The Morning Email: TERM TEDS & Dirty TEDS

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Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days.

Want something added? Let me know: jgoulding@ghco.com

Quotes

	Last Decimal	Last 32	Last Yield*	MDuration
F.I. Futures and Cash				
ZT	103.4438	103.142	3.996	1.88
ZF	107.0625	107.020	4.174	3.93
ZN	109.5469	109.175	4.334	5.85
2y	100.000	100.0000	3.996	1.88
5y	100.141	100.0450	4.218	4.44
10y	101.703	101.2250	4.531	7.77

Eurodollars (ED)

	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ07	95.035	4.965	73	0.199	DEC	White Pack
EDAH08	95.345	4.655	164	0.449	MAR	
EDAM08	95.515	4.485	255	0.698	JUN	
EDAU08	95.595	4.405	346	0.947	SEP	
EDAZ08	95.600	4.400	437	1.197	DEC	Red Pack
EDAH09	95.555	4.445	528	1.446	MAR	
EDAM09	95.460	4.540	619	1.695	JUN	
EDAU09	95.360	4.640	710	1.945	SEP	
EDAZ09	95.270	4.730	801	2.194	DEC	Green Pack
EDAH10	95.200	4.800	892	2.443	MAR	
EDAM10	95.135	4.865	983	2.692	JUN	
EDAU10	95.090	4.910	1074	2.942	SEP	
EDAZ10	95.010	4.990	1165	3.191	DEC	Blue Pack
EDAH11	94.985	5.015	1256	3.440	MAR	
EDAM11	94.930	5.070	1347	3.690	JUN	
EDAU11	94.865	5.135	1445	3.958	SEP	
EDAZ11	94.820	5.180	1536	4.208	DEC	Gold Pack
EDAH12	94.780	5.220	1627	4.457	MAR	
EDAM12	94.715	5.285	1718	4.706	JUN	
EDAU12	94.675	5.325	1809	4.956	SEP	

	Last Yield	Net Yield	Last Price	
Q.ED.White	4.747	-3.125	9537.250	Pack Prices
Q.ED.Red	4.621	-4.125	9549.375	
Q.ED.Green	4.953	-2.875	9517.375	
Q.ED.Blue	5.188	-0.875	9494.750	
Q.ED.Gold		0.000	9475.375	

Notes
Futures use CTD for Last Yield
Mduration = Modified Macaulay Duration
#VALUE! = no quote being provided by exchange.

Red pack is a 2yr proxy
Gold pack is a 10 yr proxy
Red pack/Gold pack is a 2/10 proxy
Blue/Gold is a 5/10 proxy

Jim Goulding, jgoulding@ghco.com

Overview of Hedging

How many ways can you hedge the TED? Let me count…there's lots and lots, like:

1 Regression
2 Engineered
3 Strip with and without Stubs
4 Convexity Bias
5 Weighted
6 Unweighted
and more…

Most of us are interested in the *unweighted hedge* which is simply a curve trade hedge.
There are so many ways to hedge the TED trade that I can't possibly list them all.

If you email me and ask for a specific hedge, I'll get it to you.
jgoulding@ghco.com

Eurodollar Color Codes for Individual Year Strips:

Color	Year	Contracts
White	One	1 – 4
Red	Two	5 – 8
Green	Three	9 – 12
Blue	Four	13 – 16
Gold	Five	17 – 20
Purple	Six	21 – 24
Orange	Seven	25 – 28
Pink	Eight	29 – 32
Silver	Nine	33 – 36
Copper	Ten	37 – 40

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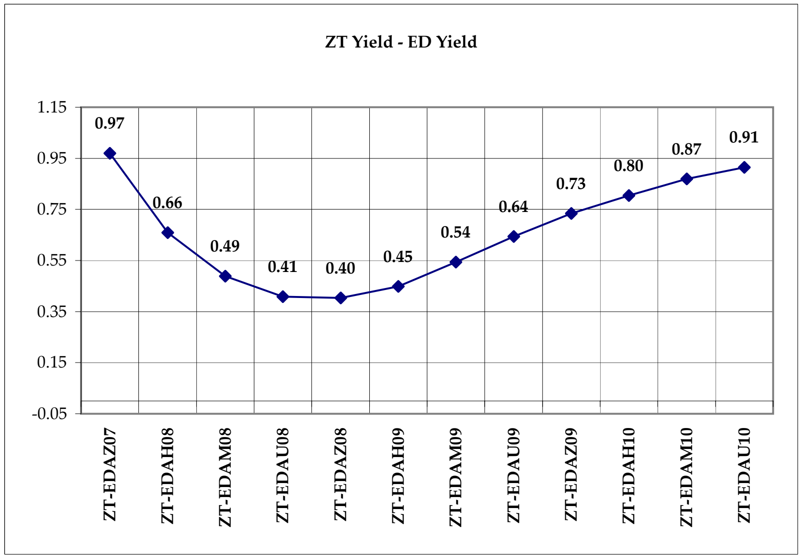
Dirty TED: ZT vs Eurodollar Contracts

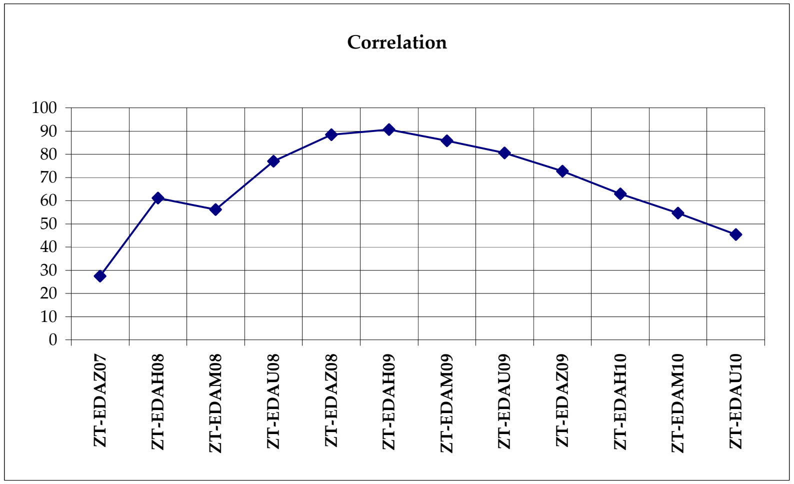
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	8.409	0.97	ZT-EDAZ07	27.487
EDAH08	8.099	0.66	ZT-EDAH08	61.116
EDAM08	7.929	0.49	ZT-EDAM08	56.188
EDAU08	7.849	0.41	ZT-EDAU08	76.949
EDAZ08	7.844	0.40	ZT-EDAZ08	88.414
EDAH09	7.889	0.45	ZT-EDAH09	90.676
EDAM09	7.984	0.54	ZT-EDAM09	85.741
EDAU09	8.084	0.64	ZT-EDAU09	80.505
EDAZ09	8.174	0.73	ZT-EDAZ09	72.752
EDAH10	8.244	0.80	ZT-EDAH10	62.889
EDAM10	8.309	0.87	ZT-EDAM10	54.596
EDAU10	8.354	0.91	ZT-EDAU10	45.416

