle	04/24/14	Ticker	NWT	Cpn	2.250	Maturity	02/15/2025	Dated	04/24/2013	State	MA
Price	87.951	To Maturity	02/15/2025	To	Worst						
Concession	0.000	Yield		Yield							
Price less Concession	87.951	% Tsy	130.4	% Tsy	130.4						
Yield (no Concession)			3.606		3.606						
Yield with Concession			3.606		3.606						
After Tax Yield (Inc 43.40 CG 23.80 OID 0.00)			3.215		3.215						
Taxable Equivalent Yield @ 43.40			5.680		5.680						
Effective Yield @ 3.606			4.369		4.369						
PV 0.01			0.08258		0.08258						
Modified Duration			9.344		9.344						
Issue prc = 98.565(2.390). Oid bond purchased with mkt discount.											

Newton MA

2.25% coupon

Feb 2025 maturity

3.60% Taxfree

5.68% Tax Equiv Yld

MARKET DISCOUNT

Price falls 2.9pts to correct

THURSTON CNTY WA FIRE PROT DIST #11				CUSIP 88610LBV1							
Settle	05/01/14	Ticker	THUFAC	Cpn	3.000	Maturity	12/01/2025	Dated	05/01/2014	State	WA
Price	97.500	To Maturity	12/01/2025	To	Worst						
Concession	0.000	Yield		Yield							
Price less Concession	97.500	% Tsy	115.4	% Tsy	115.4						
Yield (no Concession)			3.261		3.261						
Yield with Concession			3.261		3.261						
After Tax Yield (Inc 43.40 CG 23.80 OID 0.00)			3.217		3.217						
Taxable Equivalent Yield @ 43.40			5.684		5.684						
Effective Yield @ 3.261			3.924		3.924						
PV 0.01			0.09444		0.09444						
Modified Duration			9.686		9.686						
Issue prc = 103.977(2.600). Non OID bond with mkt discount. Effective mkt discount 0 due to "de mini..."											

Thurston WA

3.00% coupon

Dec 2025 maturity

3.26% Taxfree

5.68% Tax Equiv Yld

NO MARKET DISCOUNT



Two Important Takeaways

- 1) “High(er) Yield” can be achieved with active management of plain vanilla products – which is a departure from historical norms. The dual benefits are easy ownership and lower future give up yield (better liquidity, higher price).

- 2) Swap low market yield (high price) to higher yield
 - Simple method of converting gain to current income
 - NOT POSSIBLE if you don’t have lower market yield (higher price) products (ie: if you’re always chasing yield)



Does Simple Resonate With You?

It Should if you're interested in...

- **An attractive risk/reward profile**
- **Income potential**
- **Efficient markets**
- **High Liquidity**
- **Low stress exams**
- **Never having to “explain yourself” to your BOD**
- **Self-correcting Interest Rate Risk problems**
- **Profitable swap opportunities**

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