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days**



	GE Duration as Fraction of year	ZT Duration	Spread Duration	
EDAZ07	0.199	1.88	1.68	ZT-EDAZ07
EDAH08	0.449	1.88	1.43	ZT-EDAH08
EDAM08	0.698	1.88	1.18	ZT-EDAM08
EDAU08	0.947	1.88	0.94	ZT-EDAU08
EDAZ08	1.197	1.88	0.69	ZT-EDAZ08
EDAH09	1.446	1.88	0.44	ZT-EDAH09
EDAM09	1.695	1.88	0.19	ZT-EDAM09
EDAU09	1.945	1.88	(0.06)	ZT-EDAU09
EDAZ09	2.194	1.88	(0.31)	ZT-EDAZ09
EDAH10	2.443	1.88	(0.56)	ZT-EDAH10
EDAM10	2.692	1.88	(0.81)	ZT-EDAM10
EDAU10	2.942	1.88	(1.06)	ZT-EDAU10

The farther away from 0 the spread duration is
the riskier the trade.



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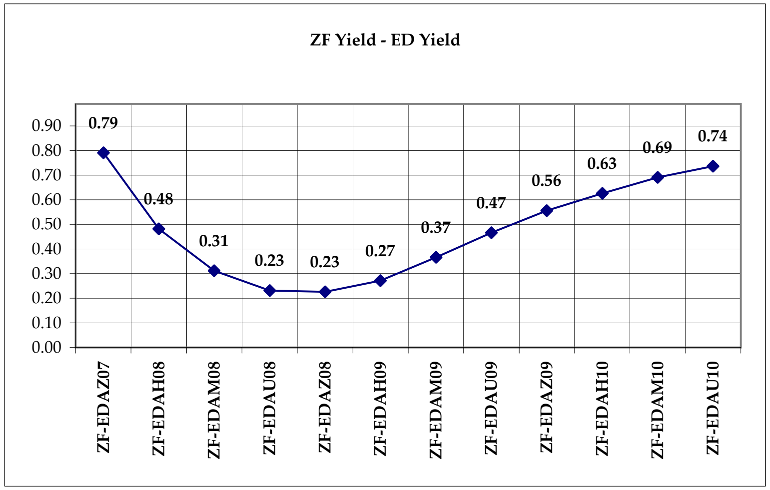
Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	12.03	0.79	ZF-EDAZ07	-51.147
EDAH08	11.72	0.48	ZF-EDAH08	-52.184
EDAM08	11.55	0.31	ZF-EDAM08	-20.834
EDAU08	11.47	0.23	ZF-EDAU08	16.877
EDAZ08	11.46	0.23	ZF-EDAZ08	48.257
EDAH09	11.51	0.27	ZF-EDAH09	72.058
EDAM09	11.60	0.37	ZF-EDAM09	82.271
EDAU09	11.70	0.47	ZF-EDAU09	85.903
EDAZ09	11.79	0.56	ZF-EDAZ09	89.904
EDAH10	11.86	0.63	ZF-EDAH10	91.683
EDAM10	11.93	0.69	ZF-EDAM10	93.831
EDAU10	11.97	0.74	ZF-EDAU10	95.133

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days**



	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAZ07	0.199	3.93	3.73	ZF-EDAZ07
EDAH08	0.449	3.93	3.48	ZF-EDAH08
EDAM08	0.698	3.93	3.23	ZF-EDAM08
EDAU08	0.947	3.93	2.98	ZF-EDAU08
EDAZ08	1.197	3.93	2.74	ZF-EDAZ08
EDAH09	1.446	3.93	2.49	ZF-EDAH09
EDAM09	1.695	3.93	2.24	ZF-EDAM09
EDAU09	1.945	3.93	1.99	ZF-EDAU09
EDAZ09	2.194	3.93	1.74	ZF-EDAZ09
EDAH10	2.443	3.93	1.49	ZF-EDAH10
EDAM10	2.692	3.93	1.24	ZF-EDAM10
EDAU10	2.942	3.93	0.99	ZF-EDAU10

The farther away from 0 the spread duration is
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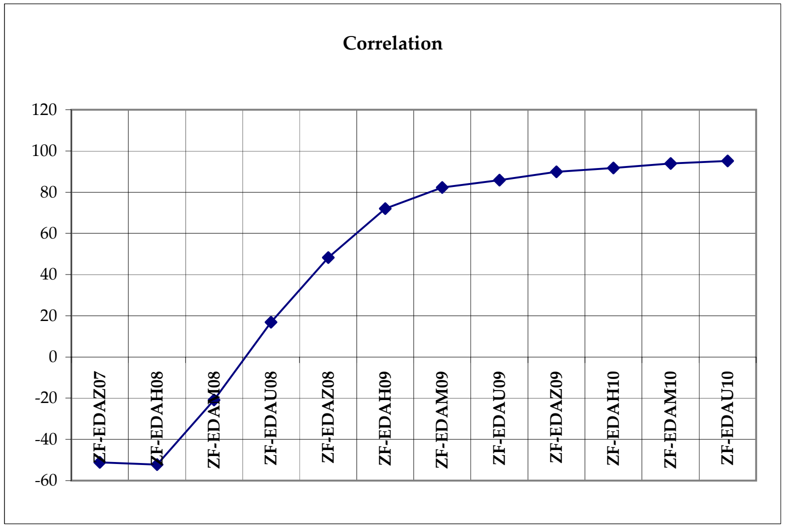
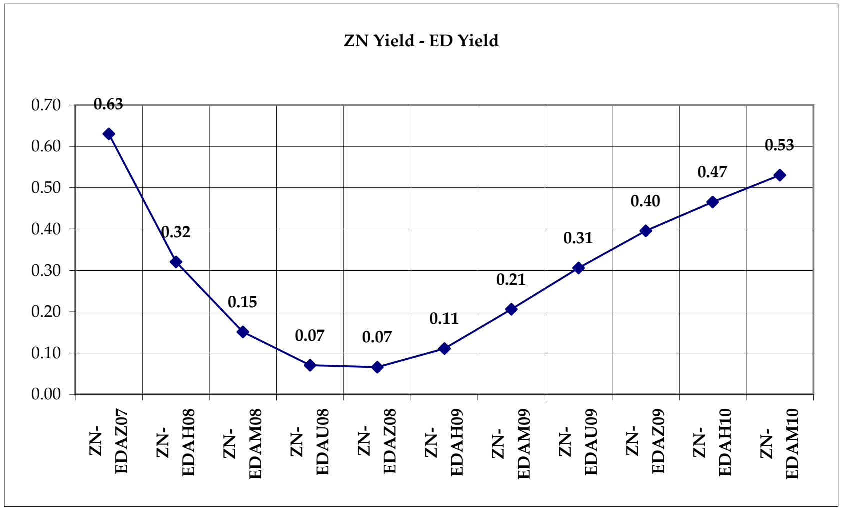


Dirty TED: ZN vs Eurodollar Contracts

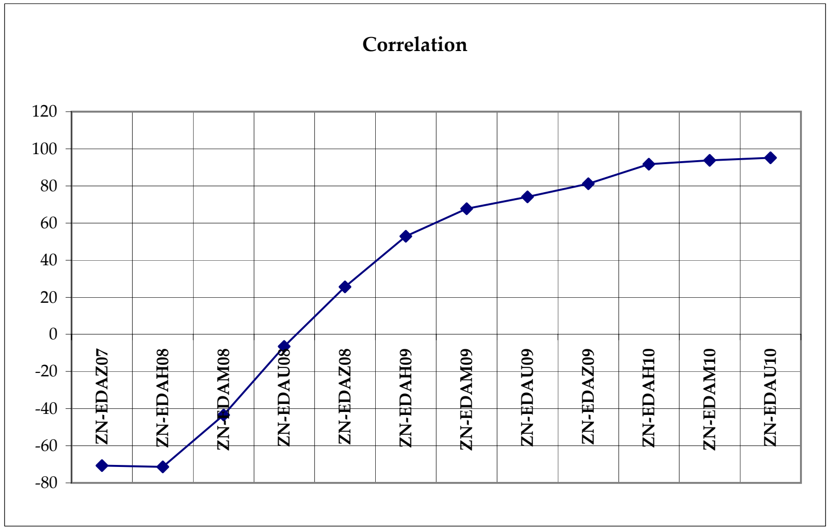
	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	14.51	0.63	ZN-EDAZ07	-70.63
EDAH08	14.20	0.32	ZN-EDAH08	-71.37
EDAM08	14.03	0.15	ZN-EDAM08	-43.47
EDAU08	13.95	0.07	ZN-EDAU08	-6.57
EDAZ08	13.95	0.07	ZN-EDAZ08	25.59
EDAH09	13.99	0.11	ZN-EDAH09	52.94
EDAM09	14.09	0.21	ZN-EDAM09	67.65
EDAU09	14.19	0.31	ZN-EDAU09	74.02
EDAZ09	14.28	0.40	ZN-EDAZ09	81.14
EDAH10	14.35	0.47	ZN-EDAH10	91.68
EDAM10	14.41	0.53	ZN-EDAM10	93.83
EDAU10	14.46	0.58	ZN-EDAU10	95.13

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days**



	GE Duration as Fraction of year	ZN Duration	Spread Duration	
EDAZ07	0.199	5.85	5.65	ZN-EDAZ07
EDAH08	0.449	5.85	5.40	ZN-EDAH08
EDAM08	0.698	5.85	5.15	ZN-EDAM08
EDAU08	0.947	5.85	4.90	ZN-EDAU08
EDAZ08	1.197	5.85	4.65	ZN-EDAZ08
EDAH09	1.446	5.85	4.41	ZN-EDAH09
EDAM09	1.695	5.85	4.16	ZN-EDAM09
EDAU09	1.945	5.85	3.91	ZN-EDAU09
EDAZ09	2.194	5.85	3.66	ZN-EDAZ09
EDAH10	2.443	5.85	3.41	ZN-EDAH10
EDAM10	2.692	5.85	3.16	ZN-EDAM10
EDAU10	2.942	5.85	2.91	ZN-EDAU10

The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.97	0.97	2y-EDAZ07	-23.746
EDAH08	4.66	0.66	2y-EDAH08	-25.282
EDAM08	4.49	0.49	2y-EDAM08	-51.281
EDAU08	4.41	0.41	2y-EDAU08	-71.998
EDAZ08	4.40	0.40	2y-EDAZ08	-51.281
EDAH09	4.44	0.45	2y-EDAH09	-87.638
EDAM09	4.54	0.54	2y-EDAM09	-84.683
EDAU09	4.64	0.64	2y-EDAU09	-78.076
EDAZ09	4.73	0.73	2y-EDAZ09	-68.948
EDAH10	4.80	0.80	2y-EDAH10	-59.283
EDAM10	4.86	0.87	2y-EDAM10	-51.521
EDAU10	4.91	0.91	2y-EDAU10	-44.330

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
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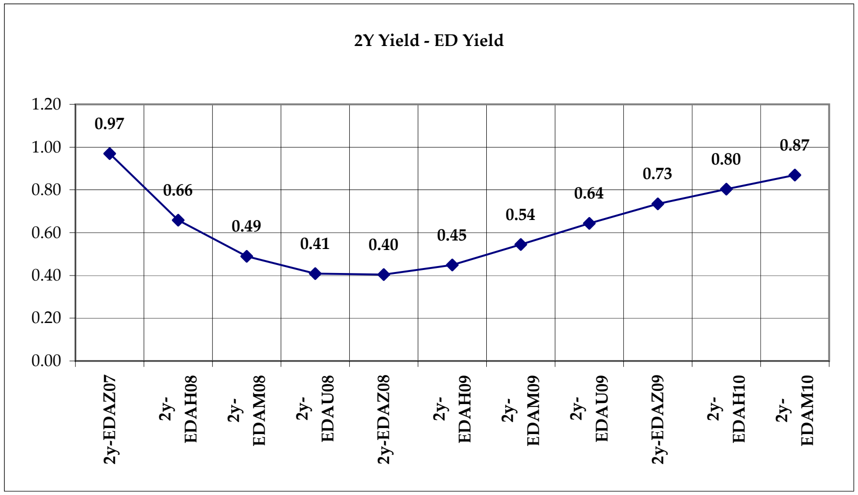
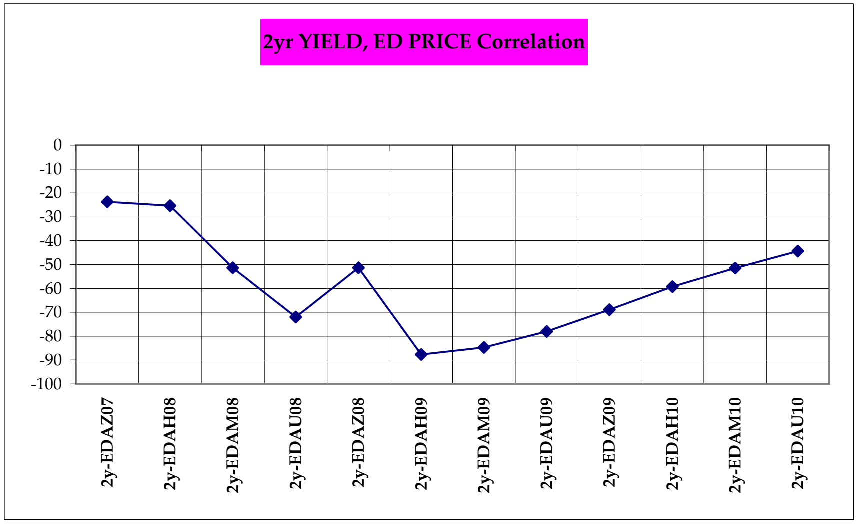
These are measuring YIELD correlations.



	GE Duration as Fraction of year	2Y Duration	Spread Duration	
EDAZ07	0.199	1.88	1.68	2y-EDAZ07
EDAH08	0.449	1.88	1.43	2y-EDAH08
EDAM08	0.698	1.88	1.18	2y-EDAM08
EDAU08	0.947	1.88	0.94	2y-EDAU08
EDAZ08	1.197	1.88	0.69	2y-EDAZ08
EDAH09	1.446	1.88	0.44	2y-EDAH09
EDAM09	1.695	1.88	0.19	2y-EDAM09
EDAU09	1.945	1.88	(0.06)	2y-EDAU09
EDAZ09	2.194	1.88	(0.31)	2y-EDAZ09
EDAH10	2.443	1.88	(0.56)	2y-EDAH10
EDAM10	2.692	1.88	(0.81)	2y-EDAM10
EDAU10	2.942	1.88	(1.06)	2y-EDAU10

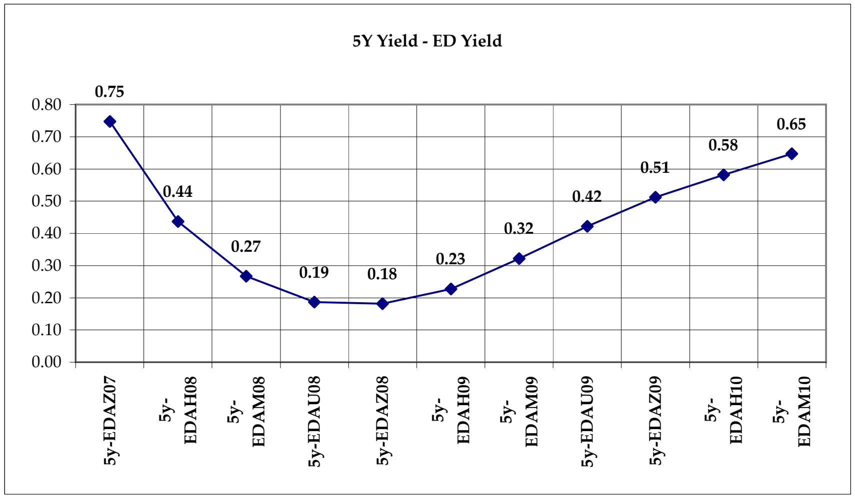
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 5y vs Eurodollar Contracts

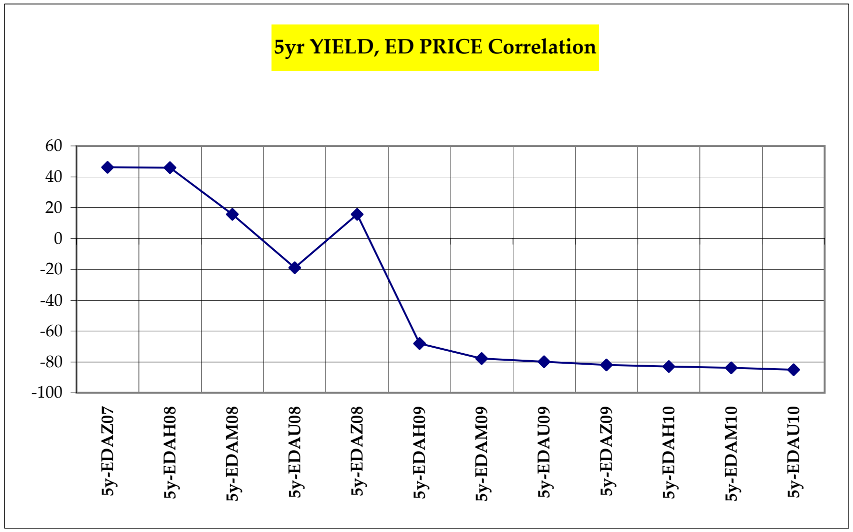
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	5.11	0.75	5y-EDAZ07	46.121
EDAH08	4.80	0.44	5y-EDAH08	45.970
EDAM08	4.63	0.27	5y-EDAM08	15.692
EDAU08	4.55	0.19	5y-EDAU08	-18.916
EDAZ08	4.54	0.18	5y-EDAZ08	15.692
EDAH09	4.59	0.23	5y-EDAH09	-68.019
EDAM09	4.68	0.32	5y-EDAM09	-77.835
EDAU09	4.78	0.42	5y-EDAU09	-79.988
EDAZ09	4.87	0.51	5y-EDAZ09	-81.884
EDAH10	4.94	0.58	5y-EDAH10	-82.920
EDAM10	5.01	0.65	5y-EDAM10	-83.866
EDAU10	5.05	0.69	5y-EDAU10	-85.119

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days**
These are measuring YIELD correlations.



	GE Duration as Fraction of year	5Y Duration	Spread Duration	
EDAZ07	0.199	4.44	4.24	5y-EDAZ07
EDAH08	0.449	4.44	3.99	5y-EDAH08
EDAM08	0.698	4.44	3.74	5y-EDAM08
EDAU08	0.947	4.44	3.49	5y-EDAU08
EDAZ08	1.197	4.44	3.25	5y-EDAZ08
EDAH09	1.446	4.44	3.00	5y-EDAH09
EDAM09	1.695	4.44	2.75	5y-EDAM09
EDAU09	1.945	4.44	2.50	5y-EDAU09
EDAZ09	2.194	4.44	2.25	5y-EDAZ09
EDAH10	2.443	4.44	2.00	5y-EDAH10
EDAM10	2.692	4.44	1.75	5y-EDAM10
EDAU10	2.942	4.44	1.50	5y-EDAU10

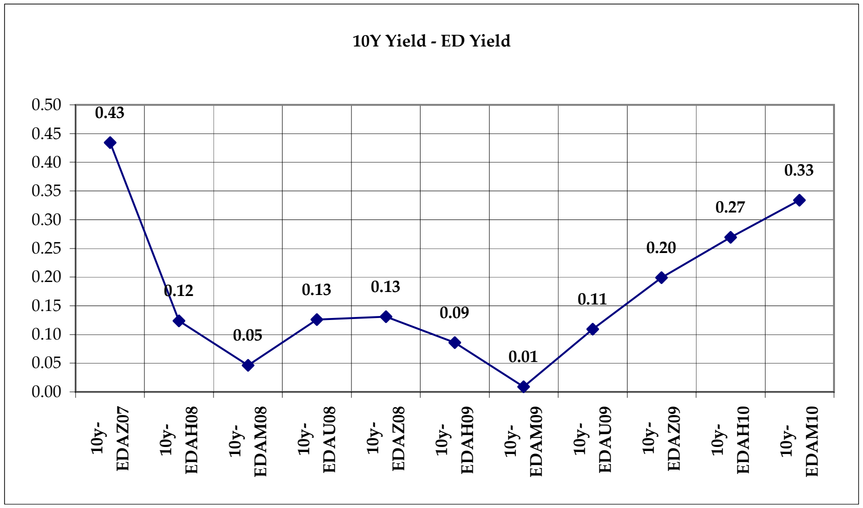
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 10y vs Eurodollar Contracts

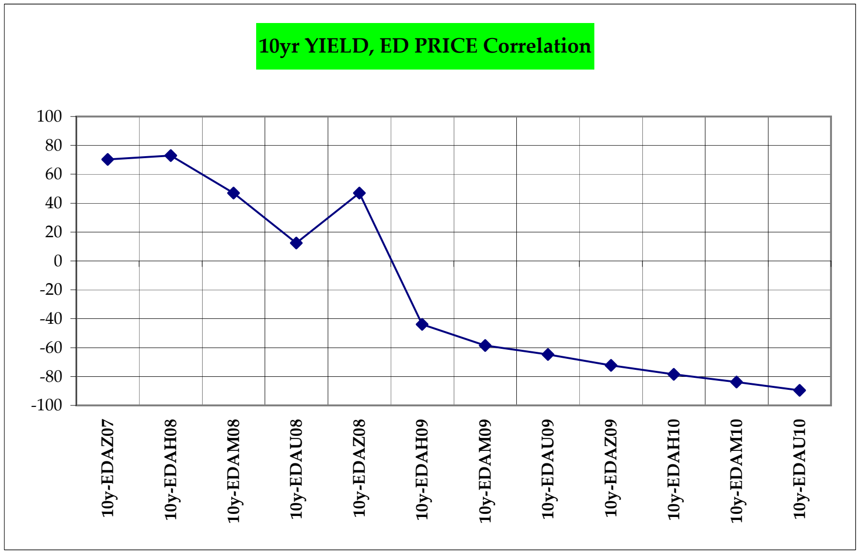
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	5.11	0.43	10y-EDAZ07	70.382
EDAH08	4.80	0.12	10y-EDAH08	72.993
EDAM08	4.63	0.05	10y-EDAM08	46.979
EDAU08	4.55	0.13	10y-EDAU08	12.375
EDAZ08	4.54	0.13	10y-EDAZ08	46.979
EDAH09	4.59	0.09	10y-EDAH09	-43.890
EDAM09	4.68	0.01	10y-EDAM09	-58.631
EDAU09	4.78	0.11	10y-EDAU09	-64.852
EDAZ09	4.87	0.20	10y-EDAZ09	-72.259
EDAH10	4.94	0.27	10y-EDAH10	-78.547
EDAM10	5.01	0.33	10y-EDAM10	-83.870
EDAU10	5.05	0.38	10y-EDAU10	-89.570

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days**
These are measuring YIELD correlations.



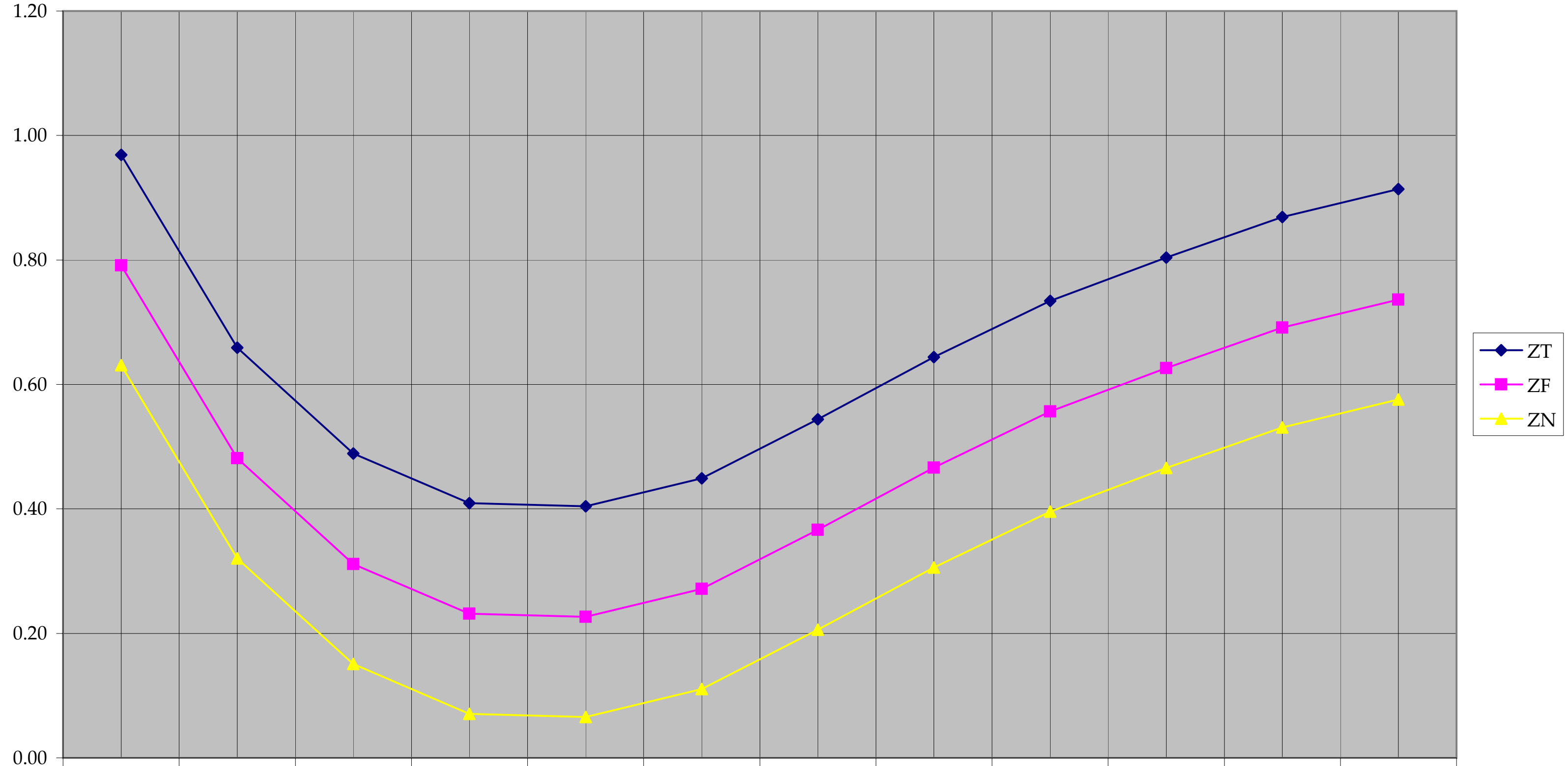
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAZ07	0.199	7.77	7.57	10y-EDAZ07
EDAH08	0.449	7.77	7.32	10y-EDAH08
EDAM08	0.698	7.77	7.07	10y-EDAM08
EDAU08	0.947	7.77	6.82	10y-EDAU08
EDAZ08	1.197	7.77	6.58	10y-EDAZ08
EDAH09	1.446	7.77	6.33	10y-EDAH09
EDAM09	1.695	7.77	6.08	10y-EDAM09
EDAU09	1.945	7.77	5.83	10y-EDAU09
EDAZ09	2.194	7.77	5.58	10y-EDAZ09
EDAH10	2.443	7.77	5.33	10y-EDAH10
EDAM10	2.692	7.77	5.08	10y-EDAM10
EDAU10	2.942	7.77	4.83	10y-EDAU10

The farther away from 0 the spread duration is the riskier the trade.



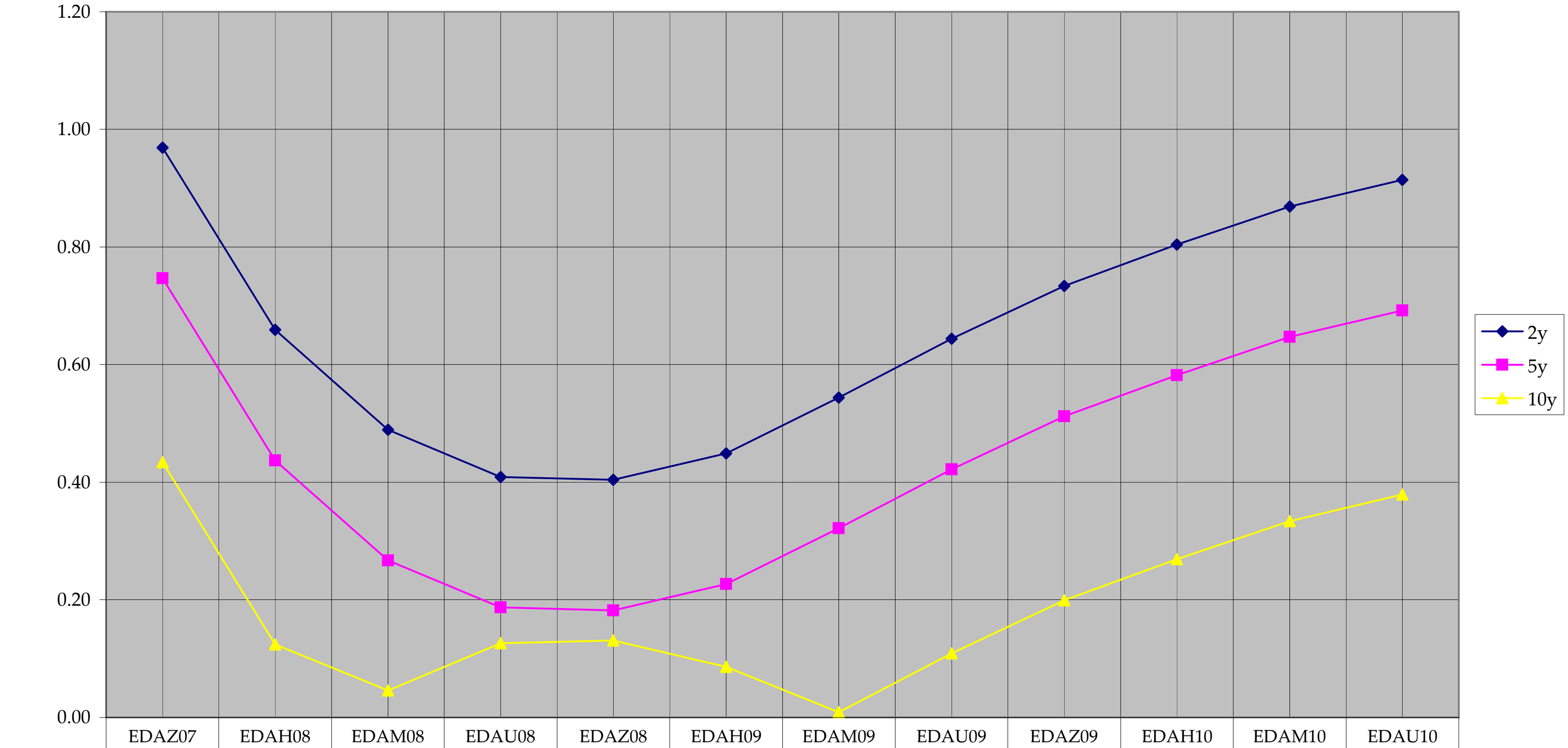
Dirty TED Curve

Chart values show the differences between ED contract and Treasury Futures conctract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



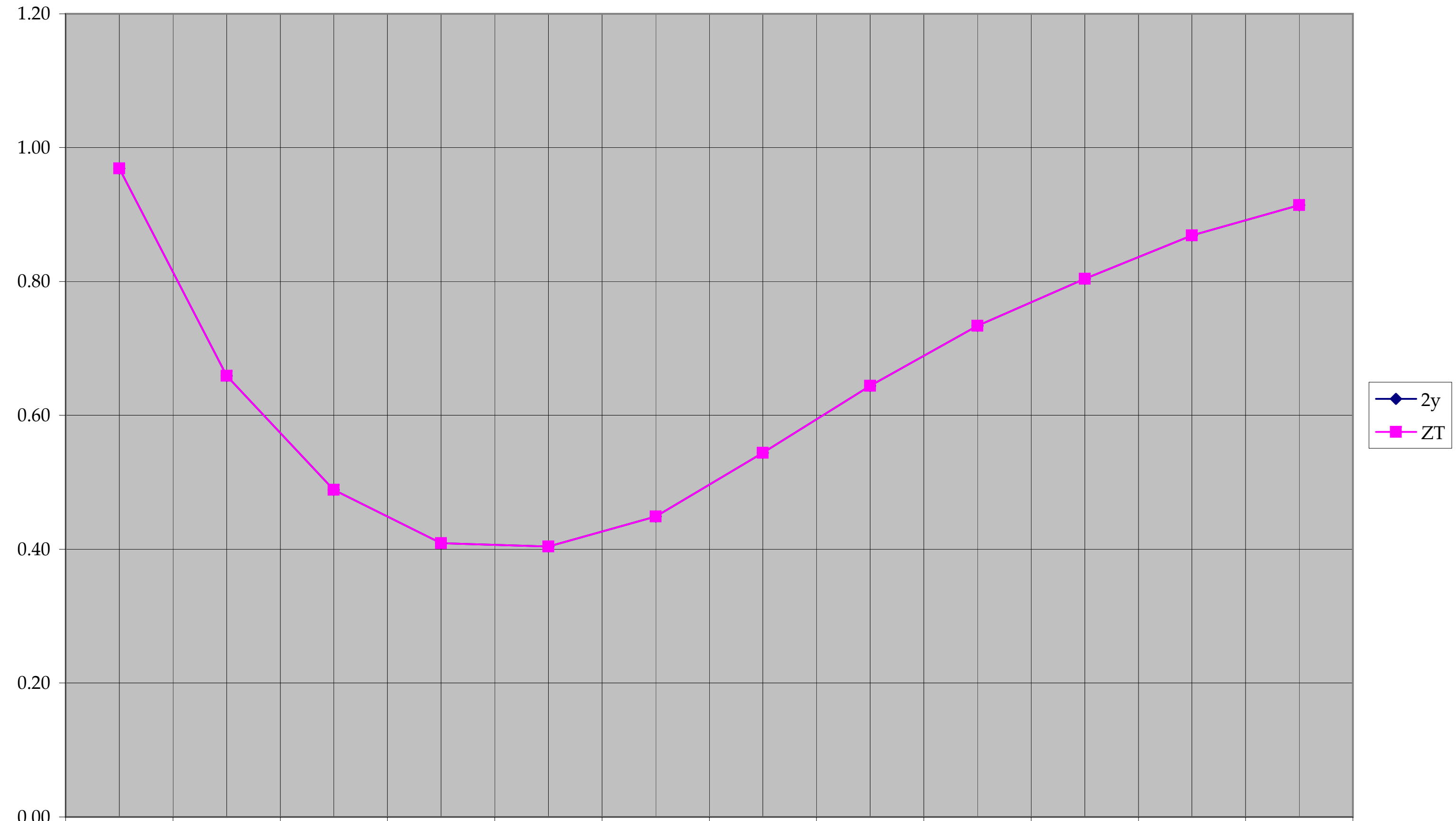
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
ZT	0.97	0.66	0.49	0.41	0.40	0.45	0.54	0.64	0.73	0.80	0.87	0.91
ZF	0.79	0.48	0.31	0.23	0.23	0.27	0.37	0.47	0.56	0.63	0.69	0.74
ZN	0.63	0.32	0.15	0.07	0.07	0.11	0.21	0.31	0.40	0.47	0.53	0.58

Chart values show the differences between ED contract and Treasury Cash conctract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



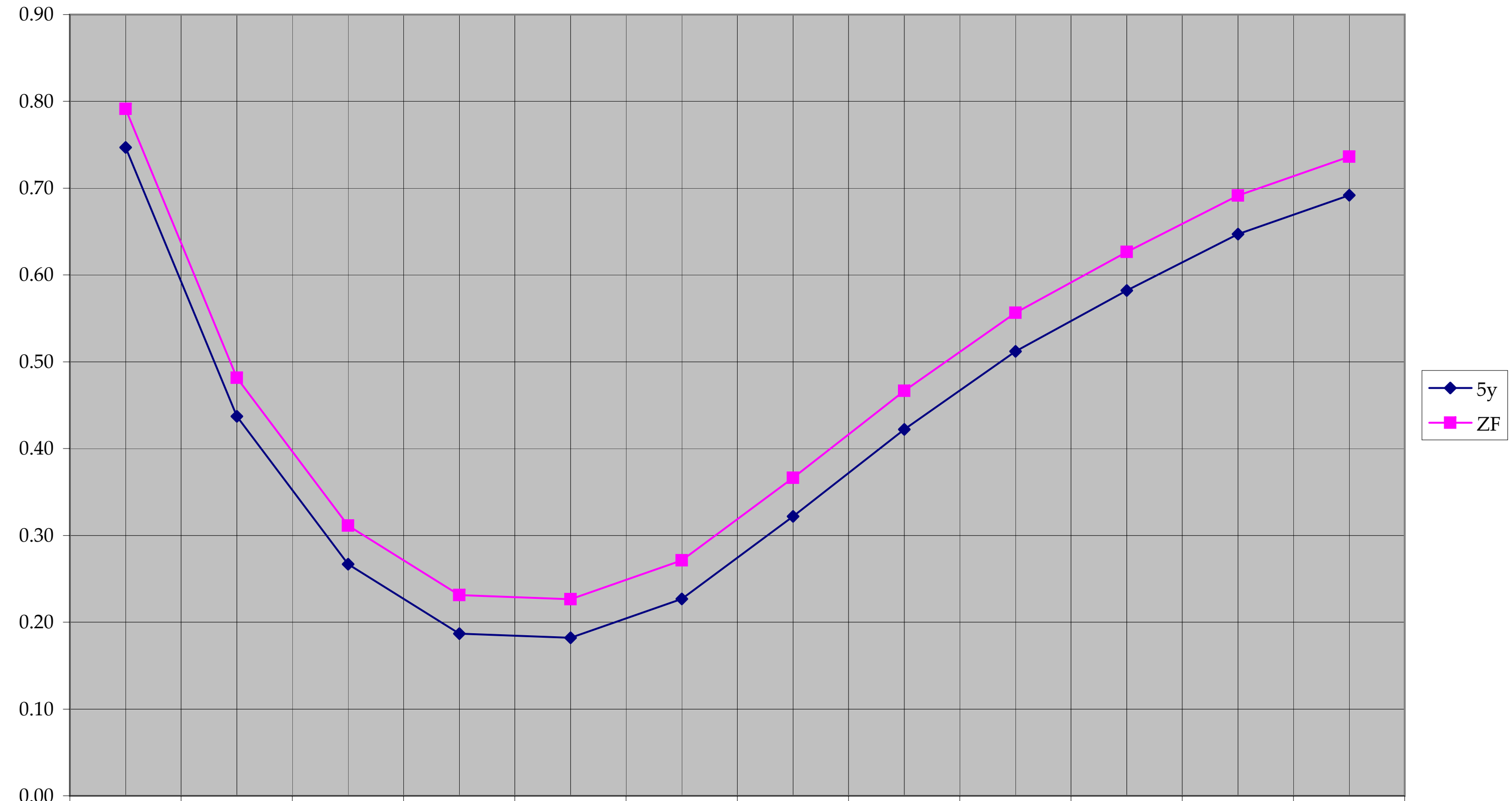
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
2y	0.97	0.66	0.49	0.41	0.40	0.45	0.54	0.64	0.73	0.80	0.87	0.91
5y	0.75	0.44	0.27	0.19	0.18	0.23	0.32	0.42	0.51	0.58	0.65	0.69
10y	0.43	0.12	0.05	0.13	0.13	0.09	0.01	0.11	0.20	0.27	0.33	0.38

2y Basis TED Curve



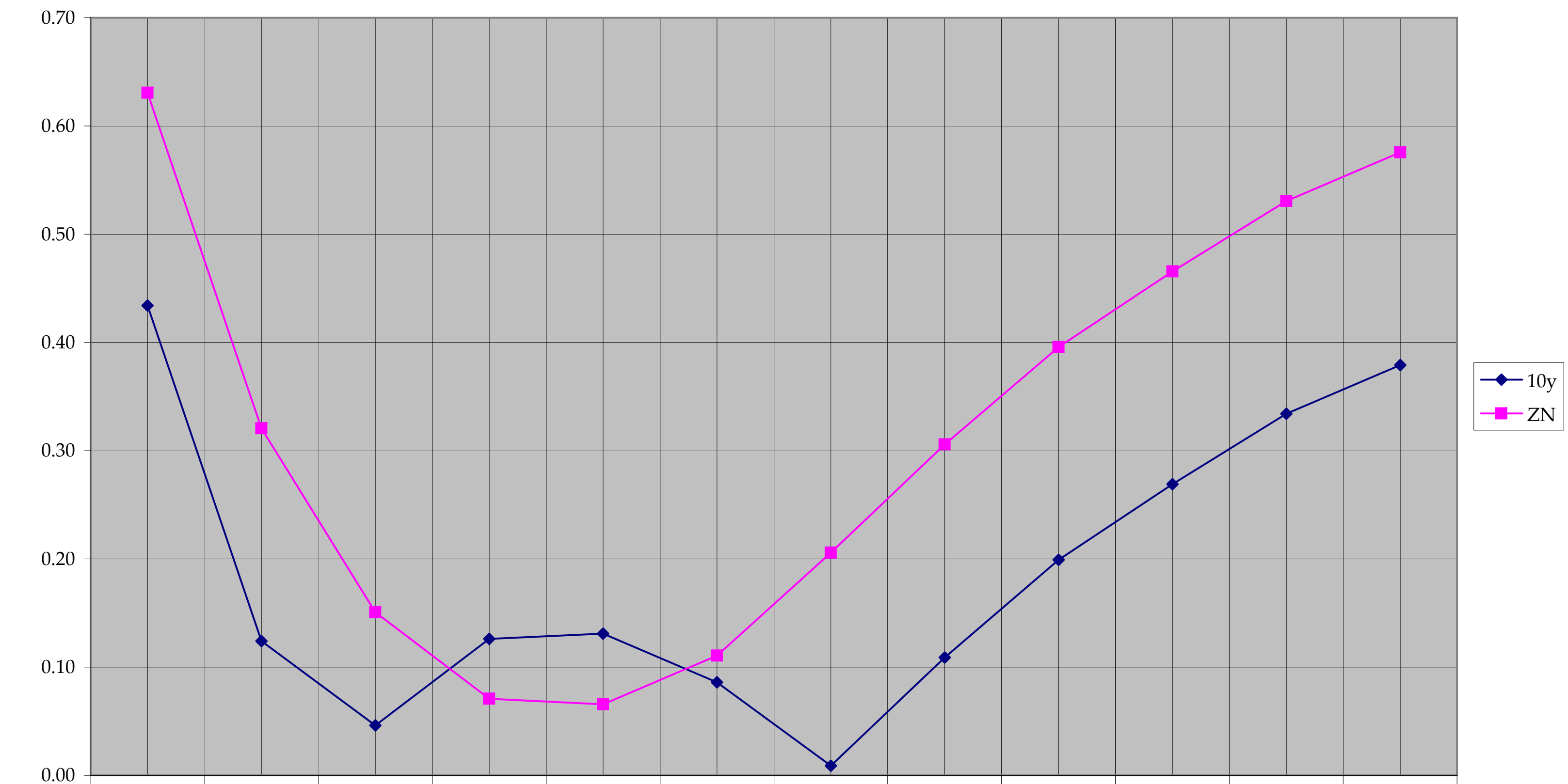
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
2y	0.97	0.66	0.49	0.41	0.40	0.45	0.54	0.64	0.73	0.80	0.87	0.91
ZT	0.97	0.66	0.49	0.41	0.40	0.45	0.54	0.64	0.73	0.80	0.87	0.91

5y Basis TED Curve



	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
5y	0.75	0.44	0.27	0.19	0.18	0.23	0.32	0.42	0.51	0.58	0.65	0.69
ZF	0.79	0.48	0.31	0.23	0.23	0.27	0.37	0.47	0.56	0.63	0.69	0.74

10y Basis TED Curve



	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
10y	0.43	0.12	0.05	0.13	0.13	0.09	0.01	0.11	0.20	0.27	0.33	0.38
ZN	0.63	0.32	0.15	0.07	0.07	0.11	0.21	0.31	0.40	0.47	0.53	0.58

Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	4.747	-3.125	9537.250
Q.ED.Red	4.621	-4.125	9549.375
Q.ED.Green	4.953	-2.875	9517.375
Q.ED.Blue	5.188	-0.875	9494.750
Q.ED.Gold		0.000	9475.375